



Perceptions of local residents and authorities on human–wildlife coexistence in Zimbabwe

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Abstract

Human–wildlife conflicts (HWCs) in human–wildlife coexisting communities have emerged as a direct impediment to sustainable conservation tourism in the protected areas (PAs). Despite the over-emphasised prospects for conservation tourism redeeming worn-out economies in the human–wildlife coexisting communities, the resurgence of HWCs has resulted in the host communities' resistance to human–wildlife coexistence (HWC). Subsequently, the community resistance to coexistence is a further deterrent to sustainable conservation tourism development. Based on the Victoria Falls case, this paper seeks to investigate HWCs affecting tourism development in human–wildlife coexisting communities, with the subsequent aim of suggesting policy and recommendations that promote symbiosis for sustainable tourism in terms of the communities residing in Zimbabwean PAs. Surveys and interviews were conducted with 265 household resource-related persons. The findings revealed that human population growth and urbanisation contribute significantly to HWCs in Victoria Falls. Furthermore, the results show that, despite the existing HWCs, the majority of the residents are open to HWC, if the processes of policy formulation and implementation inclusively embrace full local residents' participation.

Keywords: Human–wildlife conflicts, Human–wildlife coexistence, sustainable conservation tourism, Victoria Falls, Zimbabwe.

Introduction

Human–wildlife conflicts (HWCs) are increasingly evolving as central modern dialogues for cases requiring balance between human and wildlife resource demands. According to the United Nations Environment Programme (UNEP) (2018), modern societies living in the protected areas (PAs) have been much characterised with the occurrence of conflicts between human beings and wildlife, resulting from the competition for access to limited resources and space. Blackie and Sowa (2019) confirm that HWCs have become a major long-term threat to wildlife conservation and to the well-being of the local people living around the PAs. From a tourism perspective, the balancing of wildlife welfare, human well-being and the goals of conservation tourism in the PAs has become a critical issue that is rapidly becoming contrary to the efforts of sustainable conservation tourism (Taylor, 2009; Sterba, 2012). Mzembi (2016) argues that, so far, only a very few direct studies have been undertaken to investigate the causes of HWCs affecting symbiotic HWC in the context of tourism. Mutanga, Vengesayi, Gandiwa and Muboko (2015) echo that empirical studies that focus on the relationships between humans and wildlife in Zimbabwe's PAs have yet, ultimately, to permeate the academic spectra. Limited research into problems affecting certain societies arguably restricts the decision-makers adhering to specific ideologies from fully comprehending and dealing with predicaments like HWCs that affect tourism development. Given the contemporary rhetorical contribution of tourism to the local economies, the tackling of HWCs has become a prerequisite to the linking of conservation tourism and poverty alleviation goals in Zimbabwe.

Conflicts that directly affect tourism development are born out of competition (Bel, Murwira, Mukamuri, Czudek, Taylor & Grange, 2011). Madden and McQuinn (2014) and the Zimbabwe Tourism Authority (ZTA) (2015) have identified the competition occurring for space, land use,



food, water, and other available resources between the local people and wildlife as the variables leading to the rise in the number of HWCs occurring in Zimbabwe. Human settlements, which Dhlamini (2016) declares to be a direct source of conflict, are continuously expanding in the direction of the conservation sites, resulting in the loss of habitat for the wildlife concerned. Furthermore, the above contributes to a change in the wild animals' natural behaviours, which, consequently, result in the fauna kingdom starting to prey both on human beings and on agricultural produce (Distefano, 2005). The competition for resources that are slowly becoming extinct has transformed the once-peaceful coexistence of humans-wildlife in Zimbabwe into a fierce battlefield (ZTA, 2015; Bel *et al.*, 2011). With the relevant authorities doing very little to prevent tension developing between the local residents and the wild animals, the prospects of tourism development are directly challenged by the mega issues that are impacting on Zimbabwean societies (Conyers, 2002; Miller, 2013), leading to the questioning of the sector's sustainability.

In Victoria Falls, tourists have, on several occasions, fallen victim to wildlife attacks, thus creating a negative image of the town as a destination, leading to reduced tourist influx, due to the perceptions of the growing lack of safety in the community, following attacks by free-ranging dangerous wildlife (Dhlamini, 2016). Mucheru (2015) argues that the local residents, when they fall victim to wildlife attacks, tend to develop a growing resistance to the enactment of conservation goals. Furthermore, the conservationists are drawn to defend and justify the importance of wildlife in the community, citing its role as a tourist attraction, in conjunction with its contribution to the tourism multiplier effects (ZTA, 2015). According to Esmail (2014), such patterns of conflict often result in dire challenges for the authorities, who are required to deal with three problems, needing to reduce the amount of havoc caused by wild animals being allowed to run free, to reawaken people's compassion towards wild game, and to retain the desired tourist numbers for the attainment of economic and sectoral sustainability.

Bel *et al.* (2011) highlight that the impacts of HWCs on tourism have previously been examined. However, expressed in terms of historical perspective, the consideration of human settlement approaches, from minimal conservation perspectives, by previous researchers in efforts to understand the relationship between people and wild animals in human-wildlife coexisting communities has proven to be insignificant in relation to the eradicating of HWCs for the purpose of promoting tourism (Miller, 2013). Miller (2013) substantiates that previous research has focused extensively on wildlife and on the environment, without firmly linking the impacts of HWCs to the issue of tourism. Moreover, Esmail (2014) underscores that the inefficient policies and approaches adopted relating to conflict resolution in such communities represent the underlying management dynamics, in terms of which such conflicts have continued to dominate areas like the Victoria Falls (Zimbabwe). Thus, the current study examined the perceptions of the local residents and of the authorities regarding HWC in Zimbabwe.

Literature review

Local communities have historically coexisted alongside wildlife in the PAs, with their kind of coexistence being key to making such areas tourist attractions and wildlife conservation hotspots (McCool & Spenceley, 2014). However, the positive aspects of coexistence have been accompanied by a myriad of complex issues, leading to the modern-day HWCs, presenting a recurring and direct blow to tourism development across the communities in and around the PAs (Madden, 2008). Blackie and Sowa (2019:11) state that "it remains a major challenge to strike a balance such that humans can coexist alongside wildlife while developing sustainable livelihoods without leading to HWCs".

Dickman (2010) underscores that the growth in human populations, the ever-changing wildlife habitation, and the wild animal distributions and behaviours form a huge part of the set of



global trends contributing to the escalation in the number of globally experienced HWCs. Furthermore, Benka (2012) and Distefano (2005) point to the evolution in infrastructural development, consisting of the development of roads and human settlements, land use transformation, species habitat loss, degradation and fragmentation, a growing interest in ecotourism, the increasing amount of access to nature reserves, the competitive exclusion of wild animals, and climatic factors as being central to the conflict. In combination, such changes have affected tourism development and its components, as well as the key stakeholders involved, namely the tourists, authorities and residents concerned (Ekdahl, 2012).

Wildlife-based tourism, which has become a major tourism activity, is increasing in popularity (Stone, 2013). Arguably, the degree of the local residents' willingness to coexist with the existing wildlife is determined by the extent to which the wildlife concerned can be seen to contribute to their livelihoods. The PAs, in terms of which tourism is a manifestation of development and conservation, must continue to act as test sites for human–environment interactions (Ekdahl, 2012). The amount of international travel and tourism continues to grow significantly, resulting in increasing numbers of people wanting to visit, to learn about, and to come to appreciate the wildlife living alongside the host communities (McCool & Spenceley, 2014). According to Rogerson and Rogerson (2010), the positive effects involved operate through four central mechanisms: the monetary contributions (e.g. the entrance and operator licencing fees and visitor levies); the nonfinancial contributions (e.g. the monitoring and research undertaken by the operators or tourists); the socio-economic incentives for conservation (e.g. the restoring of natural habitats and the creation of PAs); and education (e.g. raised awareness on conservation). Mbaiwa (2008) substantiates that wildlife is the means by which destinations generate foreign currency and create employment opportunities, thus remaining key to the local economic development.

However, the nature of the interaction between humans and wildlife has deteriorated, with the possible implications for social, economic and cultural life, as well as for the conservation of the environment, having become severe. Jones and Barnes (2006) claim that the increasing number of HWCs has become a threat to wildlife conservation and to people's livelihoods, thus directly impeding tourism development. According to Keystone Conservation (KC) (2013), such conflict has become increasingly prevalent and proportional to the development concerned, to the changing of the global climate and other environmental factors, and to the positioning of societies and wild game, which directly compete for access to a decreasing resource base. Tourism, among other huge sectors of the economy on a global scale, has been severely affected by such issues, leading to increased impoverishment in already poor destinations (European Commission, 2013). Likewise, the HWCs in Zimbabwe have been clear in their implications for the different components of tourism present in the communities living in the vicinity of the PAs (Mzembi, 2016).

HWCs hinder the implementation of conservation initiatives (Osborn & Hill, 2005), as they tend to disrupt what might otherwise be smooth and contemporary tourism development worldwide (Musimbi, 2013). The effect of HWCs is commonplace in Zimbabwean societies. Zimbabwe's wild game and the environment have become vulnerable at unparalleled levels following the current mismanagement practised by its present rogue government, which is associated with the rapid social and economic changes occurring in the country (Hughes, 2013). Such change has negatively influenced the progress that was once made by the tourism sector (Hughes, 2013). Furthermore, the increasing number of HWCs experienced across societies has brought about recurring problems within the broad environment, presenting recurring problems for tourism growth. In Southern Africa, and in Zimbabwe in particular, sustainable tourism development has become a major concern, due to the numerous problems emanating from the HWCs, which have negatively influenced the state of relationships existing among the local residents, the tourists, and the local authorities (Gratwicke & Stapelkamp, 2006).



In Zimbabwe, the escalation of HWCs has been unsettling for the citizens concerned (Ncube, 2016). Many areas of traditional agro-pastoralism, like Gokwe, Victoria Falls and Nsenga (Binga), bordering on the PAs, have come to suffer livestock depredation (Conyers, 2002; Bel *et al.*, 2011). Several human–wildlife coexisting communities in Zimbabwe are currently having to bear the costs of coexisting with wildlife, which have manifested in deteriorating living standards (Hughes, 2013). The rural villagers tend to be negatively impacted on from their close location to game reserves, because wild animals often attack their domestic livestock, with the resultant level of conflict being extreme (Madden & McQuinn, 2014). Some previous studies (Mucheru, 2015) claim that baboons attack the local livestock by day, frequently killing domestic animals like goats and sheep, whereas lions and leopards tend to attack at night, with the lions killing larger prey, like cattle and donkeys, as well as having been proved capable of mauling people to death. The Food and Agriculture Organisation (FAO) (2009) further highlights that elephants and buffalo can severely damage cultivated crops, especially in the rural areas. Certain wild animals present problems in different areas, but the situation is even more complicated in Victoria Falls, because the yearly attacks of the above-mentioned herbivores and carnivores have proved to be severe in the town (Miller, 2013). Mucheru (2015) ideates that the negative relationship between human beings and wildlife in Victoria Falls has not only resulted in economic loss for the local residents, but it has also led to the souring of the previously cordial relationship between the local residents and the conservation protectionists.

Successful wildlife and conservation tourism requires sound planning for it to serve as the foundation for wildlife populations and wildlife habitat management (Isiugo & Obioha, 2017). However, a variety of destinations in sub-Saharan Africa has lagged behind in such regard (Rogerson & Rogerson, 2010). Unmonitored tourist activities at locations may have noteworthy unfavourable impacts on the wildlife and the environment. The accumulative negative effects involved may deepen the long-lasting deterioration experienced, thus compromising the viability of such locations as lucrative tourist destinations (De Boer & Van Dijk, 2016). Such intensification can potentially reduce the contribution that is made by wildlife tourism to local economic development (LED). Therefore, it should be clear that LED must be framed by national policy, although it should also, by no means, be solely dependent on the implementation of national policies. A variety of actors (including the national and regional government, non-governmental organisations, community-based organisations, and private entities) play a role in LED, with those concerned being fundamental to making wildlife tourism contributory to the economies of the host communities involved (Hall, 2007).

Research site and methodology

The population of Victoria Falls was estimated to be 35 761 (Countrymeters, 2015). The town of Victoria Falls, which falls in Zimbabwe's Matabeleland North province, is located on the southern bank of the Zambezi River, at the western far end of the Falls (ZTA, 2015). Victoria Falls is the hub of spectacular wild game safaris, a rich culture, and the gathering of sociable residents (Rogerson & Visser, 2011), making it a safe harbour for both tourists and citizens. Victoria Falls was the first acknowledged tourist resort in Zimbabwe, with it being referred to, by McGregor (2003), as being an early twentieth-century resort, with its history as a tourist attraction dating back to 1857. However, despite such attractive tourist-orientated traits, tourism in Victoria Falls has, for a long time, suffered, due to the strained relationship between the people and wildlife coexisting in the area, resulting from the shrinking number of resources and space for survival, which presents a serious threat to the sustainability of conservation tourism. Mzembi (2016) argues that the HWCs are not only manifested in the people's and wildlife's reactive behaviours, but they form part of the deep-lying relationship between the local residents and conservationists (who comprise the local authorities) with both of the role-players concerned having different interests to serve in the Victoria Falls and in other similar communities in Zimbabwe. Arguably, the friction between the local authorities and the



residents seems to be a principal concern that remains virtually unresolved. Therefore, the need exists to adopt interdisciplinary approaches and policies that should promote the development of a more selfless accommodative environment, in the interest of all the stakeholders and of all the components of tourism (Dickman, 2010). The desire to provide decision-makers and practitioners with a framework of recommendations to overcome the above-mentioned challenges, obtainable through investigating the perceptions of the local residents and the local authorities towards HWC in Victoria Falls, Zimbabwe, was the motivation behind undertaking the current study.

A mixed method research design, combining the qualitative and quantitative forms of research (Creswell, 2009), was used in the current research inquiry. The line between quantitative and qualitative research is obscure, as no pure version exists of one or the other (Tewksbury, 2009). Therefore, the use of both methods is ideal for optimising the study design involved, so as to produce balanced results that should prove to be useful in future (McClintoch & Garrett, 2012). Based on the positivist and interpretivist paradigms, a combined qualitative and quantitative method is sound practice to adopt, as they complementarily allow the measurement of attitudes and perceptions, which are often complex, without combining the two (Browne-Nuñez & Jonker, 2008).

In the summer of 2018, trained fieldworkers used a simple random sampling technique to collect data using a questionnaire survey, targeting 365 household adult representatives in Victoria Falls. Based on a purposive sampling technique, face-to-face interviews were also conducted with 10 key informants. Pretesting of the questionnaire was carried out to scrutinise the suitability and trustworthiness of the tool used. The findings were satisfactorily inclusive, with them functioning to validate the value of the tool used, which is one of the claims employed to characterise the reliability of an instrument (Creswell, 2009). In relation to the results obtained from instrument pretesting, the instrument, being considered dependable, was, therefore, utilised. Furthermore, the triangulation of the qualitative data was done to measure the validity of the data obtained, so as to merge the different perspectives generated from the in-depth interviews that were conducted with the key informants. To ensure content and face validity, as submitted by Babbie (2011), the questionnaires used, which were based on the preceding works of several scholarly experts (Distefano, 2005; Taylor, 2009; Sterba, 2012; Esmail, 2014), who had conducted comparable studies elsewhere, on target respondents whose profiles were narrowly similar. The main variables in the survey were the respondents' socio-demographic profile, and their cognisance of the causes of HWCs, as well as of the perceived impacts of such HWCs on the environment, in its entirety. With regards to the key informants, the major variables were their opinions on the possible solutions to HWCs, which were aimed at promoting the existence of symbiosis in relation to HWC in Victoria Falls. The qualitative data were thematically presented, whereas, the Statistical Package for Social Sciences (SPSS) software was employed to draw the frequencies, and to make extrapolations, from the household survey.

Results and discussions

Profile of household respondents

The primary data of the 265 adult household respondents was obtained using a questionnaire survey. The results showed more male representatives (63%) than female representatives (37%), with 35 years being the average age of those concerned. Of the representatives, the majority (40.4%) of the respondents indicated having completed secondary school, with only 2.2% indicating their having attained a postgraduate degree. The respondents who had resided in Victoria Falls for from 5 to 15 years and above constituted 98.8% of the total research population, which was long enough for them to have experienced at least some HWCs.



Local residents' awareness of HWCs

Determining the levels of the local residents' awareness of HWCs was believed to be fundamental to the flow of the current research. Musimbi (2013) underscores that determining the levels of awareness to HWCs in PAs can give an impression of the local residents' levels of awareness and perception of wildlife and conservation. The majority (94.8%) of the respondents indicated being very aware of the HWCs taking place in Victoria Falls, whereas 5.2% indicated that they know nothing of the HWCs perceived by others to be taking place in the area.

Given that the majority of the respondents indicated being aware of the HWCs, the result reflects numerous research findings that were made in the same case study area. Some empirical studies (Gratwicke & Stapelkamp, 2006; Tichaawa & Mhlanga, 2015; Mudimba & Tichaawa, 2017) indicate that certain residents are involved in tourism development. The fact that the destination of Victoria Falls is much in demand among tourists in Zimbabwe can also be seen by most of the residents indicating knowledge of the HWCs occurring in their community. However, the few (5.2%) who claimed not to be aware of the occurrence of HWCs in the area might have been visitors, day trippers, or tourists in transit. The impact of HWCs on tourism development and other activities is much felt and experienced, with those who reside in the community as permanent residents being well aware of it (Morzillo & Schwartz, 2011).

Local residents' awareness of the types, and causes, of HWCs in their area

Policies, mitigation and prevention measures could be of little effect, however, if not totally insignificant, if the types and causes of HWCs are not firmly established (Sato, 2008; Rosell & Llimona, 2012). Therefore, the residents were further probed for their perceptions of the types and causes of HWCs in Victoria Falls. The above was deemed necessary to determine the levels of knowledge and perceptions regarding HWCs, which should constitute enhanced communication and understanding of the policy process between the proponents of conservation and the public domain, when moving towards conflict resolution in the wake of all the stakeholders.

In terms of the main types of HWCs, the research findings showed that wildlife attacking humans (42.8%), wildlife destroying crops (40.9%), attacks on livestock by wildlife (9.9%), and the transmission of diseases to humans and livestock by wildlife (5.6%) were common in the area. Indeed, the HWCs have become the leading dilemma for conservation management across the globe, especially in Africa, where many large mammals like elephants, buffalos and rhinos, which not only eat large amounts of crops, but which also are dangerous to people, still exist (Eshliki & Kaboudi, 2012). With the majority (42.8%) of the respondents indicating that wildlife attacking humans was the most prevalent form of conflict to affect tourism, the above-mentioned result supports a number of theories that have been expounded in relation to wild animal attacks, with the effects of the marauding depredation being felt not only in Victoria Falls, but also in the other coexisting communities in Zimbabwe. To start with, 27 human lives were claimed by wild game across Zimbabwe during the first quarter of 2015, with 15 citizens suffering the injuries of different magnitude inflicted by the wildlife (Gogo, 2016). Food shortages in Zimbabwe's agro-based societies have resulted from spells of drought, with the conditions of chronic poverty and famine having been hastened by the presence of buffalo and elephants, which, during the dry season, invade the crop-planted fields (Matsa, 2014). Under such circumstances, tourism is affected, as the locals who are badly affected set out to destroy the potentially dangerous wildlife, despite them being a major drawcard for the tourism sector (Osborn & Samson, 2002). From September 2017 to April 2018, Zimbabwe suffered the loss of approximately 364 cattle, 845 goats and 134 donkeys, due to fatal attacks by wildlife (Dhlamini, 2018). On a few occasions, livestock have died in Zimbabwe when they have drunk water from the same pond where wild animals with zoological infections have drunk (Conyers, 2002).



As the causes of HWCs are widespread, the degree of their effects varies. The research findings reveal that human population and urbanisation (17.6%), climatic changes (16.5%), animal population growth (15.7%), and wild animal predation on livestock and human beings (15.5%), wild animal crop raiding (14.3%), bush fires (8.4%), human attitudes and perception (4.7%), infrastructural development (4.5%), and colonial rule (2.4%) are part of a causative trend behind the HWCs occurring in Victoria Falls. Such results confirm a number of theoretical claims that are made in their regard.

Human population growth and urbanisation has been perceived to be the most well-known cause of the HWCs impeding the smooth progress of tourism development in Victoria Falls. Human population growth has been accompanied by intensive settlement expansion towards the extreme edge of the nature reserves in question (FAO, 2009). The compression of the environment shared by both wildlife and human species in Victoria Falls has resulted from the limited amount of space having been available for wildlife movement, due to the increased amount of population growth, urbanisation and settlement expansion having led to a change in animal behaviour (Conyers, 2002). Climate change tends to modify locations and the nature of the geographical environment involved, with the existing wildlife being forced to move to new areas to ensure their survival (Madden, 2008). In Victoria Falls, the natural roaming spaces and places to which wildlife can move is inadequate, resulting in the wildlife concerned coming into close contact with people, especially in the human-dominated areas where settlement is expanding, and creating situations characterised by human-wildlife antagonism (Dhlamini, 2016). When wildlife intrudes on human property, the local residents find themselves at odds with the mission of conservation, with neither the idea of the significance of wildlife for tourism, nor that of its role in job creation making much sense. Adams (2004) argues that the angry communities concerned want only to get rid of the problematic wildlife as the solution to their problem, when such 'tourist attractions' do not live up to their expectations as a money-spinner. When the wildlife populations increase, they require more habitat and food than before (Muruthi, 2005). Crop damage, due to the presence of an increased number of herbivores, causes the most environmental havoc of any HWCs across Africa, with, in some semi-arid rural farming areas of Zimbabwe and Kenya, elephant destruction to food crops accounting for 75% to 90% of all the destruction that is precipitated by the big mammals (Muruthi, 2005).

Zimbabwe is one of the countries in Africa with a sizeable population of wild animals, with the 'big five' arguably wandering freely in the country's national parks, causing damage to other environmental species (Sato, 2008). From a historical perspective, crop raiding by wild animals is the most problematic cause of HWCs in the African context. Conservation efforts and tourism objectives can be potentially undermined when crop raiding in areas close to the PAs continues unchecked (Warner, 2008). Economic loss, as a result of wildlife crop raids, is a considerable threat to animal conservation, due to the resultant increased amount of resentment occurring among the residents, which can result in the taking of retaliatory measures (Vanherle, 2008). Apart from the forests that are sometimes consumed by bush fire, such sectors as tourism and agriculture are also affected by fire (Rosell & Llimona, 2012). As well as being viewed as a threat to the biophysical and socio-economic environment, veld fires can hamper wildlife food and habitation, because of the trail of destruction that they leave behind them, and because of the resulting impacts on the economy (Sato, 2008). Such impacts vary from the loss of life and reduced and eliminated sources of economic activities and opportunities, through to the psychosocial side-effects related to mortalities and family mourning, biodiversity losses, and the disturbance of the ecological system balance (Sakurai & Jacobson, 2011). People's perceptions of wildlife are significant, because, in those areas where the HWCs occur, the solutions to the issue depend on the mindset of the host communities concerned. In Zimbabwe, HWCs also occur when humans purposely hurt, exploit, or poach wild game, because of either supposed or real dangers to their belongings, lives, or family (Madden, 2008).



Infrastructural development has been seen to be an ecological threat in the area. For the infrastructure to be ecologically acceptable, it should be developed alongside the evolvement of tourism goals (Rogerson & Rogerson, 2010). The expansion of settlement and housing towards the wildlife heartland sites in Victoria Falls has contributed to the proliferation of HWCs (ZTA, 2015). Many wild animals migrate both long and short distances to find mates, food, water, and other resources (ZTA, 2015). In relation to colonial rule, the narrow emphasis that was placed on wildlife conservation in the pre-colonisation and post-colonisation eras, in addition to having significant anthropological consequences, was associated with a decrease in the size of the wildlife populations, as the animals concerned were overmanaged in terms of the colonial rules (Jones & Barnes, 2006; Madden, 2008; Ekdahl, 2012). The legacy of colonisation that introduced policies to change the traditional course of HWC and conservation cannot be overlooked, despite some seeing the factor as far-fetched in terms of causation.

Local residents' perceptions of the impacts and consequences of HWCs in terms of tourism

The Victoria Falls residents were probed for their perceptions of the impacts and consequences of HWCs on tourism, with their responses being highly regarded as fulfilling the objectives of the current research study. Accordingly, the respondents were first asked for their opinions on whether the HWCs affected tourism development in their area. The majority (89.0%) agreed with the statement, while the rest (11.0%) disagreed with it. Indeed, with the majority agreeing to the effects of HWCs on tourism, the phenomenon of HWCs could undoubtedly be ranked as being among the main challenges to conservation and tourism in Africa (Taylor, 2009).

However, it was regarded as crucially important to establish the consequences of HWCs on tourism and the environment in its entirety. The findings showed that the HWCs resulted in: the creation of an environment of fear among the local residents (19.6%); the loss of habitat caused by wildlife (18.5%); the loss of human life (18.3%); injuries to humans (14.8%); infrastructural destruction (10.8%); the predation on, and injuries of, livestock (8.2%); injuries due to wildlife (6.3%); and the death of wildlife (3.5%).

The creation of an environment of fear among the local residents emerged as being the most prevalent effect. Indeed, the residents of Jambezi, a small area on the periphery of Victoria Falls, were left in a state of shock, with the whole area being beset by fear when a herd of elephants invaded the surrounds (on the night of 6 April 2014), leaving a trail of destruction in its wake (Moyana, 2014). In some parts of Binga, schoolchildren, who walk miles to and from school, were reported as dropping out of the educational system, due to the presence of marauding lions in their communities (Conyers, 2002). The state of fear among the host communities is likely to generate the local people's anger and hatred towards errant wildlife. Furthermore, the loss of habitat by wildlife is, arguably, dictated by the people concerned. When wild animals lose their habitat, they tend to invade the areas populated by people, leading to HWCs (Sakurai & Jacobson, 2011). Additionally, the loss of human life due to wild animals' attacks can change human attitudes and perceptions, with human negative perceptions having long-standing negative impacts on conservation and tourism in the human-wildlife coexisting communities involved. The loss of human lives encourages the local residents to oppose the tourism-related conservation goals, as human welfare is more highly regarded than is the life of dangerous animals (Mucheru, 2015).

Injuries from wild game attacks often result in people becoming violent, and being filled with anger and resentment against the wildlife involved, resulting in the undermining of public support for conservation (Sterba, 2012). According to Moyana (2014), as most elephants live outside the PAs, a variety of infrastructures is at risk of the elephants that roam around in search of food. The destruction of the infrastructure by elephants destabilises the status quo of tourism, as those who are affected thereby then tend to agitate against the implementation of moves in support of conservation goals (Mucheru, 2015). The predation on, and the injuries of, livestock by wildlife, and the injuries that are caused among the residents, due to the



wildlife, can result in wildlife deaths, as well as presenting other problems, especially when the local residents and the local authorities are at loggerheads, with each role player protecting their own interests (Mzembi, 2016).

The local residents' involvement in conservation tourism development in their area

The understanding of the importance of local community involvement in wildlife and conservation tourism programmes is very important in terms of seeking to develop a sustainable conservation strategy (Mbaiwa, 2008). In the above respect, the current researchers embarked on an investigation of the local community involvement in wildlife conservation in Victoria Falls. The research results revealed that the majority (76.4%) of the respondents indicated not being involved in it, whereas the minority (23.6%) agreed to being involved in such conservation. In terms of general perspective, sustainable conservation tourism is premised in the sense that the stewardship over wild game exists in the host community, rather than at the state level, therefore requiring that it be focused on rural life improvement, environmental conservation, and the promotion of economic growth. Isiugo and Obioha (2017) argue that the benefits to be gained from wildlife conservation efforts play a crucial role in educating the members of host societies regarding conservation and the motivating of societies to protect the wild game from the poachers. Upadhyay (2014) outlines the fact that the involvement concerned takes the form of paid employees, managers, owners, and unpaid volunteers, in terms of a bottom-up approach to decision-making, and the adoption of other means that recognise local community values. In contrast, when the locals are overlooked in wildlife conservation participation, their resentment inflames the already existing feelings of deprivation that tend to generate different types of HWCs in the human-wildlife coexisting communities (Isiugo & Obioha, 2017).

The reasons for non-involvement in conservation and tourism development

Despite being a famed tourism powerhouse in Zimbabwe (Mzembi, 2016), the local communities' involvement in conservation tourism in Victoria Falls can be explained in terms of several issues. The highest percentage (32.0%) of the respondents pointed out that they were not involved in such development because they lacked the required resources, whereas 24.3% indicated that their reason for non-participation was the absence of opportunities. Moreover, those who claimed to be unaware of the local conservation programmes constituted 23.6%, while 19.0% indicated that they saw no need for them to become involved. On that note, Taylor (2009) establishes that the lack of host community involvement in tourism and conservation has been alienating in terms of both the wildlife and the ecology concerned.

A myriad of reasons exist that hinder the local residents participating in tourism. According to Blackie and Sowa (2019), Southern Africa represents a region with very limited resources for channelling the local residents into participating in tourism. The problem has severely crippled the indigenous people in different ways. However, linking the compound facets of the situation is impractical when the resources to ensure the local communities' participation in conservation tourism are limited. Therefore, in matters involving the public domain, the public sector (i.e. public institutions) must provide resources, in the form of finances, equipment, knowledge, and public facilities and amenities that encourage entrepreneurial practices (Gratwicke & Stapelkamp, 2006). The African communities continue to suffer from chronic exclusion from the core of tourism planning, with reduced opportunities for the participation of the local community being commonplace (Sato, 2008). However, the disregarding of the local residents' input into wildlife conservation decision-making and other forms of involvement explains all sorts of unsuccessful implementation of conservation policy and strategies with which many destinations are faced (Osborn & Samson, 2002). The sincerity of wildlife conservation decision-making should be underlined through the provision of tangible participation and engagement opportunities via the discourses and processes related to that which concerns HWC (Vanherle, 2008).

Claims of the lack of awareness of local conservation programmes could expose the weak campaigning and education programming that is undertaken at Victoria Falls. Conservation



efforts that are linked to the involvement of the hosts occur in ways like community outreach to Integrated Conservation and Development Projects (ICDPs), through the means in which conservation goals and development around the PAs are treated as priorities (Metcalf, 2005). The level of recognition of the existing challenges should be able to address the indigenous institutions and processes that are designed to raise levels of awareness, the advancing institutional premises, and the seeking to merge contemporary scientific evidence with traditional and cultural evidence. By so doing, people are collectively involved, representing the realities of HWCs in relation to HWC. Sterba (2012) strongly holds that, in reality, destination managements in Africa do not promote the discussion of all relevant issues in terms of conservation tourism management, making the host communities reluctant to participate in the whole exercise. Ncube (2016) contends that it is pointless for conservation agents to call for the local communities' inclusion in conservation tourism discourses if the latter's views are disregarded in regard to decisive contestations. Matsa (2014) pleads with modern management to affiliate with community creativity, significance, insights, and involvement, so that the host communities can realise the need to be involved, and to take pride, in living with wildlife in their respective communities.

Residents' perceived solutions to HWCs

The current study further aimed to gather perceived solutions to the HWCs in Zimbabwe, particularly in Victoria Falls. Indeed, for the past three decades, a range of empirical studies has explored either eradicating or limiting the likelihood of HWCs, so as to improve the available opportunities for the locals to earn an enhanced livelihood. However, the continuous manifestation of prolonged conflicts across societies leaves a central claim, with very little research work having, as yet, made much impact outside the research community itself (Distefano, 2005). The respondents in Zimbabwe, and in Victoria Falls in particular, were probed for the perceived measures that could be adopted to help prevent, and/or mitigate the possibility of, HWCs occurring.

Using Likert scale-type questions, the respondents were requested to indicate their levels of agreement with particular statements. The majority of the respondents (92.7%) indicated that spreading awareness through education is the key to peaceful coexistence. The use of physical barriers (i.e. fencing) (85.1%) to bar the wild animals in certain areas from impacting on human activities was mooted. The use of fear-provoking stimuli, like bangers, was proposed to stop conflict (71.5%), as well as was the guarding of crops and livestock to promote effective crop and livestock safety (56.8%), and the adoption of landscape management and land use modification methods (84.8%). To mitigate the conflicts, the residents indicated the potential of Problem Animal Control (PAC) (91.9%), compensation and benefit-sharing to change the human perceptions of wild game (51.3%). Community-based natural resource management schemes (CBNRMSs) (92.7%) were indicated by many of the respondents as being effective in mitigating the HWCs.

Musimbi (2013) advocates for the significance of education as a means of preventing community conflicts through the gaining of knowledge and the understanding of impartations. Some of the HWCs in particular communities have been born out of ignorance, as the local residents would not have been educated on the significance of wildlife to their local economies, nor would they have been educated on the best ways of dealing with instances where wildlife infiltrates their life and activities (Morzillo & Schwartz, 2011). A game ranger's representative noted:

Wild animals do not have [the] reasoning capacity possessed by human beings. Local residents should be educated. In-depth research must be conducted to fully understand and comprehend [the] behaviours of migratory wild game and its preferences. In addition to awareness campaigns through education, residents are advised to be in their homesteads before sunset, unless they are driving.



Well designed, maintained and built fences can be extremely effective in preventing HWCs, by means of barring the wildlife from human settlements and from points of human activity (Metcalf, 2005). The costs involved in erecting fences explain why the use of fencing is limited in many communities (Osborn & Samson, 2002), with the nature of any such fencing differing, based on several facets, such as the landscape, the nature of fencing, and the species that must be contained within the fences (Morzillo & Schwartz, 2011). The use of fencing is aimed at excluding wild game, like elephants and other large mammals, from human settlements and from cultivated and domestic animal areas (Madden, 2008). Yet another traditional approach to preventing HWCs, being the use of fear-provoking stimuli, could work for certain areas under specific predetermined conditions, with the opposite being true in other areas (FAO, 2009).

The guarding of crops and livestock is generally regarded as being one of the cheapest means of preventing carnivores from attacking them, as it is relatively inexpensive (Conyers, 2002). The main cause of HWCs in Zimbabwe is the increasing amount of settlement, which is forever pushing outwards, in the direction of the wildlife habitats (ZTA, 2015). With the respondents indicating their desire to revisit the theme of landscape management and land use modification, the above would require fundamental settlement and environmental awareness, so as to be able to educate/enlighten those involved, and so as to be able to justify the needs concerned among the most affected people in the community.

In generic terms, compensation schemes are aimed at serving those who suffer the implications of HWC. The UNEP (2018) endorses the idea that the payment of compensation can reduce the extent of conflict between the local communities and the conservation agencies concerned, thereby increasing the communities' support for, and ownership of, conservation initiatives. The above can be achieved through the CBNRMSs, which are ideal for the mitigating of conflict (De Boer & Van Dijk, 2016). The above is, arguably, one of the modern measures that is emphasised when destination managers seek to conserve and preserve the environment through ecotourism.

Recommendations

The research results discussed above have revealed the substandard level of local community involvement in conservation tourism development, with 76.4% of the respondents indicating their lack of involvement therein. Contrary to the results obtained, sustainable conservation tourism is premised on the stewardship of the communities residing in PAs, which is focused on rural life improvement, environmental conservation, and economic growth campaigns. Isiugo and Obioha (2017) substantiate that the benefits gained from wildlife conservation efforts play a crucial role in educating the members of societies in relation to conservation, and on how to guard their forests from poachers, with the youth and community leaders being major beneficiaries thereof. Upadhyay (2014) outlines that only involved communities can express stewardship towards wildlife, asserting that participation may take the form of employment, being involved in management, unpaid voluntarism towards the locals, and a bottom-up approach to decision-making, as well as other means that recognise local community values. Given that thwarting the public from gaining access to conservation is grounded in the concept of centralised conservation tourism and wildlife management (Dickman, 2010), Esmail (2014) emphasises the significance of the decentralisation of the local communities to encourage the local residents' participation.

Given that the highest percentage (32.0%) of the respondents pointed out that they were not involved in conservation tourism efforts because they lacked the required resources, followed by those (24.3%) who indicated the unavailability of opportunities for involvement, such results demand the collective, yet direct, involvement of key institutions (ZTA, the Zimbabwe Parks and Wildlife Management Authority (ZPWMA), the host communities, the City Council (CC), and the national government of Zimbabwe) in providing resources and creating opportunities. All in all, local community employment and awareness through education should be highly



regarded, with all of the above-mentioned facets being entrenched in the frameworks of an inclusively spawned policy.

The policy must represent the views of all the affected stakeholders in Victoria Falls, and elsewhere in the country, where the HWCs prevail. The fact that many of the residents confirmed not being involved in tourism planning further suggests that they were vocal neither in policy formulation, nor in strategy development, in terms of conservation tourism. The Zimbabwean tourism policy must, to a large extent, be directed towards the triple-bottom approach development of those living around the PAs. The CAMPFIRE project founded in Zimbabwe, on the concept of communal areas adjoining the national parks, must consider implementing universally sensitive policies. The above should be done especially with an eye to the disadvantaged and defenceless host communities, so as to guarantee that there is no conflict of interest between the economic survival of the agricultural societies and the scavenging needs of the wildlife. The policy adopted must generate benefits, promote conservation, and empower the local communities, through instilling a sense of pride in the conservation areas and in tourism in them. Furthermore, the policy must also require sound collaboration, commitment and involvement from both the public and the private sector. The above supports Mudimba and Tichaawa's (2017) criticisms of the existing tourism policy in Zimbabwe, which is habitually designed and implemented in a centralised way.

In the light of an enabling policy, the local communities must create committees that meet at predetermined intervals to ponder the state of HWC and tourism in their area. The outdated idea of the local residents having to wait for the approval of the public sector, and for that of conservation groups, regarding certain issues to do with societies might else be overlooked. Even if, in well-organised societies where measures are in place to counteract particular wildlife attacks by means of sounding the alarm, the response security teams involved take some time to reach those places where HWCs might have occurred (Ariya & Momanyi, 2015). Host communities must create a referral point, by means of forming community representative groups that can be the voice for the entire community. Such groups must, further, ensure that the host communities gain equitable benefit-sharing from the spin-offs of tourism. Properly authorised organisations must be created by, and responsible to, the communities concerned. However, courtesy must be exercised in terms of understanding the varied and diverse groups existing within the host communities, and authority and rewards must be awarded appropriately to avoid any ethnic imbalances.

Conclusion

The current research study examined the perceptions of the local residents and of the authorities regarding HWC in Zimbabwe, with the aim of providing policymakers with all-stakeholder-inclusive policy formulation parameters that can be used to overcome HWCs. Despite the widespread implications of HWCs in Zimbabwe, the aforementioned factors were envisaged as contributing towards peaceful HWC in the PAs, through finding a balance between human interests and wildlife welfare. The manner in which the local community involvement has been alluded to cannot be overemphasised, for, without community participation, community resistance is likely to exist. Within the frames of the policy, the likelihood exists that sustainable conservation tourism in the PAs might never be achieved (Blackie & Sowa, 2019). Therefore, the aforementioned policy must convey the ideologies regarding the potential to develop sustainable conservation tourism together with transparency, accountability, unity of purpose, and renewed cooperation among all the tourism stakeholders who are involved in the decision-making processes concerned.

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