

PREPRINT

Author-formatted, not peer-reviewed document posted on 02/05/2023

DOI: <https://doi.org/10.3897/arphapreprints.e105553>

**An assessment of local community engagement in
wildlife conservation: a case study of the Save Valley
Conservancy, South Eastern Zimbabwe**

Itai Dhliwayo, Never Muboko, Given Matseketsa, Edson Gandiwa

Research Manuscript

An assessment of local community engagement in wildlife conservation: a case study of the Save Valley Conservancy, South Eastern Zimbabwe

Itai Dhliwayo^{1*}, Never Muboko^{1,3}, Given Matseketsa² and Edson Gandiwa³

¹*School of Wildlife and Environmental Sciences, Chinhoyi University of Technology, Private Bag 7724, Chinhoyi, Zimbabwe*

²*Department of Zoology and Entomology, University of Pretoria, Pretoria 0002, South Africa*

³*Zimbabwe Parks and Wildlife Management Authority, P.O. Box CY 140, Causeway, Harare, Zimbabwe*

Author emails: I. Dhliwayo (idgetaidhliwayo@gmail.com), N. Muboko (nmbok@yahoo.co.uk), G. Matseketsa (matseketsagiven@gmail.com), E. Gandiwa (egandiwa@gmail.com)

* Corresponding author, Email: idgetaidhliwayo@gmail.com

Abstract

In southern Africa, human and wildlife interactions have significantly increased over the past decade resulting in complex conservation conflicts. For instance, conservation conflicts in the Save Valley Conservancy (SVC) in the southeast lowveld of Zimbabwe have grown to a level of drawing the concerns of various players, both within and outside the protected area. However, these players are of diverse opinions and interests calling for an inclusive, effective and multi-integrated stakeholder engagement strategy that addresses these needs and opinions in a transformative conservation framework. As humans and wildlife share space, stakeholder engagement becomes a critical component of wildlife management and transformative conservation. In this study, we analysed the conservation conflicts in the SVC. Data were collected between April and May 2020 through focus group discussions and interviews with 20 key purposively sampled informants. The results revealed a lack of an effective, inclusive, integrated multi-cross-sectional stakeholder engagement plan as one of the major contributing factors to the existence of conservation conflicts in the SVC. It is concluded that, there is limited participation by community members and generally no shared views among the community members on viable land use options in the SVC. This study proposes an integrated

cross-sectional stakeholder working framework that not only informs conservation practitioners but also fully addresses the prevailing conservation conflict scenarios emanating from the exclusion of humans from protected areas and the encroachment of wildlife in human settlements.

Key Words: conservation conflict, Save Valley Conservancy, stakeholder engagement, transformative conservation, wildlife conservation.

1. Introduction

In the year 2000, Zimbabwe embarked on a fast track land redistribution exercise that sought to address the historical colonial imbalances by ensuring that most of the landless people were resettled in gazetted farms. This Fast Track Land Reform (FTLR) program implemented represents one of the key radical redistributive land reforms in Zimbabwe (Moyo, 2011; Chambati, 2013). It reversed the racially skewed agrarian structure and discriminatory land tenure system inherited from the colonial rule whereby over 6,000 large - scale white farmers and a few foreign and nationally owned agro-industrial estates controlled most of the prime land, water resources and bio-reserves while relegating the majority of the indigenous population to marginal lands (Moyo, 2011; Chambati, 2013; Mapfumo, 2015; Chipika, & Malaba, 2016).

One of the key aspects of the 2000 land reform programme was an emphasis on the direct redistribution, equity and land for crops, with little attention on wildlife management (Wolmer, et al., 2004). The attempt to incorporate inherently extensive wildlife management into resettlement schemes runs directly counter to the rhetoric and technical biases of land reform programmes in Zimbabwe (Wolmer, et al., 2004). Hence, a new political terrain rapidly unfolded with new actors and institutions (Chaumba, et al., 2010). This intentionally or unintentionally resulted in the 2000 land reforms significantly transforming all the affected areas such as the Save Valley Conservancy (SVC) and in certain circumstances converted wildlife areas into agricultural land. The formation and evolution of SVC and other conservancies depended on several catalytic and enabling factors, and teamwork among various stakeholders (Lindsey, et al., 2012). Save Valley Conservancy was formed as a result of a number of circumstances which included an epic drought (1991 -1992) that brought an end to cattle ranching and agricultural endeavours in the area, it was therefore realised that wildlife was the only viable enterprise in the area. Following the formation of SVC, some ranchers decided to retain livestock, pursuing a mixed species production system. However, in 1991–

1992, the South East Lowveld experienced the worst drought on record, forcing ranchers to sell cattle at greatly reduced price. During the drought, a strategic planning meeting was held by conservancy members and a decision was taken to completely remove cattle from SVC and to develop a multi-use wildlife production system for high-quality wildlife tourism. The area was generally sparsely populated because of low rainfall, lack of permanent water and the danger to people and crops from wild animals. Currently, several factors continue to undermine development in the Save Valley, impacting the SVC and local communities that mainly rely on dry subsistence farming, and end up trapped in a vicious cycle of poverty.

The SVC consists of a diverse set of owners and operators. In the northern part, which was not affected by the land reform, most properties there are supported by Bilateral Investment Promotion and Protection Agreements (BIPPA) (Kreuter, and Warner, 2010). In the southern part of SVC, the land reform brought significant changes, with large settlements in the western and eastern areas, with wildlife areas transformed into crop and livestock spaces (Scoones, et al.; 2012). The other remaining wildlife pockets in the SVC are now under the custodianship of the Zimbabwe Parks and Wildlife Management Authority. However, local communities also face challenges in making a living from agriculture and livestock production without irrigation in the semi-arid climate.

The human-livestock-wildlife interface is multifaceted and has both positive and negative implications for health, the environment and economics (Kock, 2005). The wildlife conservation efforts need take many actions to reduce the decline of species and habitats; key among them is to shift from operating under a framework focused predominantly on a narrow set of wildlife interests, to a social-ecological paradigm and concomitant approach to wildlife conservation that embraces the interests and participation of a broader public (Jacobson, et al., 2010; Decker, et al., 2016). Therefore, the objectives of this study were to: (i) document stakeholder engagement platforms in SVC, (ii) establish the nature and causes of HWC in SVC, and (iii) assess community members' perceptions regarding wildlife conservation and other land uses in SVC.

1.1 Theoretical framework

1.1.1 Transformative conservation

This study is anchored on the transformative conservation framework. Transformation is a substantial, profound and fundamental change, which requires a paradigm shift in how we relate to and manage the environment (Massarella, et al. 2021). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) defined

transformative change as a fundamental, society wide reorganization across technological, economic and social factors and structures, including paradigms, goals and values (Díaz, et al., 2019). It emphasises the need for society-wide, structural change through specific transitions, it includes both the indirect drivers of biodiversity loss and the values underlying these indirect drivers. This concept of transformative change also represents the underlying causes of biodiversity loss, which includes both the indirect drivers and the paradigms, goals and values underlying societies that determine the behaviour of individuals and society at large (Kok, et al., 2022). The Framework envisages a multi-stakeholder approach to enhance wildlife conservation in the SVC (Mashapa, et al., 2021). Transformative biodiversity governance focuses both on the generic and regime-specific underlying causes of sustainability problems. This means governance mixes need to include instruments designed to realize transformative change both within specific regimes and in society more broadly. The multi-stakeholder approach maintains a main focus on environmental justice declarations but aim further, primarily, to enable and sustain constructive stakeholder interaction at the local level (Basson, et al., 2018; Hovardas, 2021). Inclusive multi-stakeholder engagement, together with sustained and systemic knowledge exchange, can support the co-design and co-production of integrated and sustainable policies and management plans that align the objectives of multiple landscape actors (Favretto, et al., 2021). Inclusion is only one among several principles of justice that transformative governance needs to take into account. Many conservation initiatives call for ‘transformative change’ to counter biodiversity loss, climate change, and injustice (Buscher, et al., 2022). More broadly, the pursuit of justice speaks to another key feature of transformative governance, which is that it must be integrative in seeking synergies and minimizing incoherence not only across sectors, institutions and policy instruments, but also across societal goals, including justice and sustainability (Pickering, et al., 2022). The term connotes fundamental, broad, and durable changes to human relationships with nature (Fougeres, et al., 2022). Efforts to pursue transformative biodiversity governance need to acknowledge social-ecological complexity, expose existing conditions of injustice and embrace opportunities to overcome them. Justice and equity are fundamental to the complex choices that societies need to make to achieve transformative change (Bennett, et al., 2019). The framework connotes fundamental, broad, and durable changes to human relationships with nature. It points to the fundamental reorganization necessary for global conservation initiatives to stem ecological catastrophe (Fougeres, et al., 2022). Transformative conservation rethinks the relationships between nature, society, individuals, and risk in light of nature’s contributions to people, equity and justice, and sustainable development goals. , The transformative approach is premised on

the need to change societal arrangements profoundly, transforming relationships between humans as a necessary condition for required changes in relationships between humans and nature (Martin, et al., 2020). The approach restructures systems to create durable change at large geographic, ecological, political-economic, and demographic scales; and ultimately conserves biodiversity while justly transitioning to net negative emissions economies and securing the sustainable and regenerative use of natural resources (Fougeres, 2020).

Transformative conservation requires supporting practitioners and stakeholders to mobilize and take collective action. This includes especially those who live and work where conservation occurs (Fougeres, et al., 2022). A transformative framework which recognizes the diversity of human values and relationships with nature, and how nature contributes both directly and indirectly to good quality of life is fundamental (Lundquist, 2021). Transformative conservation should therefore be understood as a long-term process, requiring both individual agency and collective action by societies and should combine both food production and biodiversity conservation strengthening the socio ecological systems and address adaptation by communities to global change. Conservation actions most often occur in peopled seascapes and landscapes (Colloff, et al., 2017; Bennett, and Roth, 2019; Mupepele, 2021).

The conservation community is moving towards more integrative and collaborative approaches to conservation (Cumming, et al., 2015; Guerrero, et al., 2015; Tengö, et al., 2017; Therville, et al., 2017). Conserving wildlife today requires a change in orientation to and understanding of conflict, as well as the capacities and approaches needed to achieve long-lasting success. A good transformative conservation process should give attention to the dialogue and relationship-building needed to foster dignity, respect, and trust among stakeholders, as well as to support more effective decision-making around and commitment to tangible solutions (Decker, et al., 2012). Engaging local stakeholders is a central feature of many biodiversity conservation and natural resource management projects globally (Sterling, et al., 2017). Thus, the overall objective of engaging stakeholders in SVC needs to improve the livelihoods of rural communities through sustainable and climate resilient management of natural resources which is well in line with the context of the United Nations 2030 Agenda for Sustainable Development (Bleischwitz, et al., 2018).

Over the past decade, national governments, international bodies, non-governmental organizations, and donors have shown an increasing interest in promoting good governance for protected areas, because good governance is a prerequisite for protected areas' long-term future (Alcorn, et al., 2005). The survival of both indigenous peoples and the natural world lies in the ability of people concerned with the two sets of issues to find common ground and work

together (Redford, and Painter, 2006). During the land reform exercise in the year 2000, parts of SVC was transformed into agricultural land impacting negatively on wildlife conservation.

Resettlement communities in Zimbabwe have been documented to have complicated institutional settings due to overlapping powers amongst; *de facto and de jure* institutions (Mberekho, et al., 2015). These institutions and their interactions over time influence the way individuals and communities experience the plethora of stressors that confront them rendering them vulnerable (Mberekho, et al., 2015). However, beliefs and attitudes of local people towards protected areas are increasingly being considered in conservation planning (Anthony, and Moldovan, 2008). Access to basic social services in these settlements is limited including health, water, sanitation and education. Infrastructure is limited; there are high human wildlife conflicts (HWC), which besides the threat for humans also impacts on crop and livestock production. Conflict management requires parties to recognise problems as shared ones, engage with clear goals, transparency, and an awareness of trade-off opportunities (Redpath et al., 2013).

Most HWC stem from differences in land use practices between various stakeholder groups, especially where the wildlife in question is a resource that can be exploited for economic or cultural benefit, or where the conservation of wildlife is at odds with human population growth or development pressure (White, and Ward, 2011). While the rhetoric goes on, local communities surrounding and surrounded by wildlife continue to be vulnerable in particular to food insecurity and diseases and this therefore calls for a transformative stakeholder engagement approach to conservation that gives relief to humans and wildlife co-sharing space in the SVC. Greater involvement of those living in and around protected areas can contribute to protected areas and landscape conservation (Whande, et al., 2003). Engaging local stakeholders is a central feature of many biodiversity conservation and natural resource management projects globally (Sterling, et al., 2017). Core to the planning–implementation gap in conservation is the failure to achieve the necessary shared vision and collaboration among typically diverse stakeholder groups to translate conservation assessments and plans into sustained on-ground outcomes for conservation (Biggs, 2011).

1.1.2 The transformative stakeholder engagement approach

Transformative biodiversity governance must be inclusive, strategic and purposeful, with an aim of focusing on actors that want to influence the indirect drivers of biodiversity loss (Kok, et al., 2022). The underlying hope is that, it will lead to the achievement of biodiversity goals: preservation of the resources, coexistence as well as livelihood improvement, bringing wider

benefits to the pastoral community (Durant, et al., 2022). Transformation towards sustainability requires interventions on system level, where addressing root causes of unsustainability in current systems should be sought for. Consequently, a wide range of aspects are suggested to be addressed, from institutions, structures, economic and financial systems, policy and regulatory systems and power relations, to world views, beliefs, mindsets, lifestyles and values (Luederitz, et al., 2017). Transformation can be guided, for instance through addressing problem solving in multi-stakeholder settings and providing spaces allowing for experimentation where the learning outcomes are incorporated into standard activities (Polvora, et al., 2020). Multi-stakeholder involvement is needed, the decision of who to involve and to what extent is difficult but acknowledged of central importance and a distinction must be made between involvement and influence: involving stakeholders does not necessarily mean allowing them to influence decision-making (Waligo, et al., 2013). Thus, different stakeholder can be invited to participate with different expectations on engagement and involvement. The value of involving a wide range of stakeholders from diverse backgrounds is commonly acknowledged when addressing issues of sustainability (Jolibert, and Wesselink, 2012; Maczka, et al., 2021). It is therefore important to involve community and ensure collaboration between different actors. Once decisions are made on who to involve and to what extent, one needs a set of appropriate tools for stakeholder involvement; interviews, feedback sessions and dialogue (Pomeroy, and Douvere, 2008; Islam, et al., 2020).

1.1.3 Stakeholder Engagement Parameters

Environmental problems are typically complex, uncertain, multi-scale and affect multiple actors and agencies (Reed, 2008). This demands transparent decision-making that is flexible to changing circumstances, and embraces a diversity of knowledges and values. To achieve this, stakeholder participation is increasingly being sought and embedded into environmental decision-making processes, from local to international scales (Antunes, et al., 2015; Howarth, ad Monasterolo, 2017). Stakeholder engagement is usually ‘understood as practices the organization undertakes to involve stakeholders in a positive manner in organizational activities (Greenwood, 2007). Stakeholder engagement is traditionally seen as corporate responsibility in action, the more an organisation engages with its stakeholders the more it becomes responsible. Stakeholder engagement in environmental management is a process where stakeholders, i.e. those directly or indirectly affected by and able to affect a decision, take active roles in research, planning, and actions impacting their lives (Plummer, et al., 2017). Stakeholder engagement describes a range of practices where organisations take a structured

approach to consulting with potential stakeholders. The dimension of inclusive governance suggests focusing on “empowering and emancipating those whose interests are currently not being met and who represent values that constitute transformative change toward sustainability (Bidwell, and Schweizer, 2021). Engagement is initiated and led by stakeholders and/or publics, communicating with decision-making bodies, often via grassroots networks and social media, to persuade them to open their decision-making process to scrutiny and engagement (Reed, et al., 2018). This development towards stronger involvement of nonstate and subnational actors is not uncontested and has at least two dimensions. empowering stakeholders to join experts in decision-making enables learning, builds relationships, strengthens capacities, and fosters the coordination required to address complex environmental problems (Eaton, et al., 2021). It requires working with nonstate actors with the power and ability to induce ownership and leadership to work for biodiversity as well as addressing vested interests that may resist transformative change (Smith, et al., 2019; Bull, et al., 2020). Those leading the process may consult with publics and stakeholders to better understand and represent their views and demonstrate buy-in and support, and so increase their capacity to influence decision-makers or overturn decisions (Reed, et al., 2018). The opposite of stakeholder engagement is the traditional top-down approach and this is increasingly being replaced by inclusive multi-stakeholder approach (Warner, 2016; Conallin, et al., 2017). The top down process is led by Governments and their official representatives, supported by scientifically trained specialists, with those affected by the conflict often relegated to the role of data gatherers and passive recipients of information and instructions (Reed, et al., 2015). Engagement is initiated and led from the top-down by an organisation with decision-making power, consulting publics and stakeholders (but retaining decision-making power) or simply communicating decisions to them (Reed, et al., 2018). Rather than resolve conflict, these top-down approaches have often inflamed conflicts in Protected Areas while the stakeholder engagement approach mediates controversial conservation issues and the approach has the capacity to avoid, cope with or resolve conservation conflicts (Reed, et al., 2015; Schoon, et al., 2021). A successful stakeholder engagement process, entails that, the actors possess a cultural affinity, recognise each other's legitimacy, dedicate time to building trust and are willing to accept incremental gains (Lopez, et al., 2020).

2 Materials and Methods

2.1 Study Area

This study was conducted in Ward 24 of Chiredzi district which covers the greater part of SVC in southeast Zimbabwe (see Lindsey, et al. (2009); Matseketsa, et al. (2019) for detailed description of SVC). The SVC (20° 22' S and 31° 56' E) is located along Save River stretching from the Birchenough Bridge in Chipinge District to Chiredzi District, southern Zimbabwe (Mashapa, et al., 2018). The SVC is located in natural agroecological region IV which is one of the driest regions in Zimbabwe. It occurs at an elevation of 480-620m, with deciduous woodland savanna, low and variable rainfall (474-540 mm per annum) and poor-quality soils (Lindsey, et al., 2009). The SVC is the largest model of amalgamated privately owned ranches devoted to wildlife production in Africa (Du Toit, 2017). The original SVC comprised of 24 properties with a total area of over 3500 km² (Du Toit, 1998; Lindsey, et al., 2012). These properties consolidation into the SVC falls into two Districts; Bikita in the north (1,631 km²) and Chiredzi to the south (1894 km²). The SVC also forms the northern part of the Great Limpopo Transfrontier Conservation Area (GLTFCA) (Makumbe, et al., 2022; Mahed, et al., 2022). The SVC is bordered primarily by high-density communal lands (of between 11 and 82 people per km²), with some commercial agriculture to the south and east (Pole, 2006). The commercial land of the SVC is surrounded by communal land on which some 119 000 communal farmers (try to) make a living (Wels, 2000). During the Fast Track Land Reform Programme (FTLRP), people were settled in some parts of the ward which used to be part of the wildlife conservancy areas. Local communities in the SVC are making a living from farming sorghum (*Sorghum bicolor*), cotton (*Gossypium herbaceum*) and livestock. Sugar cane (*Saccharum officinarum*) and citrus are planted successfully on irrigated land and is key economic driver in the region (Lindsey et al., 2012; Matseketsa, et al., 2019). Low rainfall restricts the land uses to irrigated crop production, commercial cattle and game ranching on extensive privately owned ranches, safari hunting on state land and communal Lands, and dry land subsistence farming in the overcrowded Communal lands (Du Toit, 1998; Mashapa, et al., 2018).

2.2 Study Design

A mixed methods approach was adopted in this study. A stakeholder analysis was carried out in the study area, all actors were put into a matrix which indicated their roles, interests, influence and justified their existence in the area (Reed, et al., 2009). The mixed methods approach to research provides researchers with the ability to design a single research study that

answers questions about both the complex nature of a phenomenon from the participants' point of view and the relationship between measurable variables (Williams, 2007). The use of mixed methods makes it possible to overcome the limitations of either the qualitative or the quantitative methodologies when applied singularly, allowing the researcher to get rich information that could not be obtained using each method alone (Almeida, 2018). The qualitative approach helped in explaining the phenomena, while the quantitative approach was important in examining collected statistical data. Participation in stakeholder analysis is often presented as a 'good' thing and a fairer way to represent views and opinions outside narrow confines of interest and expertise (Bell, et al., 2012). Stakeholder participation in environmental decision-making has been increasingly sought and embedded into national and international policy (Reed, 2008). Stakeholder participant in this context, is individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program, or portfolio (Pandi-Perumal, et al., 2015). These individuals are brought together to interact and relate to execute the project with the aim of achieving set standards and thus have a common interest of project success. The interaction and involvement are therefore, in this study referred to as participation (Eaton, et al., 2021).

Table - 1 below show a typical stakeholder analysis in the case of SVC. There are many stakeholders in the study area and some have grouped into camps for example the War veterans in SVC preferred to be treated separately but for this study, they were treated as party of the community. Indigenous safari operators were also included in the bracket of Safari operators. The selected local stakeholders were key and suffice to achieve the objectives of this study as it incorporated all the minority and majority groups and interested partners. Since most the stakeholders in the study were key and were directly affected by developments in the SVC, their interests and impact as shown on the table were on the high scale. Interested partners; these included individuals, groups, private cooperates, Trusts and Non-governmental Organisations who might not have direct influence on the SVC projects but they have interests in investing and seeing wildlife conservation and biodiversity growing and livelihoods improving in the area.

ZIMPARKS as the authority carrying Zimbabwe's mandate to conserve wildlife heritage through effective, efficient and sustainable utilisation of natural resources for the benefit of present and future generations has high interests and high impact on the SVC (Mushonga, 2018). The community, is a very key stakeholder with high interests and influence as they are directly affected by any kind of developments in their area, side-lining them, will lead to conservation conflicts difficult to resolve. Their contribution is recognised and they

have potential to block the success of the project as captured in the matrix in **Table - 1** below. Farmers (Subsistence and A2) surrounding the conservancy are also key, they are directly affected by the project either way. Stray animals like elephants destroy their crops hence the need for harmonious co – existence.

Table 1: Stakeholder Analysis

Stakeholder Name	Impact How much does the project impact them (Low, Medium, High)	Influence How much influence do they have over the project (Low, Medium, High)	What is important to the stakeholder?	How could the stakeholder contribute to the project	How could the stakeholder block the project	Strategy for engaging the stakeholder
-------------------------	--	--	--	--	--	--

		Medium , High)				
ZimParks	High	High	Wildlife & Biodiversity conservation	Protection of Biodiversity	Going on strike	Quarterly meetings, and monthly feedback meetings
A2 Farmers	Medium	Low	Land and crop protection	Cooperation with other players	Overlapping into the PA.	Monthly engagements.
Safari Operators	High	High	Tourism & biodiversity conservation	Protection of biodiversity	By not investing in environmental conservation	Monthly feedback meetings
Government	High	High	Tourism & Development	Policy planning	Repressive policy and conservation laws	Annual conferences and quarterly feedback meetings
Community	High	High	Conservation benefits, protection from predators	Linkage between government & community	Poaching, competing with wildlife for resources	Information & feedback meetings
Chiredzi Rural District Councils, Bikita Rural	High	Medium	Revenue from wildlife conservation	Coordination and creation of a conducive conservation	By not creating a conducive environment for the project	Quarterly feedback meetings

District Council				n environme nt		
Zimbabwe Tourism Authority (ZTA)	High	Medium	Tourism promotion & conservation	Strategising and proper planning in Tourism promotion	Inhibiting tourism strategies that discourage Tourism	Annual & quarterly conferences
Nyangambwe Wildlife Project	High	High	Conservation benefits	Biodiversity protection	Overlapping & not abiding to the rules of biodiversity conservation	Quarterly feedback meetings
Interested Partners	High	Low	Community development	Invest towards conservation and community development	Negatively Influencing community perceptions	Quarterly planning meetings

Sample size and data collection

A survey was carried in ward 24 of Chiredzi district and data were collected in April and May 2020 through two methods, that is, focus group discussions were conducted with a seven (7) member committee (farm chairpersons) and 84 randomly selected community members and traditional leaders and semi-structured interviews with 20 key informants purposively selected. Key informants were selected based on their knowledge, background and positions held in society and these included the Ward Councillor, the government extension staff in relevant departments and village heads.

Data collected focused on an assessment of the stakeholder engagement platforms available in the SVC, the nature and causes of HWC and the perceptions of community members towards the SVC. To understand the nature and causes of HWC in SVC; focus group discussions were held in each area (Masapasi, Levanga, Mkwasine Ranch, Chegwite and Senuko). These parameters help in understanding the transformative conservation in the SVC. Permission to conduct the survey was sought from the Chiredzi Rural District Council and village heads.

Semi-structured interviews were held with 20 key informants purposefully selected based on their knowledge, background and positions held in society and these included the Ward Councillor, the government extension staff in relevant departments and village heads. Secondary data used in this study were collected from the Livestock Production Department (LPD) in Chiredzi district and gave us all the data on Human and Wildlife Conflict. as shown in Table 1, a total of 111 (55 females and 56 males participated).

Table 2: Sample size and data collection methods

Category	Number of participants			Data collection method
	Male (%)	Female (%)	Total (%)	
Farm Chairpersons	7(13)	0	7 (6)	Focus Group Discussion
Community members	36 (64)	48(87)	84(76)	Focus Group Discussion
Key informants	13(23)	7 (13)	20(18)	Semi-structured interview
Total	56(50)	55(50)	111	

2.3 Data Analysis

The thematic content analysis method was used to analyse qualitative data in this survey. For thematic content analysis, a six-step process: familiarisation, coding, generating themes, reviewing themes, defining and naming themes and writing up following (Caufield, 2019). This approach made it possible to analyse data recorded on semi-structured interview transcripts. Further, a cross tabulation method was used to analyse association and frequency of variables.

3. Results

3.1 Stakeholder engagement platforms in SVC

The results showed limited platforms for community members to participate in stakeholder engagement activities in the SVC. The majority of participants as shown in Table 2 indicated that 98% ($n = 89$) stated that they had never participated in consultative meetings; only 2% ($n = 2$) said they participated in consultative meetings. Annual planning meetings, Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) meetings and community share ownership meetings were the available stakeholder platforms in SVC. However, 98% ($n = 89$) participants had no knowledge of this platform and only 2% ($n = 2$) were in the know. On the other hand, 100% ($n = 91$) were not aware of CAMPFIRE meetings and all of them (100% ($n = 91$)) had no knowledge about the existence of community share ownership in SVC. One of the respondents has this to say:

(Respondent 1) *We have never been invited, consulted or participated in any planning meetings even at ward level to talk about the community share ownership. We are not even aware if those meetings are being conducted.*

Table 3: Engagement platforms in SVC and responses by participants.

The total participation in Table: 2 is 100% and it excluded the 7 key informants.

Platform	Knowledge of the platform		Participation	
	Yes (%)	No (%)	Yes (%)	No (%)
Consultative meetings	2(2)	89 (98)	2 (2)	89 (98)

Annual meetings	planning	4 (4)	87 (96)	0	91 (100)
CAMPFIRE meetings		0	91 (100)	0	91 (100)
Community ownership	share	0	91 (100)	0	91 (100)

3.2 Human wildlife conflict in the SVC

The results showed that elephants (*Loxodonta africana*) constituted the highest number of reports on problem animals with 385 reports received from the period 2014-2018 (Table 3). A total of 316 reports on lions (*Panthera leo*) were received within the same period killing a total of 15 animal and 2 people injuring 1 in the same period. A total of 261 reports on buffalo (*Syncerus caffer*) as another common species under problem animals were recorded within the same period 2014–2018. Overall, 1201 reports were received and 13 people were killed injuring 19, while 187 cattle were killed while 224 goats and 38 donkeys were killed by wildlife in SVC within the same period. One operator who was interviewed had this to say:

(Interviewee 1) *A lasting solution needs to be sought as a matter of urgency so as to curb poaching and encroachment by communities into private properties if we are serious about promoting tourism, improving livelihoods of local people and conserve our biodiversity. The situation needs intervention as people are settling themselves closing the corridor and some communities have settled on traditional wildlife tracks to water sources.*

Table 4: Deaths and injuries caused by wildlife

Species Involved	Reports Received 2014-2018	Problem Animals Killed 2014-2018	People Killed/Injured 2014-2018		Domestic Animals Killed 2014-2018		
			Killed	Injured	Cattle	Goats	Donkey
Elephant	385	57	0	0	0	0	0
Hippo	120	19	2	0	0	0	0
Buffalo	261	93	2	7	0	0	0

Lion	316	15	2	1	165	174	29
Crocodile	74	12	6	9	0	1	0
Hyena	33	11	1	2	20	38	9
Leopard	12	1	0	0	3	12	0
Total	1201	208	13	19	187	224	38

Source: Chiredzi District Livestock Production Department, 2022, Human and Wildlife Conflict data – Chiredzi Rural Development Council - Environment Department, 2022

It was evident that, HWC in SVC were pervasive and this is caused by a number of factors. Communities in SVC have no other income generating sources besides exploiting resources within their surroundings. The illegal harvest of mopane trees (**Fig. 1**) to extract charcoal was also on the increase. Domestic animals had to scramble for pastures in SVC leading to increased reports on communities losing their livestock to wildlife and also people losing their lives during the process. Increased population in SVC has seen communities expanding their settlements into protected privately owned properties and this entails the clearance of large tracts of land for settlement (**Fig. 1**). The cutting down of trees has reduced space and the natural habitat for wildlife in SVC. One local farmer interviewed had this to say:

(Interviewee 2) *I lost 5 of my cattle in one night to lions after they broke into my kraal and I don't think there are any plans from the park authorities to compensate me. That was my only source of income since we have not received any meaningful rains in this part of the district or the past three years.*



Figure 1: (a) A disturbed cattle owner standing beside his cow which had fallen victim to lions in SVC. (b) An arrested poacher in SVC (c) Charcoal bags loaded in a truck ready for sale after being extracted from mopane trees in SVC. (d) Land being cleared for farming and settlement in SVC. (e) Burning mopane trees to extract charcoal in SVC. **Photo credit:** Authors 2023.

3.3 Community members' perception on the SVC

. The majority of community members and traditional leaders 74% ($n = 67$) had negative perception towards the idea of wildlife conservancy and only 14% ($n = 13$) had positive perception and 12% ($n = 11$) were neutral (Table 4). Those who had negative perceptions on wildlife conservation said that they didn't like the idea because it was a waste of land and some of the wild animals are a threat to them besides destroying their crops given that there are no secure boundaries.

Table 5: Community members' perceptions on land use in SVC

Land use	Participant category			
	Community members (%)	Farm Chairpersons (%)	Key informants (%)	
Crop production	53(48)	4 (4)	1 (1)	
Ranching (livestock)	7 (6)	1 (1)	4 (4)	
Wildlife conservancy	0	0	11 (9)	
Mixed	24 (21)	2 (2)	4 (4)	

The majority of community members, i.e., 48% ($n = 53$), preferred the land to be used for crop production while 21% ($n = 24$) pointed out that they preferred mixed land use and 6% ($n = 7$) opted for ranching. None of the community members reported that they wanted the land to be used for wildlife conservancy. The views of traditional leaders regarding land use were comparatively the same to those of community members. The majority of traditional leaders 57% ($n = 4$) would like the land to be used for crop production while 4 ($n = 2$) said that they prefer mixed land use while 1% ($n = 1$) favours ranching. Most of the key informants (10%; $n = 11$) said that the land should be used for wildlife conservancy and 4% ($n = 4$) opted for ranching with the other 4% ($n = 4$) thought of a mixed land use approach with only 1% ($n = 1$) reporting that it should be used for crop production. During the focus group discussions, one community member has this to say:

(Respondent 2): *we regard wildlife conservancy as a waste of land and we are proposing that that the land be divided amongst ourselves or settlement and cultivation as we are not benefiting anything from wildlife, our crops are destroyed by elephants year in year ou, thus why we are having poor yields.*

4. Discussion

The study established that community participation in wildlife conservation projects in the SVC is very limited. The two traditional leaders who said that they participated in the consultative meetings explained that it was just once off and there was no proper structure to coordinate meetings. Stakeholder engagement in the SVC can only be realised if community members are provided an opportunity where they discuss issues with operators of wildlife conservancies. Engagement will bring common understanding and goes a long way in addressing a plethora of challenges being encountered in the study area (Moser, 2014; Lawrence, et al., 2022). The participation of a diverse group of people in a systemic process of collecting, discussing, and analysing scenarios builds shared understanding (Peterson et al., 2003).

Stakeholder engagement is not only key but is the missing ingredient to conservation conflicts which have been so rampant in SVC. Biodiversity conservation would be difficult to achieve in SVC if there are still such pockets where communities and wildlife could not share space in harmony. Human settlements in the park threaten conservation efforts, and mixed views on the proposed game fence were observed (Muboko, and Bradshaw, 2018). Some protected areas remain settled or have recently been partially settled by people with prior claims on the area (Mombeshora, and le Bel, 2009; Milgroom, 2012).

It was also established that there was no effective communication strategy between stakeholders in the study area and the few consultative and planning meetings have registered poor attendance thus affecting community participation which could help in resolving conservation conflicts in SVC. Communities and other stakeholders should be made aware of each and every program and planning meetings. The attendance and contribution of each and every stakeholder is vital so that there is a shared view and common understanding of the main issues that affect development in SVC. Lack of an effective communication strategy in SVC has also affected decision making processes as communities are not even aware of the reporting and governing structures. There is need for the facilitation of a working framework showing the organogram and reporting procedure in the SVC. The current arrangement is so ambiguous that no one knows who is responsible for what and who must be leading others towards a common goal.

The study recorded that HWC was widespread in SVC mainly because wildlife and human populations coexist, they share and compete for the scarce resources available. Conflicts between humans and wildlife have occurred since the dawn of humanity. In Africa, these conflicts have become more frequent and severe over recent decades as a result of human

population growth, extension of transport routes and expansion of agricultural and industrial activities which together have led to increased human encroachment on previously wild and uninhabited areas (Lamarque, et al., 2009; Makonen, 2020). Large areas of woodlands which used to be habitats or wildlife have been cleared for subsistence farming within SVC (Lindsey, et al., 2012). Frequently, wildlife poses a direct threat to the lives of people irking out an existence in or close to their habitat, hence, wildlife has no value outside the protected areas, it dwindles and disappears either through active persecution, loss of habitat or competition with livestock (Prins, et al., 2012). HWCs occur around the edges of protected areas where there are high human and wild animal interactions (Matseketsa, et al., 2019). Such is the case with SVC where reports of human and wildlife confrontations are increasing.

The removal of portions of the perimeter fence by the settler farmers has greatly increased HWC in neighbouring communal lands (Lindsey, et al., 2012; Mashapa, et al., 2017). In SVC, the conflict has been manifested by fatal encounters between humans and wildlife, crop damage and livestock depredation (Le Bel, et al., 2016). In response to crop damage, several elephant bulls are killed in problem-animal control operations every year, significantly reducing potential revenues from trophy hunting each year (Lindsey, 2012). Settler farmers living in the conservancy no longer employ traditional (conflict-reducing) husbandry techniques employed effectively elsewhere and as the lion population increases, complaints of livestock losses appear to be increasing in frequency, resulting in the risk of predators being poisoned by affected farmers (Lindsey, et al., 2012). Expansion for agricultural purposes and the growth in human population are key contributing factors of HWC in SVC (Matseketsa, et al., 2019). HWCs are one of the biggest obstacles for community-based natural resource management in Zimbabwe, this situation has been exacerbated by the 1999 land reform which resulted in Africans settling on former white owned commercial farms, as well as game safari land and sections of protected areas (Le Bel, et al., 2011). Wildlife species damaging crops can cause substantial losses to farmers and at the same time create negative attitudes against wildlife and conservation efforts that may result in negative interactions against wildlife and lead to HWCs (Gross, et al., 2018).

Emphasizing and building shared understandings of fundamental assumptions regarding wildlife conservation could enhance the participatory process, improve ecological understandings, and aid conservation success (Heisel, et al., 2021). Very few are realising benefits from wildlife conservation proceeds in SVC this has strained relationships. The nature of this perceived poor relationship is attributed to a host of factors, key among them being, lack of wildlife-related benefits and escalation of wildlife-induced costs, which are crucial in

determining local community's support for conservation (Matseketsa, et al., 2019; Zibani, 2019). Identifying solutions for the coexistence of humans and wildlife requires an understanding of both environmental and social dimensions (Konig, et al., 2020; 2021). Being semi-arid, SVC, no meaningful crop cultivation could be carried out without need for irrigation and this leaves cattle ranching and wildlife conservation being the most favourable options which needs to be considered and hence the need to engage the same communities for their support (Matseketsa, et al., 2019).

The study revealed the need to educate all stakeholders on the importance of wildlife conservation emphasising much on its positive contributions to country's Gross Domestic Product (GDP) and how communities could directly and indirectly benefit from such initiatives. Local people's knowledge about natural resources conservation are influenced by education and awareness programmes, services and benefits local people receive from conservation related projects (Jalilova, and Vacik, 2012; Gandiwa, et al., 2014). Wildlife conservation efforts have not fully addressed poverty within communities and this is influencing communities to have negative perceptions towards conservation initiatives. Interviewed communities' members raised a number of issues where they pointed out that they have been denied access to natural resources, there is no employment for them in the park, stray elephants are raiding their crops. Evidence based on reports points to local communities' hatred of parks and dismissed the poverty alleviation benefits as an illusion given the huge social capital loss accentuated by involuntary relocation and spike on HWCs (Gadd, 2005). Our findings corroborate those of Mbereko, et al. (2017) who also made similar observation that some institutions involved in the management of the Protected Areas are failing to promote the participation of the local community in the decision-making processes. This has often led to communities not sharing the same view with other stakeholders on wildlife conservation in SVC. Our study showed that communities in SVC continue to have negative perceptions towards wildlife as they still think they could not share space with wildlife.

Communities juxtaposed to protected areas often disproportionately accrue the costs of conservation, but they can also receive benefits from the existence of a protected areas (Matseketsa, et al., 2018). The extent to which local communities benefit or incur costs as a result of residing next to protected areas is of interest to conservationists and policy-makers. Local communities should be involved from the planning phase of community-based tourism projects, which were meant to benefit them socio-economically, while also empowering them to participate actively in the conservation of local environmental assets (Hlengwa, and Maruta, 2020). All players in SVC need to find a very even common ground and engagement platform

where each and every stakeholder big or small is regarded as key and is allowed to be heard, given equal opportunities to participate, and equally contribute to the development of communities and promote wildlife conservation.

Protected areas can no longer be thought of as ecological islands that function independently of the broader social-ecological system in which they are located (Cumming, et al., 2015). The study found that communities in SVC are not seeing the benefits of wildlife hence there is need to start regular engagements and consultative meetings with communities, initiating and implementing programs and projects in the area that are sensitive to the plight and challenges faced by communities in the area. Failure to link conservation and development in SVC may not be without consequences. The long-term future of the core protected areas within SVC is likely to be compromised if not threatened, unless those living on the edge are consulted, involved and participate in all the planning and implementation processes of wildlife and biodiversity conservation.

After recognising the severe loss of biodiversity, soaring reports of HWC and failure to co - exist, no shared views on enhance livelihoods and promote conservation in the SVC, the study advocates for a more integrated and inclusive approach that could enhance and address the challenges in SVC. Inclusivity fosters meaningful participation of new or previously unacknowledged and/or underrepresented human and non-human voices. Inclusivity values diverse contributions to change, and shared leadership in sustained and equitable outcomes (Wyborn, et al., 2020). Narrative approaches can complement objectivist scientific understandings of biodiversity with those entangled with human emotion, meaning, and culture. Stakeholders are people or groups who have direct or indirect benefit an influence in the outcome of a project (Sterling, et al., 2017).

5. Conclusion

The study concludes that there is limited involvement and participation of community members as key stakeholder in issues of conservation in the SVC. There are limited platforms for participation in SVC. HWC is still pervasive in SVC. Community members have negative perceptions towards wildlife conservation in SVC. There are no shared views and linkage between the community members and the wildlife conservation projects in the SVC. Although there are platforms to participate in SVC, the study established that the majority of community members are not aware and/or are not invited to such platforms to enable them to participate.

Given this, SVC's activities were viewed negatively by community members and regarded as a waste of land that could be used for farming activities. The study observed that; it is of paramount importance for community members to participate and get involved in wildlife conservation initiatives so that they can embrace and support all plans and implementation processes towards sustainability in SVC. Without meaningful participation by community members, wildlife conservation initiatives are likely to fail. One of the major challenges in SVC as highlighted in the study is HWCs, and this is mainly caused by lack of shared understanding and vision. From the findings. There is need for meaningful engagement of community members regarding wildlife conservation. This can be realised by having regular consultative planning and review meetings with key stakeholders recognising and respecting each other's roles, interests and contributions. Further, there is need for community engagement regarding the issue of boundaries in SVC.

Data Availability

The data are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that there are no conflicts of interest in this article.

Funding Statement

This study was self-funded.

Acknowledgements

We would like to acknowledge the cooperation we got from the Local Traditional Leadership (Farm and village Chairpersons). We also thank Ward 24 Councillor Mr. M. Mazara, Chief Gudo for allowing us to carry out this study in his area of jurisdiction; Blessing Bhaiseni for his contributions and Joseph Antipas for capturing the photos. The following individuals, groups, organisations and government departments were key in this study; Joseph Shoko; Chinhoyi University of Technology; Ministry of Environment, Climate, Tourism and Hospitality Industry, Zimbabwe Parks and Wildlife Management Authority, Safari Operators, Department of Tourism in Chiredzi, Chiredzi Rural District Council Chief Executive Officer(Dr I Matsilele), Zimbabwe National Water Authority (ZINWA) -Mr Peter Shotere, Agritex department (Mr KZ Madzikanda), Department of Lands (Mr H Mapfumo) District Development Coordinator Mr Lovemore Chisema), the Department of Veterinary Services (Dr K Makwangudze), War Veterans in Chiredzi District and the Nyangambe Community.

References

1. Alcorn, Janis B., Andres Luque, Wendy Weisman, Dewi Suralaga, Shekhar Singh, Ronald Zeballos, Lily Rodriguez (2005), "Non-governmental organizations and protected areas governance." In Governance Stream of the Vth World Park Congress, pp. 1-44. Canada, Parks Canada and IUCN World Commission on Protected Areas (WCPA) Ottawa and Gland.
2. Almeida, F. (2018). Strategies to perform a mixed methods study. *European Journal of Education Studies*. Strategies 5(1),137 -151
3. Anthony, B., and Moldovan, D. (2008). Poised for engagement? Local communities and Macin Mountains National Park, Romania. *The International Journal of Biodiversity Science and Management*, 4(4), 230-241.
4. Antunes, P., Stave, K., Videira, N., & Santos, R. (2015). Using participatory system dynamics in environmental and sustainability dialogues. In *Handbook of research methods and applications in environmental studies* (pp. 346-374). Edward Elgar Publishing.
5. Basson, M.; van Rensburg, H.; Cuthill, M.; Erdiaw-Kwasie, M.O. Is Regional Government-Governance Nexus Delivering on Social Sustainability Promises? Empirical Evidence from Moranbah in Australia. *Local Gov. Stud.* 2018, 44, 826–847.
6. Bennett, N. J., and Roth, R. (2019), Realizing the transformative potential of conservation through the social sciences, arts and humanities. *Biological Conservation*, 229, A6-A8.
7. Bell, S., Morse, S., & Shah, R. A. (2012). Understanding stakeholder participation in research as part of sustainable development. *Journal of environmental management*, 101, 13-22.
8. Bidwell, D., & Schweizer, P. J. (2021). Public values and goals for public participation. *Environmental Policy and Governance*, 31(4), 257-269.
9. Biggs, D., Abel, N., Knight, A. T., Leitch, A., Langston, A., & Ban, N. C. (2011). The implementation crisis in conservation planning: could “mental models” help? *Conservation Letters*, 4(3), 169-183.
10. Bleischwitz, Raimund, Catalina Spataru, Stacy D. VanDeveer, Michael Obersteiner, Ester van der Voet, Corey Johnson, Philip Andrews-Speed, Tim Boersma, Holger Hoff, and Detlef P. Van Vuuren (2018). "Resource nexus perspectives towards the United Nations sustainable development goals." *Nature Sustainability*, 1, (12), 737-743.
11. Bull, J. W., Milner-Gulland, E. J., Addison, P. F. E., et al. (2020). Net positive outcomes for nature. *Nature Ecology and Evolution* 4, 4–7.
12. Büscher, B., Massarella, K., Coates, R., Deutsch, S., Dressler, W., Fletcher, R., ... & Kok, M. T. (2022). The convivial conservation imperative: exploring “Biodiversity Impact Chains” to support structural transformation. *Earth System Governance Series*, 244-263.
13. Caulfield, J. 2019. How to do thematic analysis. Scribbr. Retrieved on February 7 2021. Available at <https://www.scribbr.com/methodology/thematic-analysis/>
14. Chaumba, J., Scoones, I., and Wolmer, W. (2003b) ‘From jambanja to planning: the reassertion of technocracy in land reform in south eastern Zimbabwe’, *Sustainable Livelihoods in Southern Africa Research Paper 2*, Institute of Development Studies, Brighton
15. Chipika, J. T., & Malaba, J. A. (2016). Towards a Transformative Democratic Developmental State in Zimbabwe - Towards Democratic Development States in Southern Africa, 200.
16. Colloff, M.J., Martín-López, B., Lavorel, S., Locatelli, B., Gorddard, R., Longaretti, P.Y., Walters, G., van Kerkhoff, L., Wyborn, C., Coreau, A. and Wise, R.M., (2017) An integrative research framework for enabling transformative adaptation. *Environmental Science & Policy*, 68, 87-96.
17. Conallin, J. C., Dickens, C., Hearne, D., & Allan, C. (2017). Stakeholder engagement in environmental water management. In *Water for the Environment* (pp. 129-150). Academic Press.
18. Cumming, D. H. M. (2011). Constraints to conservation and development success at the wildlife-livestock-human interface in southern African Trans - frontier conservation areas: a preliminary review. *Wildlife Conservation Society*, New York.
19. Cumming, D. H., & Andersson, J. A. (2017). Whither TFCAs and people on the edge in Southern Africa? In *Transfrontier Conservation Areas* (pp. 216-227). Routledge.

20. Cumming, D. H., Dzingirai, V., & de Garine-Wichatitsky, M. (2017). Land-and natural resource-based livelihood opportunities in TFCAs.
21. Cumming, G.S., Allen, C.R., Ban, N.C., Biggs, D., Biggs, H.C., Cumming, D.H., De Vos, A., Epstein, G., Etienne, M., Maciejewski, K. and Mathevet, R., (2015), Understanding protected area resilience: a multi-scale, social-ecological approach. *Ecological Applications*, 25(2),299-319.
22. Decker, D. J., Raik, D. A. B., Carpenter, L. H., Organ, J. F., &Schusler, T. M. (2005). Collaboration for community-based wildlife management. *Urban Ecosystems*, 8(2), 227-236.
23. Decker, D. J., Riley, S. J., & Siemer, W. F. (Eds.). (2012). *Human dimensions of wildlife management*. JHU Press.
24. Decker, D., Smith, C., Forstchen, A., Hare, D., Pomeranz, E., Doyle-Capitman, C., Schuler, K. and Organ, J., (2016), Governance principles for wildlife conservation in the 21st century. *Conservation Letters*, 9(4),290-295.
25. Díaz, S., Settele, J., Brondízio, E. S., et al. (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.
26. Drouilly, M., &O’Riain, M. J. (2019). Wildlife winners and losers of extensive small-livestock farming: a case study in the South African Karoo. *Biodiversity and Conservation*, 1-19.
27. Durant, S. M., Marino, A., Linnell, J. D., Oriol-Cotterill, A., Dloniak, S., Dolrenry, S., ... & Yirga, G. (2022). Fostering coexistence between people and large carnivores in Africa: using a theory of change to identify pathways to impact and their underlying assumptions. *Frontiers in Conservation Science*, 2, 127.
28. du Toit, R. (1998) ‘Case study of policies that support sustainable development in Africa: Save Valley Conservancy, Zimbabwe’, paper presented at Scandinavian Seminar College Workshop African Experiences with Policies and Practices Supporting Sustainable Development, 28–30 September 1998, Harare.
29. Eaton, W.M., Brasier, K.J., Burbach, M.E., Whitmer, W., Engle, E.W., Burnham, M., Quimby, B., Kumar Chaudhary, A., Whitley, H., Delozier, J. and Fowler, L.B., 2021. A conceptual framework for social, behavioral, and environmental change through stakeholder engagement in water resource management. *Society & Natural Resources*, 34(8), pp.1111-1132
30. Favretto, N., Shackleton, S., Sallu, S. M., & Hoffman, T. (2021). Editorial for special issue:“collaboration and multi-stakeholder engagement in landscape governance and management in Africa: lessons from practice”. *Land*, 10(3), 285.
31. Fougères, D., Jones, M., McElwee, P. D., Andrade, A., & Edwards, S. R. (2022). Transformative conservation of ecosystems. *Global Sustainability*, 5, e5.
32. Fougères, D., Andrade, A., Jones, M., & McElwee, P. D. (2020). Transformative conservation in social-ecological systems. IUCN Commission on Ecosystem Management (CEM): Geneva, Switzerland.
33. Gadd, M. E. (2005). Conservation outside of parks: attitudes of local people in Laikipia, Kenya. *Environmental conservation*, 32(1), 50-63.
34. Gross, E. M., Lahkar, B. P., Subedi, N., Nyirenda, V. R., Lichtenfeld, L. L., &Jakoby, O. (2018). Seasonality, crop type and crop phenology influence crop damage by wildlife herbivores in Africa and Asia. *Biodiversity and conservation*, 27(8), 2029-2050.
35. Guerrero, A.M., Mcallister, R.R.J., Wilson, K.A., 2015. Achieving Cross-Scale Collaboration for Large Scale Conservation Initiatives. *Conservation Letters*. 8, 107–117.
36. Heisel, Sara E., Elizabeth King, Francis Lekanta, Francis Lemoile, Camilla Ryan, Isaya Lemer keto, Siva Sundaresan, Erin Malsbury, and Brett Bruyere, (2021) "Assessing ecological knowledge, perceived agency, and motivations regarding wildlife and wildlife conservation in Samburu, Kenya." *Biological Conservation* 262 109305.262 (2021), Article 109305
37. Hlengwa, D. C., &Maruta, A. T. (2020). A framework for facilitation of community participation in and beneficitation from CBT around the Save Valley Conservancy.
38. Hovardas, T. (2021). Social sustainability as social learning: Insights from multi-stakeholder environmental governance. *Sustainability*, 13(14), 7744.

39. Howarth, C., & Monasterolo, I. (2017). Opportunities for knowledge co-production across the energy-food-water nexus: Making interdisciplinary approaches work for better climate decision making. *Environmental Science & Policy*, 75, 103-110.
40. Islam, M. M., Nahiduzzaman, M., & Wahab, M. A. (2020). Fisheries co-management in hilsa shad sanctuaries of Bangladesh: Early experiences and implementation challenges. *Marine Policy*, 117, 103955.
41. Jacobson, C.A., Organ, J.F., Decker, D.J., Batcheller, G.R. & Carpenter, L. (2010). A conservation institution for the 21st century: implications for the state wildlife agencies. *J. Wildl. Manage.*, 74, 203- 209
42. Intergovernmental Panel on Climate Change (IPCC), 2022. *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Cambridge University Press.
43. Jalilova, Gulnaz, and Harald Vacik "Local people's perceptions of forest biodiversity in the walnut fruit forests of Kyrgyzstan." *International Journal of Biodiversity Science, Ecosystem Services & Management* 8.3 (2012): 204-216.
44. Jolibert, C., & Wesselink, A. (2012). Research impacts and impact on research in biodiversity conservation: The influence of stakeholder engagement. *Environmental Science & Policy*, 22, 100-111.
45. Kangalawe, R. Y., & Noe, C. (2012). Biodiversity conservation and poverty alleviation in Namtumbo District, Tanzania. *Agriculture, ecosystems & environment*, 162, 90-100.
46. Kock, R. A. (2005). What is this infamous "wildlife/livestock disease interface?" A review of current knowledge for the African continent. In S. A. Osofsky, S. Cleveland, W. B. Karesh, M. D. Kock, P. J. Nyhus, L. Starr & A. Young (Eds.), *Conservation and development interventions at the wildlife/livestock interface: implications for wildlife, livestock and human health* (pp. 1-13). Gland, Switzerland, and Cambridge, UK: IUCN.
47. Kreuter, U., Peel, M., & Warner, E. (2010). Wildlife conservation and community-based natural resource management in southern Africa's private nature reserves. *Society and Natural Resources*, 23(6), 507-524.
48. König, H. J., Kiffner, C., Kramer-Schadt, S., Fürst, C., Keuling, O., & Ford, A. T. (2020). Human–wildlife coexistence in a changing world. *Conservation Biology*, 34(4), 786-794.
49. König, Hannes J., Silvia Ceaşu, Mark Reed, Helen Kendall, Karoline Hemminger, Henrik Reinke, Emu-Felicitas Ostermann-Miyashita EF, Wenz E, Euemia L, Hermanns T and Klose M, (2021) "Integrated framework for stakeholder participation: Methods and tools for identifying and addressing human–wildlife conflicts." *Conservation Science and Practice* 3(3), e399.
50. Kok, M. T., Tsioumani, E., Bliss, C., Imovilli, M., Keune, H., Morgera, E., ... & Visseren-Hamakers, I. J. (2022). Enabling transformative biodiversity governance in the Post-2020 era.
51. Lamarque, F., Anderson, J., Fergusson, R., Lagrange, M., Osei-Owusu, Y., & Bakker, L. (2009). Human-wildlife conflict in Africa: causes, consequences and management strategies (No. 157). Food and Agriculture Organization of the United Nations (FAO).
52. Lawrence, M. G., Williams, S., Nanz, P., & Renn, O. (2022). Characteristics, potentials, and challenges of transdisciplinary research. *One Earth*, 5(1), 44-61.
53. Le Bel, S., Murwira, A., Mukamuri, B., Czudek, R., Taylor, R., & La Grange, M. (2011). Human wildlife conflicts in southern Africa: riding the whirl wind in Mozambique and in Zimbabwe. In *The importance of biological interactions in the study of biodiversity*. Intech Open.
54. Le Bel, S., La Grange, M., & Czudek, R. (2016). Managing human–elephant conflict in Zimbabwe: a boundary perspective rather than a problematic species issue. *Problematic Wildlife: A Cross-Disciplinary Approach*, 123-142.
55. Lindsey, P. A., Romanach, S. S., & Davies-Mostert, H. T. (2009). The importance of conservancies for enhancing the value of game ranch land for large mammal conservation in southern Africa. *Journal of Zoology*, 277(2), 99-105.
56. Lindsey, P., du Toit, R., Pole, A., & Romañach, S. (2012). Savé Valley Conservancy: a large-scale African experiment in cooperative wildlife management. In *Evolution and innovation in wildlife conservation* (pp. 181-202). Routledge.
57. López-Rodríguez, M.D., Ruiz-Mallén, I., Oteros-Rozas, E., March, H., Keller, R., Lo, V.B., Cebrián-Piqueras, M.A. and Andrade, R., (2020). Delineating participation in conservation

- governance: Insights from the Sierra de Guadarrama National Park (Spain). *Environmental Science & Policy*, 114, pp.486-496.
58. Luederitz, C., Abson, D. J., Audet, R., & Lang, D. J. (2017). Many pathways toward sustainability: not conflict but co-learning between transition narratives. *Sustainability Science*, 12, 393-407.
 59. Lundquist, C., Hashimoto, S., & Schoolenberg, M. (2021). Transformative scenarios for biodiversity conservation and sustainability. *Conservation Letters*, 14(2).
 60. Maczka, K., Matczak, P., Jeran, A., Chmielewski, P. J., & Baker, S. (2021). Conflicts in ecosystem services management: Analysis of stakeholder participation in natura 2000 in Poland. *Environmental Science & Policy*, 117, 16-24.
 61. Mahed, G., Brendonck, L., Nhiwatiwa, T., & Mujere, N. (2022). Ecohydrology of the Save Valley Conservancy in Zimbabwe: Initial insights into freshwater pan formation. *Authorea Preprints*.
 62. Mapfumo, A. (2015). Livelihood strategies and food security for resettled smallholder tobacco and non-tobacco farmers: the case of Manicaland Province in Zimbabwe (Doctoral dissertation, University of Fort Hare).
 63. Martin, A., Armijos, M. T., Coolsaet, B., Dawson, N., AS Edwards, G., Few, R., ... & White, C. S. (2020). Environmental justice and transformations to sustainability. *Environment: Science and Policy for Sustainable Development*, 62(6), 19-30.
 64. Mashapa, C., Gandiwa, E., Muboko, N., & Mhuriro-Mashapa, P. (2021). Land use and land cover changes in a human-wildlife mediated landscape of save valley conservancy, south-eastern lowveld of Zimbabwe. *J. Anim. Plant Sci*, 31(2), 583-595.
 65. Matseketsa, G., Mukamuri, B. B., Muboko, N., and Gandiwa, E. (2019). An Assessment of Local People's Support to Private Wildlife Conservation: A Case of Save Valley Conservancy and Fringe Communities, Zimbabwe. *Scientifica, Global Ecology and. Conservation.*, 20, Article e00737
 66. Matseketsa, G., Chibememe, G., Muboko, N., Gandiwa, E., & Takarinda, K. (2018). Towards an Understanding of Conservation-Based Costs, Benefits and Attitudes of Local People Living Adjacent to Save Valley Conservancy, Zimbabwe, vol. 2018, *Scientifica, Global Ecology and Conservation*, Article ID 6741439, 9,
 67. Mbereko, A., Dianne, S., & Kupika, O. L. (2015). First Generation Land Reform in Zimbabwe: Historical and Institutional dynamics informing Household's vulnerability in the Nyamakate resettlement community. *Journal of Sustainable Development in Africa*, 17(3), 21-40.
 68. Mbereko, A., Kupika, O., & Gandiwa, E. (2017). Linking Social and Ecological Sustainability: An Analysis of Livelihoods and the Changing Natural Resources in the Middle Zambezi Biosphere Reserve. *Journal of Entrepreneurial and Organizational Diversity, Special Issue on Community-Based, Collaborative Solutions to Sustainable Economic Development in and around Biosphere Reserves*, 6(1), 49-68.
 69. Mekonen, S. (2020). Coexistence between human and wildlife: the nature, causes and mitigations of human wildlife conflict around Bale Mountains National Park, Southeast Ethiopia. *BMC ecology*, 20(1), 51.
 70. Mhuriro Mashapa, P., Mwakiwa, E., & Mashapa, C. (2018). Socio-economic impact of human-wildlife conflicts on agriculture-based livelihood in the periphery of save valley conservancy, southern Zimbabwe. *The Journal of Plant and Animal Sciences*, 28, 12-16.
 71. Mhuriro-Mashapa, P., Mwakiwa, E., & Mashapa, C. (2017). Determinants of communal farmers' willingness to pay for human wildlife conflict management in the periphery of the Save valley Conservancy, South east, Zimbabwe. *JAPS: Journal of Animal & Plant Sciences*, 27(5).
 72. Milgroon, J. (2012) 'The elephants of democracy and unfolding process of resettlement in the Limpopo National Park', Ph.D. thesis, Wageningen University, Wageningen.
 73. Moyo, S., & Chambati, W. (Eds.). (2013). *Land and Agrarian Reform in Zimbabwe*. African Books Collective.
 74. Moyo, S. (2011). Land concentration and accumulation after redistributive reform in post-settler Zimbabwe. *Review of African Political Economy*, 38(128), 257-276.
 75. Mombeshora, S. and Le Bel, S. (2009) Parks, people and conflicts: the case of Gonarezhou National Park and the Chitsa community in south-east Zimbabwe', *Biodiversity and Conservation*, vol. 18. no. 10, pp.2601 2623

76. Moser, S. C. (2014). Communicating adaptation to climate change: the art and science of public engagement when climate change comes home. *Wiley Interdisciplinary Reviews: Climate Change*, 5(3), 337-358.
77. Muboko, N., & Bradshaw, G. J. (2018). Towards resolving local community and protected area management conflicts: Lessons from the Chitsa community and Gonarezhou National Park, Zimbabwe. *Int. J. Dev. Confl*, 8, 62-79.
78. Mupepele, Anne-Christine, Helge Bruelheide, Carsten Brühl, Jens Dauber, Michaela Fenske, Annette Freibauer, Bärbel Gerowitt B, KrubA, Lakner S, Plieninger T and Potthast T, (2021) "Biodiversity in European agricultural landscapes: transformative societal changes needed." *Trends in ecology & evolution* 3(12), 1067-1070.
79. Mushonga, T. (2018). Militarisation of conservation, violence and local people: the case of Sikumi Forest Reserve in Zimbabwe.
80. Noe, C., & Kangalawe, R. Y. (2015). Wildlife protection, community participation in conservation, and (dis) empowerment in southern Tanzania. *Conservation and Society*, 13(3), 244-253.
81. Pascual, U., McElwee, P. D., Diamond, S. E., Ngo, H. T., Bai, X., Cheung, W. W., ... & Pörtner, H. O. (2022). Governing for transformative change across the biodiversity–climate–society nexus. *BioScience*, 72(7), 684-704.
82. Pereira, L. M., Davies, K., den Belder, E., Ferrier, S., Karlsson Vinkhuysen, S., Kim H, and Lundquist, C. J. (2020). Developing multi-scale and integrative nature-people scenarios using the IPBES Nature Futures Framework. *People and Nature*. <https://doi.org/10.1002/pan3.10146> Rosa, I. M. D., Pereira, H. M., Ferrier, S., Alkemade, R., A
83. Pandi-Perumal, S. R., Akhter, S., Zizi, F., Jean-Louis, G., Ramasubramanian, C., Edward Freeman, R., & Narasimhan, M. (2015). Project stakeholder management in the clinical research environment: how to do it right. *Frontiers in psychiatry*, 6, 71.
84. Pólvara, A., Nascimento, S., Lourenço, J. S., & Scapolo, F. (2020). Blockchain for industrial transformations: A forward-looking approach with multi-stakeholder engagement for policy advice. *Technological forecasting and social change*, 157, 120091.
85. Pomeroy, R., & Douvère, F. (2008). The engagement of stakeholders in the marine spatial planning process. *Marine policy*, 32(5), 816-822.
86. Pickering, J., Coolsaet, B., Dawson, N., Suiseeya, K. M., Aoki Inoue, C. Y., & Lim, M. (2022). Rethinking and upholding justice and equity in transformative biodiversity governance.
87. Prins, H. H., Grootenhuis, J. G., & Dolan, T. T. (Eds.). (2012). *Wildlife conservation by sustainable use* (Vol. 12). Springer Science & Business Media.
88. Redpath, S. M., Young, J., Evely, A., Adams, W. M., Sutherland, W. J., Whitehouse, A., ... & Gutierrez, R. J. (2013). Understanding and managing conservation conflicts. *Trends in ecology & evolution*, 28(2), 100-109.
89. Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. *Biological conservation*, 141(10), 2417-2431.
90. Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., ... & Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of environmental management*, 90(5), 1933-1949.
91. Reed, M. S., Vella, S., Challies, E., De Vente, J., Frewer, L., Hohenwallner-Ries, D., ... & van Delden, H. (2018). A theory of participation: what makes stakeholder and public engagement in environmental management work? *Restoration ecology*, 26, S7-S17
92. Reed, M. S., Ceno, J. S. D., Young, J. C., Wood, K. A., Gutiérrez, R. J., & Redpath, S. M. (2015). Mediation and conservation conflicts: from top-down to bottom-up. *Conflicts in Conservation: Navigating Towards Solutions*. Ecological Reviews. Cambridge: Cambridge University Press, 226-39.
93. Schoon, M., Chapman, M., Loos, J., Ifejika Speranza, C., Carr Kelman, C., Aburto, J., ... & Whittaker, D. (2021). On the frontiers of collaboration and conflict: how context influences the success of collaboration. *Ecosystems and People*, 17(1), 383-399.
94. Scoones, I., Chaumba, J., Mavedzenge, B., & Wolmer, W. (2012). The new politics of Zimbabwe's lowveld: Struggles over land at the margins. *African Affairs*, 111(445), 527-550.
95. Smith, T. et al. (2019). Biodiversity means business: Reframing global biodiversity goals for the private sector. *Conservation Letters* 13, e12690.

96. Sterling, E.J., Betley, E., Sigouin, A., Gomez, A., Toomey, A., Cullman, G., Malone, C., Pekor, A., Arengo, F., Blair, M. and Filardi, C., (2017), Assessing the evidence for stakeholder engagement in biodiversity conservation. *Biological conservation*, 209, 159-171.
97. Tengö, M., Hill, R., Malmer, P., Raymond, C.M., Spierenburg, M., Danielsen, F.,
98. Elmqvist, T., Folke, C., 2017. Weaving knowledge systems in IPBES, CBD and beyond—lessons learned for sustainability. *Curr. Opin. Environ. Sustain.* 26–27.
99. 48. Therville, C., Mathevet, R., Bioret, F., &Antona, M. (2018). Navigating protected areas as social-ecological systems: integration pathways of French nature reserves. *Regional environmental change*, 18(2), 607-618.
100. Waligo, V. M., Clarke, J., & Hawkins, R. (2013). Implementing sustainable tourism: A multi-stakeholder involvement management framework. *Tourism management*, 36, 342-353.
101. Warner, J. (2016). The beauty of the beast: Multi-stakeholder participation for integrated catchment management. In *Multi-stakeholder platforms for integrated water management* (pp. 17-36). Routledge.
102. 49. Whande, W., Kepe, T., & Murphree, M. (Eds.). (2003). Local communities, equity and conservation in Southern Africa: A synthesis of lessons learnt and recommendations from a Southern African technical workshop, Programme for land and agrarian studies. South Africa: University of Western Cape.
103. 50. White, P. C., & Ward, A. I. (2011). Interdisciplinary approaches for the management of existing and emerging human–wildlife conflicts. *Wildlife Research*, 37(8), 623-629.
104. 52. Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, 5(3).
105. 53. Wolmer. W. (2001) ‘Lowveld landscapes: conservation, development and the wilderness vision in south-eastern Zimbabwe’. PhD thesis, University of Sussex, Brighton.
106. 54. Wolmer, W. (2003) ‘Transboundary conservation: the politics of ecological integrity in the Great Limpopo Transfrontier Park’. *Sustainable Livelihoods in Southern Africa Research Paper 4*, Institute of Development Studies, Brighton.
107. 55. Wolmer, W., Chaumba, J., & Scoones, I. (2004). Wildlife management and land reform in south-eastern Zimbabwe: a compatible pairing or a contradiction in terms? *Geoforum*, 35(1), 87-98.
108. Wyborn, C., Montana, J., Kalas, N., Cisneros, F.D., Clement, C., Tort, S.I., Knowles, N., Louder, E., Balan, M., Chambers, J.M. and Christel, L., (2020), Research and action agenda for sustaining diverse and just futures for life on Earth: Biodiversity Revisited. Luc Hoffmann Institute.
109. 56. Zibanai, Z. (2019). Trans-Frontier Parks: Tourism Development and Poverty Alleviation Vehicles-Lessons from Southern Africa. *International Journal of Hospitality and Tourism Systems*, 12(2), 67.