Impacts of the Agrarian Land Reform Policy on Livelihoods of Resettled Communities Adjust to the Hwange National Park, Zimbabwe

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ABSTRACT

Post-colonial Zimbabwe has seen the implementation of agrarian reform policy. Through a case study of the Chimwara Community in Hwange District of Zimbabwe, It was the purpose of this research to investigate the resultant effects of associated resettlements to the edge of protected areas from the land redistribution processes on community livelihoods. Findings from the study show an increased influx and presence of women in the resettled communities and a diversification of livelihood sources from prior practiced ones, resettled households and farmers changed economic activity sources to suit the demands of the area including the presence of wildlife, with art and craft providing a new source of income for the resettled. 54% of participants shifted to crop production from a 49% prior practice and a slight decline in livestock farming was observed from 42% to 37% of survey respondents. The study highlights key issues pertinent in the promotion of human and wildlife coexistence practices and the need for diversification to alternative livelihood sources with the provision of key technical support for communities living proximal to protects areas with high wildlife densities being a priority need.

1 Introduction

Human Wildlife Conflict (HWC) occurs when the behavior and needs of wildlife conflict with those of people, with real or perceived negative impacts on conservation and human interests, (Gadd, 2005). HWC's are defined as interactions between humans and wildlife with an adverse effect or where negative consequences occur on the other (Decker *et al.*, 2000). This definition is consistent with the World Conservation Union (World Park Congress 2003), who concur that HWC occurs when wildlife's requirements overlap with those of human populations. Although human-wildlife interactions can be positive, they also frequently result in conflict (Thirgood *et al.*, 2005). Over the years, HWC has also been a major concern for governments, conservation agencies and communities living proximal to protected areas with high wildlife densities and large home ranges (Pisa and Katsande, 2021). These conflicts have adverse implications on both human security and the perseverance of the wildlife species we seek to protect.

HWC affects all parties involved and at most, times adversely, with associated monetary and non-monetary costs. Humans stand to lose human security and livelihoods opportunities as the impacts are mostly economic. These

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losses come through damage to property, destruction of infrastructure, livestock depredation and transmission of zoonotic diseases to both humans and domestic animals, (Williams, 2011).

The World Conservation Union, (World Park Congress, 2003) highlights that even animals suffer from these associated human induced costs of HWC. These can be either accidental, such as road traffic and railway accidents or from falling into farm wells, or intentional including capture in snares set for bush meat purposes and protein supplementation and retaliatory shooting, poison or capture. Ogada *et al.* (2003) states that species most exposed to conflict have a disposition towards extinction due to population decimation and death caused by humans.

The interactions between communities and wildlife have led to loss of lives, homes, livestock and crops as cases of HWC have been noted in Africa, Asia and all over the world (Pisa and Katsande, 2021; Butler, 2000). Barnes (1996) reveals that communities in Central Africa have experienced hostility from wildlife species such as elephants. These have resulted in members of communities living in constant fear. In Kenya, Gadd (2005) elucidates that there has been a notable reduction in wildlife populations. Retaliatory killings of wildlife by the Laikipia community have over the years been on the rise as the people seek to protect their livelihood sources. This is similar with findings by Williams (2011) in which he highlights that communal farmers in Zimbabwe have reported conflict mainly in the form of livestock predation and crop raiding. The communities near these protected areas have to cope with the consequences of living next to wildlife populations. Pressing demands in the form of competition for grazing and water, increased risk of livestock diseases and even direct threats to human life have over the years been on a rise due to globalization and the impacts of climate change (Packer *et al.*, 2005).

The advent of agrarian reform policies in Africa, including land reforms strategies across Southern Africa with Zimbabwe in particular being a notable example, has not resolved this historical conflict, if not it has fueled the rates and severity of conflict. Land rights and allocation in Zimbabwe during the colonial era historically disadvantaged the black population (Moyo, 2011). The system was specifically designed to ensure rural black populations would not pursue agriculture as a sustainable livelihood source but rather opt to seek work in mines, commercial farms or cities as cheap labor (De Villiers, 2003). Black farmers were displaced from the productive lands previously owned by their ancestors and placed on unproductive land. Farmers were driven to densely populated reserves known as tribal trust lands (TTLs) where land was less fertile and access to infrastructure and extension services more difficult, (Munro, 1998, as cited in Marks (2001)).

The communal land tenure system composed of three main land use types commercial prime private land, (for large-scale farming by Europeans), communal or Tribal Trust Land (reserved for Africans for subsistence farming) and state land (De Villiers, 2003). The government placed biased strict laws on access to natural resources, for example, restrictive grazing rights were set for black farmers and water for irrigation was reserved for large-scale agriculture schemes, which were white-owned. According to Deininger *et al.* (2000), such legislation made it impossible for black farmers to produce profitable crops more so sustain worthwhile livelihoods. Such injustice was a major concern for Zimbabwe's political leaders and a key driver to the uprising that ensued leading to the nation's independence. However, independence itself was not the panacea to the livelihood's conundrum.

Moyo (2000) states that upon independence in 1980, the Zimbabwean government inherited a historically unjust and inequitable land distribution scenario. Here, 15 million hectares of prime land in the country's productive regions (Eco-regions I and II of Zimbabwe), were owned by just 6,100 families of white European decent, whilst the other 16.4 million hectares of less fertile of land (Eco-regions III, IV and V of Zimbabwe) were occupied by over 800,000 indigenous families.

These historical injustices made a land reform programme high priority for the new Zimbabwean Government of 1980. In response, the government acquired large areas of formerly white-owned farmland (Richardson, 2004) with a target of 162,000 black households set to benefit in a Three-year Transitional Development Plan from 1982 to 1985 on about 9 million hectares of land (Cusworth and Walker, 1998). The government however struggled in meeting this new target as noted by Moyo (2000) and between 1990 and 1998, on average 2,000 households

were resettled each year.

This gave rise to the Fast-Track Land Reform Program (FTLRP), in which the Zimbabwean government sped up resettlement. The agrarian reform program in Zimbabwe was aimed at redressing the inequitable distribution of land created by the colonial regime, (Moyo, 2011). However, Chaumba *et al.* (2003a) highlight that attacks of white-owned farms and ranches and protected areas were instigated as part of the FTLRP (Wolmer *et al.*, 2004). The FTLRP in Zimbabwe brought a greater number of traditionally subsistence agricultural communities in contact with wildlife (Williams, 2011; Guerbois *et al.*, 2013). The impacts of land reform on these communities settled close to wildlife who were not used to frequent wildlife interactions is of concern as this led to a rise in HWC and reduction in human security.

According to Pisa and Katsande (2021), the seven elements of human security include community, health, food, political, economic, environmental, and personal security. HWC as a non-traditional threat to human security threatens the elements that make up human security. Research by Marimira, in the Goromonzi District of Zimbabwe in 2010 highlighted that most resettled communities, were not happy with the support they got from Government as the felt they were not properly capacitated with infrastructure adequate to sustain the livelihoods they had envisioned.

This resultant dissatisfaction among beneficiaries of the program, created negative attitudes towards government, agricultural support departments and NGO's. However, Chaumba *et al.* (2003b) highlights that in other resettlements farmers got a variety of support towards livelihood enhancement opportunities through exploring new businesses and exploration of new markets for their produce in some cases. Moyo (2000) elucidate that the FTLRP positively changed the livelihoods of many beneficiaries as it enhanced livelihoods through increased agricultural yields and access to land.

However, there have been no studies focused on the effects of the land reform program on the livelihoods and perceptions of communities resettled near protected areas in Matabeleland North province, more specifically looking at the post-colonial impact and effects of resettlement on livelihoods. This study assesses the impacts of the resettlement program on livelihoods for communities resettled on the edge of the Hwange National Park. A case study approach was undertaken at the Chimwara Resettlement Community in Hwange District of Zimbabwe.

2 Materials and methods

Description of the study area

The study was conducted in the Hwange District, Matabeleland North province of the Republic of Zimbabwe. Chimwara Resettlement Community (CRC), was selected for this research because of its proximity to two unfenced protected areas namely Hwange National Park (HNP) and the Sikumi Forest Area (SFA). The HNP located north of Zimbabwe, a hundred kilometres away from Victoria Falls between $18°30'$ - $19°50'$S latitude and $25°45'$ - $27°30'$E longitude is the largest National Park in Zimbabwe measuring 14,651 square kilometres (Hubbard and Haynes, 2012). It is run by the National Parks and Wildlife Authority of Zimbabwe.

SFA on the other hand is run by the Forestry Commission of Zimbabwe and measures 1100 square kilometres Human settlements like the CRC village exist on the edge and proximal to these two protected areas. CRC comprises of 5 sub villages and is in the western part of Zimbabwe between $18°41'$ - $18°68'$S latitude and $27°18'$ - $27°30'$E longitude bordered by the Gwaai river to the south and the main Zimbabwean highway A8 (Bulawayo – Victoria Fall) Road to the north. The area lies at an elevation of 1,038 metres above sea level.

The area, including the HNP and SFA is part of the Kavango-Zambezi Trans Frontier Conservation Area (KAZA TFCA). The KAZA-TFCA was established in 2002 and covers five countries namely, Zimbabwe, Zambia, Namibia, South Africa and Botswana. Its total area is 444 000 km^2. HNP and the SFA are two of the 36 PAs

that form the TFCA, (Andersson *et al.*, 2013). It is at the edge of these two that our study area is located. The TFCA has the largest population density of free ranging African elephants (Loxodonta Africana) in the world. Other prominent wildlife species in the area, as stated by Cumming (2008), include lions (Panthera Leo), buffalo (Syncerus caffer), kudu (Tragelaphus strepsiceros), and African wild dogs (Lycaon pictus) among others.

CRC is established 0.5 kilometres near the Gwaai River 70km away from the boundary of the HNP and only 17km from the edge of the SFA. Both these areas are protected areas as designated by the Environmental Management Act Chapter 20:27 of 2002 and the Parks and Wildlife Act of Zimbabwe Chapter 20:14 of 1975. Both areas are unfenced (Childes and Walker, 1987) and allow for the dispersion of wildlife including spotted hyenas (Crocuta Crocuta), African wild dogs, (Lycaon Pictus) leopards (Panthera Pardus), elephants, (Loxodonta Africana) and other herbivores between the HNP and other protected areas, which form KAZA TFCA of which the study area falls under.

Various types of land use are evident in the study area (Guerbois *et al.*, 2013), and land is apportioned by traditional authorities. The communities in this region rely on subsistence farming of crops such as maize, pearl millet and sorghum, are the prominently grown in the area, with livestock rearing also being a major activity. Historically, the economy of the area has also been determined by hunting operations which occur within the area through safari and tour operators which operate in the area (Guerbois *et al.*, 2013).

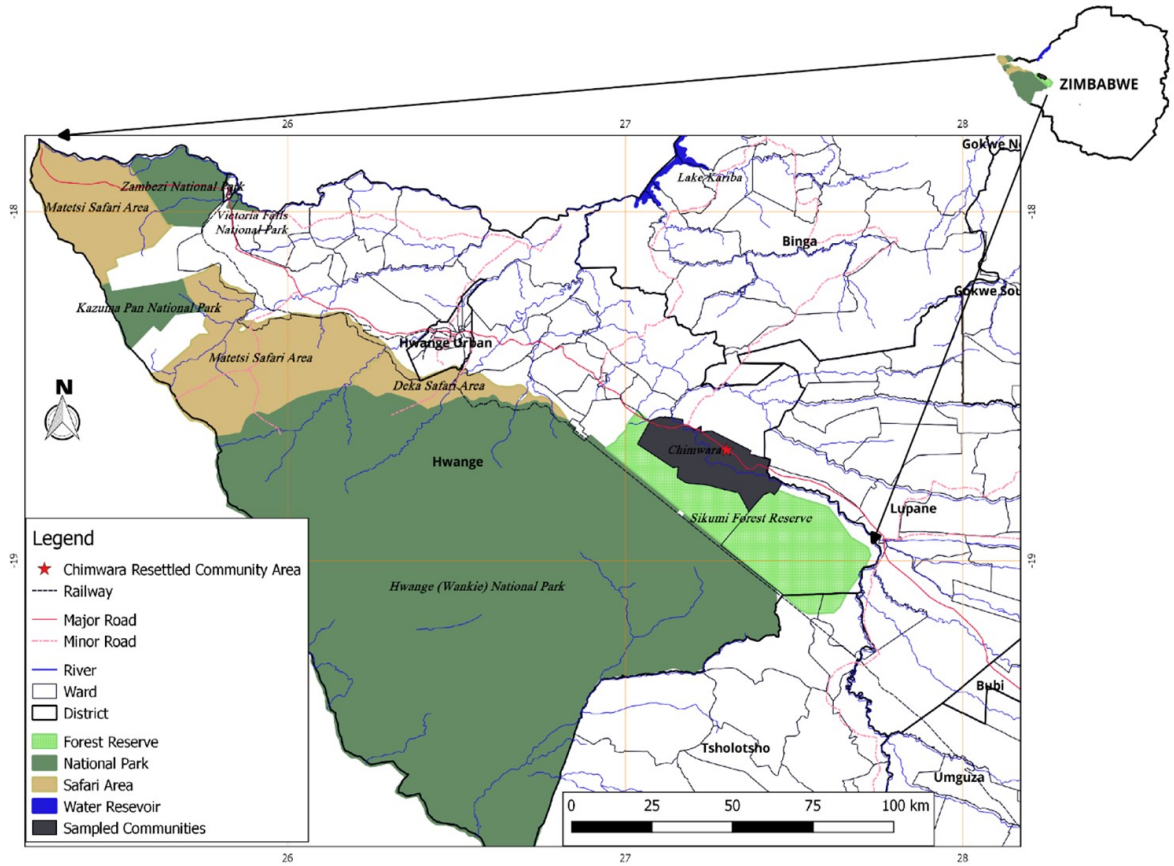

Figure 1: Location of the study area. (Source; Author Own Origin).

Research design

A case study approach was implemented for the purposes of this study. The target research population was the CRC and resettled community households living proximal to protected areas HNP and SFA. The CRC was selected, due to its purposive fit. It comprises of a total of 5 sub-villages named according to the resettlement numbers that is, Village 1, 2, 3, 4 and Village 5. A sample size of $n = 75$ households representing 63% of the total resettled households in CRC was sampled for the purposes of the study and the distribution of these households according to villages is provided in the below table.

Table 1: Sample Distribution in Study Area - CRC Households.

CRC Villages	Total Households	Respondents	Response rate
Village 1	16	10	63%
Village 2	19	12	63%
Village 3	30	21	70%
Village 4	28	19	68%
Village 5	27	17	63%
Total	**120**	**79**	**66%**

Sampling technique

A non-probability sampling technique was used for the study. A sample size, $n = 75$ households representing 63% of the total resettled households in CRC was interviewed for the purposes of the study and the distribution of these households according to villages is provided in the Table 1.

Data collection procedure

Primary data was collected in the form of questionnaire responses from CRC. This area was selected as it is a beneficiary community to the Zimbabwean Land Reform Program, and is adjacent to a protected wildlife area the HNP and a designated forestry area the SFA. Both areas are unfenced thus posing HWC threats to the communities hence its CRC is appropriate for the purposes of this study. Approval was sought from the community elders to conduct the questionnaire dissemination in the area, after approval we were provided with a camping site from which we used as our study base with the field assistants/translators. Camping was done at Jabatshaba Primary school grounds for a total of 15 days. A questionnaire was developed in line with the research objectives and questions of the study. A variety of presentation methods were entered in the questionnaire which included open ended questions, five-point Likert scale with semantic differential statements and tabulated response questions. The five-point Likert scale was employed in the questionnaire to illustrate the degree of perceptions (Creswell and Plano Clark, 2011).

Data analysis

Data analysis was conducted using the statistical package for social scientists (SPSS) version 17.0.1 (SPSS, 2008). Statistical tools used for analysis included average means, a T-test and analysis of variance. Data was also then presented through thematic graphical and tabular representations derived from Microsoft excel.

3 Results

This chapter seeks to systematically highlight the findings from the data analysis that was conducted for the study. The results show, socio-economic characteristics of respondents in the resettled community and effects of resettlement close to protected area on community livelihoods.

Gender and Age

Table 2: Gender Distribution in CRC.

	Number of responses	Response rate (%)
Female	41	52%
Male	38	48%

Respondents were asked for information regarding their gender and age. The information was import for determining the gender and age distributions in the area. The results showed that 52% ($n = 41$) of respondents were female with 48% ($n = 38$) being male. Minimum Age of respondents 19 years with the oldest participant being 88 years old, (mean 54 years).

Education levels

Table 3: Educational Levels in CRC.

Education level	Number of responses	Response rate (%)
None	7	9%
Primary education	46	58%
Secondary level	26	33%

Reporting proportions on educational levels, a minority of respondents 9% ($n = 7$) had no formal level of education, whereas the majority 58% ($n = 46$) where primary level educated and 33% ($n = 26$) had secondary level education (See Table 4). This information was needed for this study as education levels have been stated to shape attitudes and perceptions in various subjects.

Areas Migrated From Prior to Resettlement

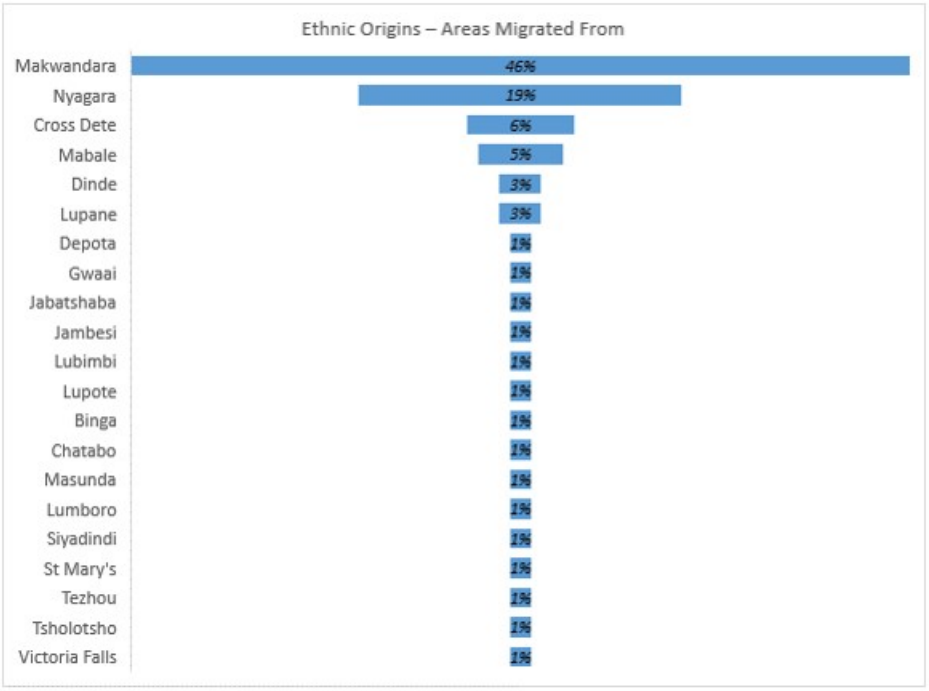

Figure 2: Ethnic Origins – Areas Migrated From.

Results show that most people in CRC, 46% ($n = 36$) came from the Makwandara area, 19% ($n = 15$) from Nyagara, 6% ($n = 5$) from Cross Dete, 5% ($n = 4$) from Mabale, 3% ($n = 3$) from Dinde and a further 3% ($n = 3$) from Lupane areas. Other respondents in the study area came from Victoria Falls, Tsholotsho, Tezhou, St Mary's, Siyandindi, Lumboro, Masunda, Chitabo, Binga, Lupote, Lubimbi, Jambesi, Jabatshaba, Gwaai and Depota areas each with 1%, ($n = 1$) representation.

The distribution of areas migrated from shows that some people moved into CRC from other districts outside Hwange District for example Binga District, Lupane District and Tsholotsho District. Movement from urban areas was also noted with some people coming from urban Victoria Falls and peri-urban Lupane resulting in the presence of households with no prior wildlife experience next to the protected areas. Other migrants were from within Hwange district but from different wards for example Lupote, Lubimbi, Mabale, Siyandindi and Cross Dete with various levels of interaction and conflict with wildlife.

Livelihood strategies before and after resettlement.

Table 4: Livelihoods Comparison, Before and After Resettlement.

Main livelihood activities	Before resettlement	After resettlement
Livestock	42%	37%
Farming	49%	54%
Formal employment	4%	2%
Casual labour	2%	2%
Arts and craft	0%	3%
Other small business	0%	1%
Money from abroad	2%	0

In a cross comparison between the livelihood currently being pursued (after resettlement) and before resettlement, notable changes can be observed. Results show that all surveyed resettled households ($n = 79$) engaged into agriculture / farming activities after resettlement as compared to 48% ($n = 22$) before the resettlement scheme.

The number of respondents into livestock rearing also dropped from 49% before resettlement to 37% after resettlement. Other factors like formal employment did not significantly change with 4% ($n = 2$) being formally employed before resettlement and 2% ($n = 3$) being formally employed after resettlement. The same can be said for casual labour with 2% ($n = 1$) before resettlements and 2% ($n = 3$) after resettlement. It can also be noted from the results that the diversity and variety of livelihood activities increased after resettlement to include other activities like arts and craft, and other small business which were not present as a source of livelihood before resettlement to CRC.

Table 5: Perceived Threats to Livelihoods after Resettlement.

Perceived Threat	Number of responses	Response rate (%)
Predators killing livestock	26	30%
Crop raiding by wildlife	13	15%
Disease of livestock	12	14%
Lack of government assistance	10	11%
Other (specify)	10	11%
Theft of livestock	8	9%
Drought	5	6%
Disease in the family	1	1%

Due to the reliance on livestock and farming for livelihoods, predators killing livestock was the highest threat to livelihoods of the resettled community with 30% ($n = 26$) responses, followed by crop raiding 15%, ($n = 13$), disease of livestock 14%, ($n = 12$) and lack of government assistance with 11% ($n = 10$) responses. See Table 11.

Other threats to livelihood that were stated by 11% ($n = 10$) of the respondents included, poverty, unemployment, loss of life, no money in the country, poor education, no training and capacity building.

Prior Wildlife Experience before Resettlement

Table 6: Wildlife Experience before Resettlement.

Prior Wildlife experience	Number of responses	Response rate (%)
No	61	77%
Yes	18	23%

Prior experience of wildlife was also needed for an in-depth understanding of the profile of the resettled community in CRC. 77% ($n = 61$) of respondents had not been exposed to living with wildlife before they came to CRC for resettlement. Only 23% ($n = 18$) stated that they had prior wildlife experience before resettlement.

4 Discussion

Economic characteristics of respondents in the resettled community.

Livelihoods sources in the CRC community were varied from farming, livestock rearing, arts and craft, formal to casual employment. The variety of livelihood sources resonates with observations by Wolmer *et al.* (2004) that land occupation in the Low veld of Zimbabwe opened up more livelihood alternatives for the people. Deininger *et al.* (2000) and Guerbois *et al.* (2013) also note that the economic status of resettled communities improved following resettlement. In CRC the same was observed, with respondents stating that they now had more disposable money due to the good soils in the area they had been resettled in. This was also attributed to more opportunities and jobs created through the tourism industry available in the adjacent parks and through selling of arts and crafts to tourism.

Resettlement on the edge of PAs was found to affect livelihoods strategies and options in most households in CRC community. From the results collated, the number of respondents into livestock rearing dropped from 49% before resettlement to 37% after resettlement in a region highly popular for livestock rearing. Crop production may have increased as this was the sole purpose of the FTLRP, to support and enhance agriculture. Coupled with the need to access Government free input, most resettled households were inclined to take up crop production. Government had a number of programmes, such as the Presidential Input Scheme, to support the resettled farms.

All surveyed resettled households ($n = 79$) engaged into agriculture/farming activities after resettlement as compared to 48% ($n = 22$) before the resettlement scheme. This observation is in line with the objectives of the FTLRP, which included enhancing agricultural productivity among the historically disadvantaged black populace but at the same time poses notable challenges in terms of human and wildlife co-existence options. This stands true especially for those households that had no prior wildlife experience who were attracted to CRC by the good soils and availability of water.

This is in contrast with Chaumba *et al.* (2003a) who postulate that resettlement areas are providing opportunities for the landless poor to engage in farming and expand their markets. However, their observation on the creation of new job opportunities stands true in the contest of CRC community as some respondents were now involved in arts and craft and other small businesses which they had not been participating in before the resettlement through the agrarian reform. This is consistent with Williams (2011) who noted similar occurrences in the Lowveld of Zimbabwe where resettlement created livelihood opportunities for beneficiaries.

Snyman (2014) however poses a key school of thought that should not be overlooked. They state that community attitudes may vary over time, due to influences of a number of factors including changing incomes and land management practices. With a focus on the subject matter of HWC these must be taken cognisant of so at to inform and enhance the adaptive management capacity of such communities.

The diversification to other forms of livelihoods after resettlement could also be a sign of trying to manage the stress posed by HWC in the study area. This has been noted in the Umguza area of Zimbabwe where beneficiaries of the land reform scheme have since started relying on other sources of income outside farming and livestock rearing as a survival strategy from drought (Kinsey, 1999; Zulu, 2009). Another observation which sheds the same light is made by Marimira (2010) from the Goromonzi District of Zimbabwe where livelihoods sources have also had to change following the land reform and resettlement programme.

The gender and age demographics as highlighted in the results section are important parameters which provide us with an overview of who the people in the community are. Gender has been a notable issue in agrarian reform studies conducted in Zimbabwe with Chaumba *et al.* (2003a) stating that few women had settled in resettlement areas due to the nature of violence that was associated with the process and because in some instances young women and widows were discriminated in getting access to the land resource. (Chaumba *et al.*, 2003b; Zulu, 2009). The findings of this study contrast with these observations as women formed the larger component of respondents and stated that they had female led households with 52% response rate.

The greater population in women in the resettled areas could help explain the shift from livestock rearing to crop production. Cultural beliefs amongst the community, that men are the custodians of the family livestock, be it cattle or sheep may play a role in this shift. Women and children make the bulk of the labour force in crop production. The high population of females in the area could also speak to the negative attitudes portrayed towards hyenas and some negative responses for elephants and lion. Vaske *et al.* (2011) provides a study in Netherlands that found that women tended to have positive attitudes towards lovable wildlife species and disliked fearsome or ugly looking ones. This is consistent with Linnell *et al.* (2001) who states in Chiyaba, Zambia men were oriented towards liking fearsome and predatory species. This difference observed in the study area could provide insight into a different and possibly overlooked dynamic that could have occurred in several other resettlement communities beside CRC Resettled Community (CRC). This disposition could be manipulated for good in terms of policy development and directing campaigns for effecting change in resettlement communities.

An analysis of the age distribution provided a minimum age of 19 years and a maximum of 88 years with a mean of 54 years. This basically shows that the population in CRC has more elderly people than young ones. This is consistent with observation by Williams (2011) who noted that the young people in Gonarezhou, Lowveld Zimbabwe had no drive towards resettlement as they had no cultural or historical affiliations to the place due to possible evictions that happened in the past from the land or area where resettlements was now being offered. The demographics in age provide more light in the limitation of innovation and exploring of other forms of livelihoods such as small businesses in the study area. The older community prefers to have a tried and tested source of livelihood and are less inclined to try new ventures. A source of capital may also be a major factor as most resettled families were low-income families (Pisa and Katsande, 2021).

The results of this study showed that more than half of respondents 58% had primary level of education and 33% secondary level with only a minority 9% having no education at all. Anthony (2007) postulates that formal education has a positive impact on attitudes and human-wildlife conflict perceptions. This provides a policy focal area which can be used to mould and shape attitudes and perceptions towards conservation in resettlement areas and in general communities. According to Linnell *et al.* (2001), this generational disparity could be to do with the quality of education being offered to the younger generation in society. This may have a significant bearing in perceptions and attitudes towards new sources of income, entrepreneurial skills, risk assessments and innovations (Anthony, 2007).

The results show that the majority of the community only had primary school education and none had tertiary education. This may have contributed greatly to the lack of diversity in sources of income or agricultural practices that are compatible to wildlife interactions. Røskaft *et al.* (2005) in line with Guerbois *et al.* (2013) also subscribe to this opinion in stating that higher educational levels correlate with positive attitudes towards wildlife and are important in shaping attitudes. Linnell *et al.* (2001) however argues that respondents with lower educational level cannot be said to have negative attitudes as some local people in Chiyaba, Zambia had low educational levels but displayed high positive attitudes towards wildlife. This could be a factor of cultural and traditional values transmission and household environmentally friendly and positive attitude promoting values, norms and myths and should not be a dismissive factor in the respondent's category with low to no educational levels.

Prior experience of wildlife was also needed for an in-depth understanding of the profile of the resettled community in CRC. 77% ($n = 61$) of respondents had not been exposed to living with wildlife before they came to CRC for resettlement. Only 23% ($n = 18$) stated that they had prior wildlife experience before resettlement. The lack of prior wildlife experience in most households could explain the high shift from livestock rearing to crop production. Lack of experience in managing predictor attacks may have driven resettled households to opt for crop production as it is perceived to be a safer option with less risk. The data in Table 6 reveals that most people thought keeping livestock left them vulnerable to predictor attacks (30%), stock theft (14%) and diseases (9%). These perceptions make crop production more attractive as a livelihood option or alternative as the only risks directly associated with it were crop raids from wildlife (15%) and drought (6%).

The resettlement of families close to HNP opened up a new perspective and industry. The arts and craft industry were not there amongst resettled communities before relocation. However, arts and craft increased due to the perceived or actual market from tourism caused by living close to tourist attraction areas like the HNP. Arts and craft provide for over 6 000 jobs in resort towns in Zimbabwe (African Union, 2020).

5 Conclusion

The research brings to light key opportunities and challenges that lie in addressing and designing agrarian reform policies and the sustainable implementation of their role out across Africa. Key issues such as the development of alternative livelihood options for communities living proximal to protected areas with high wildlife population and large mammal species with high home ranges need to be considered if sustainable development of these rural communities is to be realized. The importance of interventions targeted at empowering women in issues of human and wildlife mitigation is also highlighted as most of the populace living in the study area after resettlement were observed to be women, most of which had no prior wildlife experience.

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