

## Resettled Farmers' Awareness Of Economic Natural Resources: Implications For Wildlife Tourism Conservation In Zimbabwe.

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**Abstract:** *The influx of humans in resettlement farms in Zimbabwe was a surprise for wildlife natural resources in those habitats. This study explored resettled farmers' awareness of economic natural resources, their management methods and willingness to include wildlife tourism conservation in the farms in which they were resettled. This is an important part of beneficiaries' needs analysis for the planning of the introduction of community development programs such as CAMPFIRE conservation education in resettlement farms. The study was guided by the pragmatism philosophy. Emphasis was placed on what works to solve the problem. Data was collected from purposive samples of 153 resettled farmers from five wards of Willows resettlement scheme. Focus group discussions complemented in-depth interviews and observations of participants' economic activities in the resettlement farms. The study found that: resettled farmers had acute awareness of natural resources which they have and are willing to introduce wild and aqua life tourism conservation in the resettlement farms. Farmers identified the land, vegetation, animals and dam water as their natural resources. Although most of them were involved in fishing and hunting game, they did not include fish as a natural resource. The abundant hard rock for granite, crocodiles, zebras, bees, buffalos, baboons, wild pigs and pythons were not among natural resources that they can use for their economic development. Baboons, snakes, hippos, hyenas, bees and crocodiles were classified as problem animals and a source of Human Wildlife conflict. They are being managed by killing. These findings point to the fact that, resettled farmers may not conserve wildlife for tourism attraction because wildlife is not considered as a natural resource which they can use for their economic development. Wildlife farming is not within their locus of agricultural farming. This can be attributed to their rural life background and motive for being resettled (tobacco, maize and cattle farming). If CAMPFIRE programs are to be introduced in resettlement farms, there is an argent need for intensive awareness campaigns for economic natural resources before wildlife and its habitat is depleted.*

**Key Words:** *Resettled farmers, Tourism, Wildlife conservation, CAMPFIRE, Makoni*

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### I. INTRODUCTION

Awareness is the basic requirement of human survival. Given in form of function and purpose, awareness can lead to action. It is the greatest agent for change. This study's awareness was intended to influence resettled farmers' knowledge, attitudes, behaviours and beliefs towards conservation of wild and aqua life in Makoni district.

A psychological stand point suggests that, for any intervention to be accepted and sustained by beneficiaries, it must be incorporating the present knowledge of the participant. Hill (2000: p 299) encouraged primates conservationists to adopt an integrated approach which takes into account local peoples' perspectives and needs. Essentially, knowledge of the level of beneficiaries' awareness of wildlife as an economic natural resource is a critical basis for understanding the beneficiary current actions for and against wildlife conservation. It is part of the assumed knowledge which provides a strong basis for planning educational interventions to help resettled farmers conserve their natural resources in Zimbabwe.

Wildlife conservation is strongly linked to the concept of natural resources ownership. One may wonder as to who owns wildlife that is found in resettlement farms today in Zimbabwe?

In fact, to understand the genesis of human wildlife conservation coexistence in Zimbabwe, calls for a visit to Genesis 1, verses 7 to 28. This is a religious view which reveals that, God created water bodies, the land and all the fish and animals in them on the third and fifth day respectively. Man (Black and White) was created on the sixth day and given authority over all animals (Genesis 1 verse 27). God noted that, 'It was good!' for man and wild to survive together. There was no need for wildlife conservation policies from anyone then. The human, wildlife and vegetation population was in appropriate quantitative ratios. We can infer that, during those days, Zimbabweans lived in hormone with their wild life.

One can also assume that, although man was given authority over all animals, there was equal land tenure between animals and human beings. Each species had adequate space and food. Both human and wildlife had freedom to settle and resettle where one feels like on the land.

De Georges and Reilly (2009) reveal two contrasting perceptions of the land and its natural resources. For Africans, land belongs to ancestors who are buried in it. Land sustains the present generation for the unborn. Mararike (2011) adds that, African land is hereditary, passed from parents to children as a birth right. In this case, every child born by African parents was entitled to land. Makamure and Chimininge (2015) also submit to the fact that, Karanga people consider land as sacred because it belongs to ancestors buried in it. Their perception of environmental conservation is that, land, animals, plant life and water bodies contain life which needs to be preserved.

For a Whiteman whose ancestors were/are in Europe, land is a commodity which is owned through a title deed, demarcated by fences belonging to an individual. Land is a commodity which is bought and sold for cash. One implication is that, children and parents who have no cash, are not entitled to any land and its natural resources.

It is De Georges and Reilly's (2009) submission that, Africans practiced wild and aqua life conservations which were ignored by white settlers. Africans conservation practices which includes: (1) control of access to big dams, mountains and forests. It was considered a taboo for one to access such habitats. That served a lot of animals which lived in them. (2) habitats manipulation in the form of controls of such disasters as veld fires. (3) harvests regulations which were taught to hunters, include prohibition of killing pregnant female animals and not hunting during animal breeding seasons.

Rogerson and Rogerson (2010) suggest that, the European settler is the main perpetrator of wild and aqua life destruction. Europeans introduced livestock population explosion which competed with wildlife for space and food. The colonial market economy which required ivory, skins and meat from wild Africa, compelled Europeans to intensify their hunting and deletion of wild and aqua life. They had sophisticated firearms, which resulted in over-exploitation of wild and aqua life in Africa. The Convention for the Preservation of Animals, Birds and Fish in Africa which was signed by England, France, Belgium, Portugal and Spain in 1900 is a sign of admission of the fact that those countries depleted wild and aqua life in Africa.

A historical analysis of Zimbabwe, shows that it is a landlocked country whose area is approximately 390 757 square kilometres. This is enough land and natural resources for Zimbabweans, their wild and aqua life. Every Zimbabwean was entitled to this land by birth. No funding was required before the Whiteman and his money arrived.

According to Mutasa (2015), the occupation of Zimbabwe by European settlers in September 1890 marked the start of Africans' dispossession of their land and its' natural resources in Rhodesia. War, violence and legislative enactments granted land and its' wildlife rights to a few privileged whites. By 1930 the majority of black Zimbabweans were moved to native reserves where they were crowded and reduced to subsistence levels. They owned no land and no economic natural resources.

Murphree (1997) points out that, farmers in communal lands have rights over arable land and its natural resources but have no ownership over them. That contradicts God's will of man having authority and ownership of all resources. One wonders how communal farmers are expected to conserve what they do not own.

Specifically, the Land Apportionment Act of 1930 designated more than half of Zimbabwe's fertile land to white settlers only. It made provisions for evicting indigenous black people from fertile to drier and infertile agro-ecological regions. Mutasa (2015: 3) summarised the land distribution as follows:

- 51% of the best land was reserved for White settlers
- 22% infertile land was reserved for Black Africans
- 27% was kept for forestry, national parks and other government developments.

It is important to observe that, such a distribution of land prioritised animals over people. This again contradicts God's law, if the Bible is anything to go by. Man (black or white) was given authority over all animals. One can condone poaching as human gorilla-warfare for land. Its motive is to redress the unequal distribution (Blacks 22% and Animals 27%) created by the Whiteman in Rhodesia.

According to Zimbabwe Government (1996), The 1975 Parks and Wildlife Act conferred proprietorship over Wildlife to White farmers and ranchers. The facility enabled Willows Estate to allocate much of its forest and mountainous parts of the land for wildlife farming. The Whiteman's Law enforcement agents arrested those who killed animals. They were called poachers. Ndhlovu (2020: 5) complaints in these words: laws should not protect wild animals but rather empower people to protect themselves against reptiles and wild animals.

The Zimbabwe war of liberation which started around 1960 aimed to redress the land and natural resources inequalities between blacks and whites. The end of the liberation war was marked by the Lancaster House cease fire agreement signed in 1975. The implementation of the agreement led to four overlapping land and its natural resources redistribution phases summarised by Mutasa (2015: 4 and 5) as:

1) Willing seller, willing buyer agreement. Whites would sell “their land” to the government of Zimbabwe which would then distribute it to blacks as it finds fit. This market based but government managed redistribution took place between 1980 and 1990. Funds for the program were availed to Zimbabwe government by Britain, Kuwait and other European countries. Middle class blacks and political elites acquired land and natural resources from the white only area in Zimbabwe. Rural Zimbabweans, who had no access to the money, did not benefit from this arrangement and yet they suffered the blunted results of the war most. It made them feel used during the war. Their main argument was, why should the Whiteman be paid for returning land which they got for free?

2) Compulsory Government land acquisition was initiated by the Land Acquisition Act of 1992. The Act empowered Zimbabwe government to acquire land compulsorily from white farmers with little compensation and limited rights to appeal to courts. White farmers sabotaged the process. There was no donor funding. It benefited a few black political elites rather than the intended rural poor. Compulsory land acquisition was overtaken by villagers and war veterans land invasion in 1998.

3) Inception of Violent land occupations by villagers and war veterans (1998 to 2000). This phase was initiated by war veterans and villagers who felt left out of the benefits of the land reform. At first, the government restrained them from violent occupation of Whiteman’s farms. The restraint looked like a betrayal. The majority wondered how their government could protect the interests of the enemy that they were fighting. Bond (2005) registers that, by the year 2000, land invasion had gained popularity and government had to condone it in order to gain political support and appear to take control of the sharing of the land, for the mass. President Mugabe declared his support for land invasion and pointed out that, no judicial decision in Zimbabwe was allowed to stop the takeover of Whiteman’s farms through invasion. The Zimbabwe Republic Police and the army failed to take action against violent actions and crimes on Whiteman’s farms. A large population of blacks got land from white man with no compensation.

4) Fast Track Land Reform Program (FTLRP) 2000 to 2008. The land invasion forced the government of Zimbabwe to form and implement the Fast Track Land Reform Program from July 2000. It legalised the illegal land invasion through the Rural Land Occupiers prevention from eviction Act 2001 which protected land occupiers from being evicted from the farms that they invaded and occupied. It also nullified the property rights of the white commercial farmers. This program offered more commercial land to rural blacks, the majority of whom had no farming skills and in some cases no farming interest.

Most of the farmers in Willows resettlement scheme were resettled under the Fast Track Land Reform Program. Some had applied for land and were on the District Administrator’s list, while others appeared when the land was being allocated and got the land. Others claimed to be war veterans and moved into the white farmer’s house and claimed the land around it.

While the war for ‘equity’ distribution of the land between the Black Zimbabweans and White farmers was taking place in the farms, little attention is given to other natural resources on that land. Blacks gained access to farm structures and natural resources. No serious discussions of the ownership of wild and aqua life were done for their management from the white farmer who claimed sole ownership to resettlement farmers who have community ownership of the land. These resettlement phases of land allocation in Zimbabwe were carried out without much consideration to human wildlife conflict either. They ignored conservation management plans that they are legally bound to take cognisance of for the co-existence of human, aqua and wildlife in the resettlement farms.

### **Statement of the Research problem**

Literature has limited knowledge of resettled farmers’ awareness of economic natural resources and management practices in the farms that they were settled in Zimbabwe. The majority of adults did the geography of Canada in their secondary school curriculum. It had nothing on economic natural resources that Zimbabwe has. Resettled farmers’ awareness of natural resources is a crucial link of assumed knowledge which must be included by serious wild and aqua life conservationists. Wild and aqua life conservation programs which do not include beneficiaries’ awareness usually fail after the withdrawal of the conservation argent. At times, farmers sabotage conservation programs because the rationale of the program was not built on the foundation of their knowledge. Rationale linkages improve program ownership and sustainability by locals. Some donor resources are misused because they do not solve the beneficiary’s actual problems.

### **Research Questions**

The study answered the following pertinent research questions:

1. What were the farming backgrounds of resettled farmers in Willows resettlement scheme in Makoni district?
2. What are the levels of resettled farmers’ awareness of economic natural resources they have on the farms?
3. How do resettled farmers manage their natural resources?
4. How can resettled farmers’ natural resources awareness be applied in planning CAMPFIRE programs?

### **Study objectives**

The purpose of this study is to:

1. Identify resettled farmers' backgrounds in Willows resettlement scheme.
2. Establish the levels of farmers' awareness of natural resources at the farms.
3. Evaluate farmers' wild and aqua life management strategies for conservation.
4. Propose strategies for in cooperating farmers' awareness in the planning and implementation of CAMPFIRE programs in Willows resettlement scheme.

### **Significance of the study**

This study is an important source of resettled farmers' needs for conservation management education planning. It contributes in part to the smooth implementation of Zimbabwe's poverty alleviation strategy through promotion of CAMPFIRE programs. The study reveals resettled farmers' level of awareness of the natural resources which they are expected to manage. Farmers' current wild and aqua life management strategies are a good source of conservation intervention strategies. During the study field work, awareness of natural resources and their management among participants was raised during focus group discussions. That was an important fore-runner for any conservation development program. Beneficiaries' conservation education needs were also identified. Findings contribute to literature on resettled farmers' conservation program implementation. Proceeds from conservation programs are intended to develop the areas which conserve the natural resources. In this case study earnings from conserved natural resources from Willows resettlement are expected to develop Willows resettlement. Wild and aqua life conservation is considered a community development project.

### **Theoretical debates**

There are different theoretical explanations of the failure for Africa's development programs which can be debated by those intending to implement community development projects.

Conservatives and socio-biologists attribute the failure of Africa's development programs to racial inferiority which diminishes Africans' capacity to take care of themselves (Davidson, 1982). It can be objected to think that Africans cannot care for themselves. Inferiority is a product of socialisation. It is not a genetic configuration. Genesis 1, talks of the creation of man. Issues of African, Indian or European are all products of socialisation. Rather, we can talk of an African being socialised to feel inferior to European as a plausible explanation. This case study submits to the fact that, Africans had their own wild and aqua conservation methods which Europeans suppressed (Makamure and Chiminingo, 2015). They can formulate their own strategies, for example CAMPFIRE is a Zimbabwean product, hence the need for resettled farmers' natural resources awareness level analysis.

The World Bank (1984) suggested that, Liberals explain the failure of development in Africa as a result of a lack of essential qualities, structures and factors necessary for development. This may not be debated much because of the relativity of the concept of "development and qualities." It is a matter of semantics. For this study, development refers to farmers' ability to raise awareness level of the natural resources around them and put in place ways in which they can conserve their natural resources.

Radicals attribute Africa's development program failures to the continuous articulation of Africa into the world of capitalist system, through multi-national corporations and foreign aid agents (Amin, 1972). This is portraying foreign aid as a conduit for Africa's domination by foreigners. Yes, strings attached are always there to benefit the donor. There is need then for Africa to build its development foundations from Africa by Africans. Donations should not be initiated by the donor rather, the beneficiary should ask for donations to address his/her problems.

Marariki (2011: p15) recommended that for development theories to benefit implementing countries:

- (1) the theory originating and implementing country must be at the same stage of development.
- (2) Theory originators and implementers must have an identical conception and definition of the problem to be addressed.
- (3) The two countries must be pursuing the same goal of development.

This angle points out that, Africa and Europe are not at the same levels of development, and do not have the same concept of economic and social development. Therefore, Africa must initiate its own development theories and programs. Ofori-Amoah (1995: p 17) aptly sums all these up by saying, "development theories are primarily meant for solving problems within the society where they were originated." Africa is encouraged to be original in the solution of its own problems. This study is advocating for the adaption of wild and aqua life conservation theories and programs originated from Zimbabwe. This case study intends to amend CAMPFIRE according to farmers' levels of natural resources awareness and current management practices.

The acronym CAMPFIRE stands for Communal Areas Management Programme for indigenous Resources. It is a societally sanctioned communal common pool property regime legitimated by title or lease

granted to it as a body corporate. Common pool natural resources use rights are controlled by an identifiable group and are not privately owned or managed by government. There exist rules formulated by the group governing resources use.

Murphree (1997: p 3) applauds CAMPFIRE for being a Zimbabwean initiative in these words: *CAMPFIRE has a local Zimbabwean origin, not imported by international agencies. Its' initial conception was in a government agency not "NGOs" and their allies. It has no protected area conservation focus characterising Integrated Conservation-Development Projects and its implementation has a high degree of heterogeneity.*

The heterogeneity of CAMPFIRE requires an understanding of farmers' levels of natural resources awareness, their current management practices and input. The former, White farmer for Willows Estate had the forest and mountainous parts of the farm for wildlife. He was the proprietor for wild life as required by the Zimbabwe Parks and Wildlife Act 1975. This history makes Willows farm settlement rich in wild and aqua life. Fast track farmers resettled themselves with no provisions for animal protected area. That makes CAMPFIRE ideal. Also, in CAMPFIRE the role of extension and donor agencies are underplayed. Its' main objective was to allow individuals and communities to conserve biodiversity and earn income through sustainable use of natural resources from their environment. It is part of the national community poverty alleviation strategy.

## **II. METHODOLOGY**

The purpose of this study is to establish the realities of resettled farmers awareness and practice for managing wild and aqua life. McMillan and Schumacher (2014: p 27) called for the application of the pragmatist philosophy to facilitate exploration, triangulation and explanation of data. According to Mawlood (2017), pragmatists are guided by the understanding that, there are many ways of interpreting the world (multiple realities) and undertaking research. What is appropriate is what captures the required information in its reality. Method collection method triangulation becomes a critical element for pragmatist research validity and reliability.

### **Research Design**

This is a case study of a community of resettled farmers in Makoni West district, Manicaland province of Zimbabwe. White (2005: p 105) regards a community as a bounded case. The study focus is on the description and analysis of the patterns of and relations between the main aspects of the community life. In this case, farmers' conceptions of natural resources and their management were explored, analysed and explained. Case studies are prone to the application of mixed methods which synchronises well with the pragmatist philosophy.

### **Population and Sampling**

The population of this study was composed of farmers resettled under the fast track land redistribution. These are rich sources of information about natural resources because of their being from a mixed bag of backgrounds. Their settlements were characterised by a lack of structure in selection of beneficiaries. They settled in a large Estate land which had thick natural forests, mountains, rivers, natural and man-made dams. Due to limited ecosystem disturbances in these farms, wild and aqua life is expected to be flourishing and in need of prudent conservation.

Data was collected from a purposive sample of 153 farmers grouped into six focus groups. The district was selected for being a rich source of wild and aqua life before the resettlement. It is ear-marked for CAMPFIRE conservation programs. The farmers were available and willing to participate. The purpose of this study is to explore, this is a qualitative phenomenon. White (2005, p115) suggests that, in qualitative studies a purposeful sample can range from 1 to 40. However, this case study is part of a large- scale research project and precursor instrument development may not need as many cases as a self- contained study. Sampling was continued up to a variable saturation point.

### **Data Collection and Analysis**

Data collection started by seeking permission from the Rural District Council which is responsible for the district. This is an ethical observation and an important administration stage for field work. Ward counsellors helped by forming groups, mobilising farmers and scheduling focus group discussion meetings. At least one member was required from each homestead or family. Six main groups, each with twenty-five participants were formed according to villages. Each main group had at least five sub-groups with a minimum of five participants. Group discussions were central for this study, in that, they captured group views for community projects. Counsellors introduced researcher and participated in group discussions.

Each sub-group was asked to: (1) identify natural resources that they have. (2) classify the natural resources as assets or problematic. (3) explain how they were managing each group of natural resources. (4) show a willingness to participate in wild and aqua life conservation programs.

Sub-groups reported to the main village group. The researcher identified common perspectives and recorded them as the group's views. Group members were asked to explain and clarify exceptional views for main group discussions.

The researcher followed up those participants who showed different views but could not successfully convince others in the sub-group or main group. Snowball sampling helped in the identification of those farmers with the same orientation. For example, fishers were identified by those who work with them at the dams. These were considered as outlier or deviant cases. These were interviewed on different days in their homes.

Observation visits to the dams and pastures were organised and lead by volunteer participants. Data was collected through focus group discussions, in-depth interviews for clarification and capturing deviant cases and observation.

Photographs of participants and scenes were taken with the permission of the participants. This is an ethical observation. Photographs are accurate data collection techniques. They capture and present reality. They can be analysed letter and other details identified.

Photographs are not liable to changing information. Each reader can and is free to pick what could have escaped the researcher's eyes.

Data analysis was carried out during group presentations in each village. Common views were identified and captured. These were analysed and presented according to research question themes. These are: farmer's background, natural resources awareness, classification as assets or problematic, management strategies then willingness to participate in conservation programs.

### **Data Presentation**

Data presentation was determined by the purpose of the study and the nature of data generated.

Participants' distribution by gender and their background experiences generated quantitative discrete data. It was presented in frequency tables and percentages calculated for comparison. Natural resources grouping is also discrete quantitative data presented on bar graph to show discontinuity.

Conflict area, benefit and management strategy are recorded verbatim to present results as given. Also direct quotations were used for typical interview answers. This enables the reader to make his/her own deductions from the words used.

Observation cases are presented in pictures to convey the situation as seen by the observer. It also allows the environment to contribute to the analysis and interpretation of the data. Readers are at liberty to make their own conclusions because the data is presented as it is.

## **III. FINDINGS and DISCUSSION**

### **Participants' distribution by Gender and Village N=153**

Village	A	B	C	D	E	F	Total	%age
Female	7	6	19	9	6	4	51	33%
Male	18	20	22	13	18	11	102	67%

The table shows that, the majority of participants were males (67%) compared to females (33%). This study's findings are dominated by the male awareness and management views. The male dominants can be a benefit to this study because it is the men who are more involved in wild and aqua life activities. Males are actually rich sources of the required variables (natural resources awareness, wild and aqua life management, possible participation in CAMPFIRE). The gender distribution also supports Mararike (2011) who noted that, in the African tradition, ownership of land is done by men. Women play a subordinate role to the family.

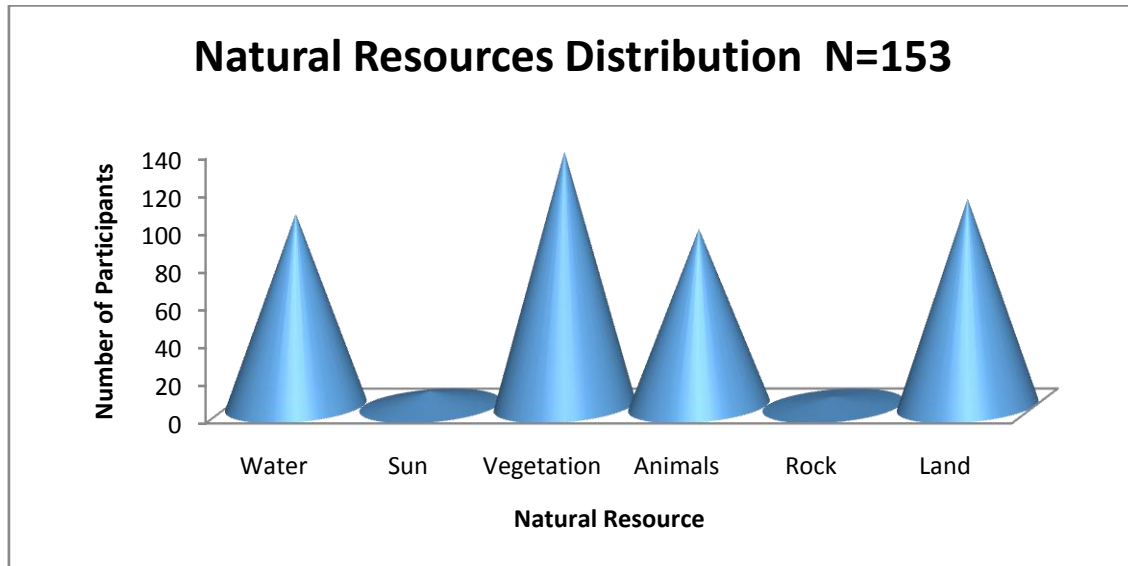
All participants were adults (above 18). Their views can be relied upon for community management decisions. We got the largest turnout from village C. This could be attributed to the fact that, the meeting was done a Friday. This is a day when community farmers do not attend to their fields. The counsellor also distributed fertilisers to farmers on this day. We capitalised on the situation.

### **Participants' Background Distribution N=153**

Background	Frequency	%age
Peasant rural farmer	73	48
Former farm workers	9	6
Civil servants	15	10
War veterans	11	7
Grade 7 school leavers	17	11
Retired Industry workers	28	18

Total	153	100
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The majority of resettled farmers at Willows resettlement scheme were rural peasant farmers. The finding supports Mutasa (2015) who reported that, many of the rural people benefited from the Fast Track Land Reform program. Former farm workers are in the list. These were regarded as program sabotaging agents because they worked hence supported their boss the Whiteman. None of the participants was a farmer by profession, let alone interest. This background distribution suggests a need for farming guidance. Resettled farmers need to be educated into crop farming, animal farming, wild farming and aqua farming.



Participants identified vegetation, land, water and animals as the main natural resources that they have in the farms that they settled. This could be a result of their rural peasant background which has limited exposure. Their main motive for being at the farm was agricultural farming of maize, tobacco, cattle, chickens and pigs. These were in close conduct with land, vegetation and water. Very few identified the sun and rocks as natural resources although some have solar panels at their homes. At one of the meetings, participants sat on a flat rock. When asked whether the rock was a natural resource, one participant said:

*“No, we have no minerals here. There is no gold and we have no diamonds. Just hard rock”*

Such a participant would not worry about conserving his granite rock. He does not see any use of it either. He would not worry if someone was to crush quarry from his land without giving him anything. There is need then to increase such farmers’ knowledge of their natural resource.

**Wild and Aqua resources: Conflict area, Benefit and Management Strategy**

Resources	Area of Conflict	Resource Benefit	Management Strategy
Crocodiles	Kill goats, eat fish, bite people		Avoidance, kill them
Hippos	Destroy maize crop	meat	Move to Rusape dam, kill for meat
Snakes	Bite people, dogs, eat chickens		kill
Baboons	Destroy maize, eat chickens		Guard, kill
Hyenas	Kill cattle, goats, threaten lives		Avoidance, kill by poisoning
Bees	Sting people, goats	honey	Make hives
Pythons	Swallow goats, dogs, chickens		kill
Wild pigs	Destroy maize, sweet potatoes	meat	Hunt kill for meat
Zebras	Destroy maize, wheat	meat	Hunt kill for meat
Buffalos	Destroy maize, wheat,	meat	Hunt kill for meat
Birds	Destroy wheat, sorghum, rapoko	meat	Hunt kill for meat

Resettled farmers in this area grow maize, tobacco, wheat and keep cattle, goats, pigs and chickens. The majority of the resource wild and aquatic animals and birds listed above are classified more as sources of conflict. They are managed by either avoiding interaction or killing for meat or total removal.

The benefits column is almost blank. Besides honey, farmers are not aware of the pollination function of bees. They also are not aware that, they are also killing bees by tobacco chemical sprays.

Resettled farmers did not identify any benefit from reptiles (crocodiles, pythons, snakes) yet they can get meat from them, cash from their skin sales and tourists who see them and listen to educative speeches about them. The general picture is that, resettled farmers need education on the benefit of their wild and aqua life

resources. They can also be taught other conservation management practices besides killing, transfer and avoidance.

#### **Depleting Natural Resources classified as Dangerous**



Photograph by Researcher in the field.

The picture shows a snake that was killed in its habitat. It was left stretched for eagles and owls to pick. Farmers consider all snakes as dangerous and manage them by killing. When asked, what they could use the snake for, the farmer said:

*I am not a witch, I have no use for snakes. This type of mamba is known for eating chicken eggs. It must have visited that fowl run several times.*

The farmer pointed at the small fowl run behind the grass thatched hut (top right hand corner of this picture, just at the end of the rock). This finding supports Colonna (2011) who concluded that, local farmers resort to lethal means of dealing with wildlife, because they view them as pests. Unfortunately, lethal management strategies like these results in the decline of wildlife population. In this case, the proximity of the snake's habitat to the home could have contributed to its being found and killed.

The researcher admired the black and yellow colours of the snake and wished it was a belt. After reading on the Internet, the researcher classified it as 'snouted cobra'. The background camouflage matching colours in this photograph is a good source of background painting for museum artists. In fact the availability of such snakes in this habitat shows the possibility of a snake park on the farms. Farmers are not aware that, the rocks on which these snakes and other wild animals survive are a very rich source of granite for their roads and bridges.



**Resettled farmers using Mosquito Net for Fishing**



Photograph by researcher in the field

The farmers in the photograph use mosquito net for fishing from the farm dams. Fishing is one of the economic activities that some of the farmers have resorted to. Unfortunately they did not identify fish as a natural resource that they have and need to conserve. They sell the fish to some farmers or to people in the nearest towns of Rusape and Marondera. What is disturbing is that, mosquito nets have smaller holes for small fish to escape. Small fish caught are dried and sold or eaten. There is limited conservation in this type of fishing.

These fishers are not protected from any water-borne diseases like bilharzia. The researcher inferred that, resettled farmers require education on water-borne diseases and the dangers of drowning. Interviews with the fishers above revealed that, none of them is able to swim. Actually they may also need lessons on swimming.

There are no mosquitos in this area. Other farmers used the donated mosquito nets to construct fowl-runs for chicks' protection from snakes and eagles. The researcher concluded that, donated mosquito nets did not answer the beneficiaries' actual needs. Resettled farmers in this area require fishing nets or fowl Net wire not mosquito nets. This study encourages donor agents to identify beneficiaries' needs and address them accurately.

**IV. CONCLUSION**

The study found that, none of the farmers had wild and aqua farming background. Former farm workers had exposure to cattle, maize, wheat and tobacco farming. They have low awareness of the economic natural resources they have on the farm. They manage their wild and aqua life resources by killing, avoidance and possible transfer. If CAMPFIRE conservation programs are to be implemented, they can start by the identification of wild and aqua life resources that are available on the farm, discuss (not lecture) the benefits from each of the resources. Participants can be recruited from volunteers. These can be trained at the farms (on site) to make the activities ecologically relevant for sustainable implementation.

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