

**THE IMPACT OF A1 RESETTLEMENT SCHEME ON NATURAL RESOURCES UTILIZATION AND MANAGEMENT: THE CASE OF RUCHANYU RESETTLEMENT SCHEME OF SHURUGWI SOUTH WARD 20B IN ZIMBABWE**

**BY**

**CHEZA ENIAS**

**REGISTRATION NUMBER: R104231R**

**A DISSERTATION SUBMITTED TO MIDLANDS STATE UNIVERSITY IN PARTIAL FULFIMENT OF THE REQUIREMENT OF BACHELOR OF ARTS HONOURS DEGREE IN DEVELOPMENT STUDIES**

**YEAR 2014**

# APPROVAL FORM

The undersigned certify that they have read this project and have approved its submission for marking after confirming that it confirms to department requirements.

**…………………………………….. …………………………..**

**Supervisor Date**

**……………………………………… ….………………………**

**Co-Supervisor Date**

# 

# DECLARACTION FORM

I ENIAS CHEZA, hereby declare that this research project herein is my own and has not been copied or lifted from any source without acknowledgment of the source.

Signed…………………………………………………….

# DEDICATION

This project is dedicated to my parents, Mr. and Mrs. Cheza who are always supportive and encouraging in times of difficulties. You are my source of inspiration.

# 

# ACKNOWLEDGEMENTS

The researcher would like to acknowledge and thank his supervisor, Mr. Munhande, for spurring me through this study, even when I thought I would give up. Iwish to express my sincere gratitude to him for providing not only continuous intellectual stimulation but also constant care in reading the various preliminary corrections and providing invaluable input, whenever I strayed. My sincere gratitude also goes to Cheza family; Mr and MrsCheza, Edward, Edmore, Alice, Tanaka and Merlecy for their overwhelming support through thick and thin. May God bless you abundantly. To Ruchanyu resettled farmers thank you for your support.

# ABSTRACT

This study was conducted with the major thrust of assessing the impact of A1 resettlement scheme on natural resources utilization and management in Ruchanyu. Ruchanyu A1 resettlement scheme was established in 1992 through compulsory acquisition of land with compensation where the government acquired Otina and Pontevie to settle 80 families in four villages. During this time the district was stricken by severe droughts. As a result settlers turn to exploit the natural environment for survival through illegal good panning and wildlife poaching. Human and livestock population increased alarmingly. The researcher reviewed literature on background to land reform in Zimbabwe,A1 resettlement scheme, challenges faced by resulted farmers and their impacts to natural resources and weakness of available legal instruments on natural resources in Zimbabwe. The researcher made of qualitative and quantitative research design where questionnaire, interviews and direct participant observation were used a primary research tools. Sample random sampling and purposive sampling procedures were used to select respondents. Researchon the state of natural resources revealed that human and livestock population increases significantly, extensive areas of thorn and bush forest, massive pit and gulley erosion, siltation and water pollutionby activities of illegal gold panning, reluctant enforcement mechanism and stiff completion for grazing land amongst the four villages. Perceptions of small holder farmers as to how to improve the state of natural resources points to the need to include village chairmen on traditional leaders pay-role, resuscitation on VIDCOs, extension of remunerations to EMA subcommittees, establishment of village grazing units in communal grazing land among others.

# 

# ACRONYMS

**A**GRITEX Department of Agricultural, Technical and Extension Services

EMA Environmental Management Act/ Agency

DA District Administrator

RDC Rural District Council

# List of Tables

Table 1: land policies in Zimbabwe since 1890 9

Table 2: resettlement Models 11

Table 3: Questionnaire Response Rate 44

Table 4: Interview Response Rate 45

# List of figures

Fig 1: sex ratio of respondents to questionnaire 46

Fig 2: the trends of the state of vegetation cover since 1992 46

Fig 3: state of vegetation in Ruchanyu A1 resettlement scheme 47

Fig 4: changing land use patterns since 1992 48

Fig 5: surface mining in Ruchanyu resettlement scheme 50

Fig 6: underground and Alluvial Mining in Ruchanyu resettlement scheme 51

Fig 7: soil erosion in Ruchanyu resettlement scheme 54

sFig 8: water pollution and siltation in Pisamoyo stream 55

Table of Contents

Approval form…………………………………………………………………………………………………………………………………………..I

Declaration form……………………………………………………………………………………………………………………………………..II

Dedications……………………………………………………………………………………………………………………………………………III

Acknowledgments………………………………………………………………………………………………………………………………….IV

Abstract…………………………………………………………………………………………………………………………………………………..V

Acronyms……………………………………………………………………………………………………………………………………………….VI

List of tables…………………………………………………………………………………………………………………………………………VII

List of Figures………………………………………………………………………………………………………………………………………VII

[CHAPTER I: INTRODUCTION 3](#_Toc390064292)

[1.0 Introduction 3](#_Toc390064293)

[1.1 Background of the study 3](#_Toc390064294)

[1.2 Statement of the problem 5](#_Toc390064295)

[1.3 Aim of the study 5](#_Toc390064296)

[1.4 Research objectives 6](#_Toc390064297)

[1.5 Research questions 6](#_Toc390064298)

[1.6 Assumptions 6](#_Toc390064299)

[1.7 Area of the study 7](#_Toc390064300)

[1.8 Significance of the study 7](#_Toc390064301)

[1.9 Delimitation of the study 7](#_Toc390064302)

[1.10 Definitions of key concepts 8](#_Toc390064303)

[1.12 limitations 9](#_Toc390064304)

[1.11 conclusion 9](#_Toc390064305)

[CHAPTER II: LITERATURE REVIEW 10](#_Toc390064306)

[2.0 Introduction 10](#_Toc390064307)

[2.1 Background to resettlement in Zimbabwe 10](#_Toc390064308)

[2.4 The problems of resettlement on natural resources 18](#_Toc390064309)

[2.5 Challenges faced by resettled A1 farmers and their impacts to natural resources. 20](#_Toc390064310)

[2.6 Legal instruments on natural resources in Zimbabwe 23](#_Toc390064311)

[2.7 Weakness of natural resources legislation in Zimbabwe 26](#_Toc390064312)

[2.8 Conclusion 31](#_Toc390064313)

[CHAPTER III: REASERCH METHODOLOGY 32](#_Toc390064314)

[3.1 Introduction 32](#_Toc390064315)

[3.2 Research design 32](#_Toc390064316)

[3.3 Population and sampling procedures 32](#_Toc390064317)

[3.4 Sampling techniques 33](#_Toc390064318)

[3.5 Simple random sampling 34](#_Toc390064319)

[3.6 Judgmental or purposive sampling 34](#_Toc390064320)

[3.7 Research instruments 35](#_Toc390064321)

[3.7.1 Primary data 35](#_Toc390064322)

[3.7.2 Questionnaires 35](#_Toc390064323)

[3.7.2.1 Questionnaire administration 36](#_Toc390064324)

[3.7.2.2 Advantages of face to face administered questionnaire to the researcher 36](#_Toc390064325)

[3.7.2.3 Disadvantages of face to face administered questionnaire 36](#_Toc390064326)

[3.7.3 Face to face interviews 37](#_Toc390064327)

[3.7.4 Direct participant observation 37](#_Toc390064328)

[3.8 Data presentation and analysis 37](#_Toc390064329)

[3.9 limitations 38](#_Toc390064330)

[3.10 Ethical considerations 38](#_Toc390064331)

[3.11 Conclusion 38](#_Toc390064332)

[4.1 Introduction 39](#_Toc390064333)

[4.2 Presentation and analysis of data 39](#_Toc390064334)

[4.3 Response rate 39](#_Toc390064335)

[4.4 The state of natural of resources in Ruchanyu in Ruchanyu 42](#_Toc390064336)

[4.7 Consequences of unsustainable utilization of natural resources in Ruchanyu A1 resettlement scheme 49](#_Toc390064337)

[4.8 Perceptions of famers on strategies to ensure sustainable natural resources management in Ruchanyu 52](#_Toc390064338)

[4.9 Conclusion 53](#_Toc390064339)

[CHAPTER V: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 55](#_Toc390064340)

[5.1 Introduction 55](#_Toc390064341)

[5.2 Summary 55](#_Toc390064342)

[5.3 Conclusions 56](#_Toc390064343)

[BIBLIOGRAPHY 58](#_Toc390064344)

[Appendix II interview guide for key informants 65](#_Toc390064345)

**CHAPTER I: INTRODUCTION**

## Introduction

The Land Reform programme in Zimbabwe is perhaps the most crucial political issue and most bitterly contested issue surrounding Zimbabwe. This is mainly due to the approaches taken by the government to address this emotive issue. Land reform in Zimbabwe has undergone different stages and different approaches have been adopted to address and distributed land to marginalized, landless majority since the attainment of national independence in 1980. It can divided into two periods; from 1980 to 2000 where the willing buyer willing seller was applied with economic help from Great Britain and the secondly, beginning in 2000, the Fast Track Land Reform Program which was intended to alter the ethnic balance of land ownership. Though noble, the land resettlement programme has resulted in massive degradation of natural resources by settlers in places that were not formally under cultivation before.

# 1.1Background of the study

At independence in 1980 Zimbabwe inherited a highly skewed pattern of land distribution under the willing buyer willing seller basis of the Lancaster house agreement. According to Chitsike (2003) a small minority of white large-scale commercial farmers owned and farmed most of the better agricultural land. The colonial imbalances of land ownership dated back to 1930 where the colonial British government passed the land Apportionment Act. According to Mabaye (2005), the act formalized and legalized the separation of land between blacks and whites. The majority blacks were resettled in native reserves areas that came to be termed Tribal Trust lands in 1965. The majority of the national population, made up exclusively of black Zimbabweans, farmed in the lower rainfall and poorer soil areas.

The contest to control land and its resources led to nationalist movement activist to raise and take up arms in the second chimurenga. When the nationalist leaders went to the 1979 Lancaster house Independence conference land resettlement was one of the main issues to be resolved Mabaye (2005). According to Chitsike (2003) objectives of the resettlement programme were summarized as follows

* To resettle deserving and landless people
* To extend and improve the base of productive agriculture in the small scale farming sector, through the provision of training and extension for the promotion of good husbandry and social development
* To alleviate population pressure in the Communal Areas through an integrated linkage between resettlement and Communal Area reorganization and development
* To improve the standard of living of the largest and previously disadvantaged sector of the population through the provision of infrastructure and services and the execution of resettlement programme that will ensure the attainment of sufficient high levels of income.

The government aimed to achieve these objectives through the willing buyer willing policy, but until 1990 the government had achieved very little in as much as resettlement was concerned. To overcome the setbacks of the willing buyer willing seller policy, the government passed the 1992 land acquisition Act where the government compulsorily acquires land underutilized with compensation.One of the earliest resettlement programmes in Shurugwi District was Ruchanyu A1 resettlement scheme. The government acquired two farms: Otina and Pontevie farm combined to establish 1000 hectares of land which 80 families were resettled in 4 villages. Ruchanyu resettlement scheme was established in 1992. During its initial stages of settlement the area was rich in wild animals, dense vegetation and had good soils.

On resettlement initially settlers were given 5 hectares of arable land, 0, 25 hectares for residential stands, 2 hectares for woodlots per village giving a total of 406 hectares arable land and thus 600 hectares was left as communal grazing land where each family was entitled to 5 hectares of grazing land and maximum of 8 cattle per family. According Tongogara Rural District Council, Ruchanyu resettlement scheme now holds 154 households. The people and livestock population now exceeds the carrying capacity coupled with massive illegal gold panning. Thus the research seeks to assess the impacts of A1 resettlement on natural resources management and utilization in Ruchanyu.Although the objectives of land redistribution were noble, the government sole focused on decongestion the communal and increase productivity amongst small holder farmers, it has failed to foresee the impact of resettlement on natural resources and the natural environment at large. Resettlement brought large tracks of land under cultivation and settlers went on to live in or near wildlife habitats.

# 1.2Statement of the problem

Natural resources utilization in Ruchanyu A1 resettlement scheme has been a challenge since its inception in 1992 because the resettlement was established during the time the district and country at large was experiencing severe food shortage. As a result settlers turn to exploit the natural environment for human survival through gold panning and wildlife hunting. The population of Ruchanyu has almost doubled the intended caring capacity so has the livestock. Settlers continue to allocate stands to their sons to the land that was once set aside for communal grazing. Settlers are indiscriminately cutting down trees for sale along Shurugwi-Zvishavane road and other domestic purposes together with rampant wildlife hunting. The fact that grazing was left communally owned; competition of use and control is stiff amongst settlers and villages. Panning was rife along Chironde range and river Pisamoyo, Heme and Mutevekwi. Village heads as traditional guardians of natural resources management in communal lands were not yet established. Forestry and wildlife were not identified as distinct land use systems thus the government did not set aside land for forestry and wildlife in A1 resettlement schemes. The fact that settlers were drawn from communal areas, urban areas and even growth points created a culture of conflicting interest on traditional ways of natural resource management. It is therefore from this background that the research seeks to evaluate the impacts of A1 resettlement scheme on natural resources management and utilization.

# 1.3Aim of the study

This study aimed at identifying the challenges faced by Ruchanyu A1 resettled farmers on natural resources utilization and management.

# 1.4Research objectives

* To investigate the consequences of unsustainable utilization and management of the natural environment on both the present and future generation.
* To establish whether there are any strategies in place to improve natural resources utilization and management in Ruchanyu resettlement scheme.
* To come up with other possible strategies for natural resources management and utilization in Ruchanyu A1 resettlement scheme.
* To assess the effectiveness of available legal instruments on the management and utilization of natural resources

# 1.5Research questions

* What are the challenges facing Ruchanyu A1 farmers on natural resource utilization and management?
* Is the community aware of the consequences of over utilization and destruction of the natural environment on both the present and future generation?
* Are there any strategies being employed to improve natural resources utilization and management in Ruchanyu resettlement scheme?
* How effective are legislative controls on the management of the environment?
* What measures can local government authorities employ to improve natural resource utilization and management in resettlement areas?

# 1.6Assumptions

* It is assumed that before settlements in Ruchanyu A1 resettlement scheme there was sustainable natural resources management and utilization
* The researcher assumed that natural resources in new resettlement areas are over exploited
* It is assumed that natural resources legislative measures in A1 resettlement scheme are not effective

# 1.7Area of the study

Ruchanyu A1 villagized resettlement scheme falls under shurugwi south constituency ward 20B in shurugwi district of midlands province. The area of study is 15km away from Shurugwi town along Shurugwi-Zvishavane road. The dominant livelihood activities in Ruchanyu A1 villagized resettlement scheme include subsistence crop and livestock farming and illegally gold panning throughout the seasons.

# 1.8Significance of the study

The study will contribute to the literature on the impacts of A1 resettlement scheme on natural resources management and utilization. This investigation will also help in the identification of challenges and possible outcomes caused by A1 resettlement schemes. It also provides steps towards good natural resources management that are crucial in sustainable natural resources utilization. The study intends to bring out the key issues leading to the destruction of the natural environment, unlocking of these underlying factors will enhance a new dimension on how to improve natural resources utilization and management in resettlement areas. In particular in the study area it provides planners and policy makers with important lessons for solving the problems associated with resettlement schemes.

# 1.9Delimitation of the study

Ruchanyu A1 villagized resettlement scheme falls under Shurugwi South constituency ward 20B in Midlands Province. The district is predominantly rural with Shurugwi more of a town although it enjoys the status of a mining town. Ruchanyu A1 resettlement scheme is on a radius of 15km from shurugwi town along Shurugwi-Zvishavane road. The target population of the study is Ruchanyu A1 resettlement scheme which is four villages of ward 20B of shurugwi district. Ruchanyu consist of four villages with 154 households where 80 households are for farmers resettled in 1992 and 40 households of their off springs. The sample size of the study includes 40 households form farmers resettled in 1992 [excluding 4 village chairmen (village heads)], 30 households from offspring farmers, councilor of ward 20B and technocrats from each the following organs: Tongogara RDC (2), environmental management agency (EMA) (2), office of the District Administrator (1) and AGRITEX (1), councilor of ward 20B, 4 village chairmen to tally the sample size at 83 items. The researcher used simple random sampling to select the samples of old and new farmers and purposive expect sampling to select and identify technocrats sample. Out of 80 households from 4 villages, the researcher settled on a sample of 10 households per village to tally the sample population of old farmers at 40. The researcher also decided a sample of 30 households from offspring farmers (sons of old farmers). To select respondents of questionnaires from old and new farmers the researcher made use of simple random sampling. 20 cards containing residential stand numbers of each village were placed in a box, 10 picks were made from the box without replacement to select a village sample. This process was repeated in every village of the area. To select a sample of new farmers (off spring famers) the same process was repeated since their stands are numbered. 74 cards were placed in a box and 30 picks were made from the box without replacement to select a sample of 30 households from offspring famers. To select the technocrats that responded to the interviews the researcher made use of judgmental or purposive expert non probability sampling. In this regard the researcher’s judgment was that the selected organs or technocrats have administrative authority on issues to do with natural resources and resettlement areas.

# 1.10Definitions of key concepts

1. **A1 villagized scheme**

Where a family has title over a homestead and arable lands of block of 3 to 6 hectares and the grazing land is under group title.

1. **Natural resources**

Natural resources are resources created by nature that includes soil, water, and air, all minerals in Zimbabwe, mammal, bird, all animals, fish, grasses, tree, vegetation, springs, reed-beds, marshes and sponges.

# 1.12 limitations

The acquiring of information on land reform and its impact on natural resources and management was a major problem the researcher faced. The land reform is the most contested political issue in Zimbabwe, thus the researcher was viewed with skepticism and mistrust by respondents from resettled farmers. This was further worsened by the unwillingness of some of the respondents to divulge sensitive information. To minimize the effects of this to research findings, the researcher had to convince the respondents that information released will be treated with confidentiality and used for academic research purposes only. In addition, lack of inadequate data due to difficulties emanating from a lack of sponsorship was also another drawback.

# 1.11conclusion

This chapter gave an insight into the area of the study highlighted the background of the study, statement of the problem, research objectives and questions, significance of the study, assumptions, definition of terms, delimitations and limitations of the study.

Chapter II is on literature review that specifically aimed at validating the research objective.

## CHAPTER II: LITERATURE REVIEW

# Introduction

This chapter reviews the literature on the subject matter of the study. Thus, it systematically and explicitly identifies, evaluates and interprets the existing body of recorded work produced by researchers, scholars and practitioners. Stemming from research objectives the chapter reviews literature on the origins of resettlement; land reform and resettlement in Zimbabwe; resettlement models and A1 resettlement schemes in Zimbabwe; natural resources in resettlement areas; natural resources utilization and management; legislations on natural resources utilization and management, enforcement agencies; challenges on natural resources utilization and management.

# 2.1 Background to resettlement in Zimbabwe

Land reform in Zimbabwe officially began in 1980 with the signing of the Lancaster House agreement. This was an effort to equitably distribute land between historically disenfranchised blacks and the majority whites who ruled Southern Rhodesia since 1890 to 1979 (Moyo etal 2004). Land policies in Zimbabwe have under gone different phases and policies since the coming of the pioneer Colum. Since then the indigenous people have suffered acute shortage of land and its resources due to policy strategies that were put in place to dispossess and discriminate the majority. The table below shows the historical land policies that were put in place in Zimbabwe since 1890

**Table 1 land policies in Zimbabwe since 1890**

|  |  |  |
| --- | --- | --- |
| **Period** | **Time** | **Landpolicy** |
| Pre colonial  Company rule | Pre 1890  1890-1923 | Traditional agriculture  White agriculture financing, training and extension first chimurenga 1896 |
| Self-governing colonial rule | 1924-1951 | Land apportionment act 1930, formation of dual agrarian structure creating native reserve and European areas |
| Federation of Rhodesian and Nyasaland | 1953-1965 | Labour Africans to work in white farms |
| UDI | 1965-1979 | State control, import substation, liberation struggle, sanctions |
| First decade of independence | 1980-1990 | Land resettlement willing buyer willing seller target 162,000 families by 1985  Land acquisition Act No 21 of 1985 achieved 52,000 by 1990 |
| Post 1990 | 1991-2000 | Land acquisition act with compensation (1991) |
| New millennium | 2000 to present | Compulsory land acquisition act without compensation  Fast track land reform programme FLRP |

**Source** prince Kuipa Zimbabwe Farmers Union chief Economist

Weiner etal (1985) states that at independence whites who constituted 3% of the population controlled 51% of Zimbabwe’s farming land (44% of Zimbabwe’s total land use area) with about 75% of prime agricultural land under the large scale commercial farming. The communal areas which were home to about 4, 3 million blacks constituted 72% of the rural population, had access to only 42% of the land, three quarters of which was in poor agro-ecological regions IV and V (Weiner etal 1985). Given this background; land reform become welfarist in its approach targeting mainly the landless and the poor in land allocation (Cusworth 1990).

Before the national independence, indegenenous people were forcibly relocated to segregated native reserves and coercively forced into labour on colonial settler farms. 75% of the native reserves land was in the most arid and unfertile areas, severe overcrowding and land degradation. According to Mugabe etal (2011) poverty in native reserves was exacerbated by poor access to natural resources and communities used natural resources such as forest as safety nets against poverty. The colonial government passed the 1930 land apportionment act which separated land to white and blacks areas. The act formalized and legalized the separation of land between blacks and whites. The majority blacks were resettled in native reserves or tribal trust land that were overcrowded and infertile (Mabaye 2005)

The contest to control land and its resources led to the raise of nationalist movements and took up arms in the second Chimurenga in 1966. Mabaye (2005) postulate that, when the nationalist leaders went to peace negotiation in 1989 at the Lancaster House Conference land resettlement was one of the main issues to be resolved. In a bid to protect its subject, Britain included the willing buyer willing seller clause. The policy was in affect from 1980 to 1990 and it only allowed the government to acquire land for redistribution only from sellers who were willing to sell and very few white farmers were willing to sell to the government for distribution. According to Hove and Gwiza (2012), embedded in the constitution, was a free market approach in land redistribution strategy based on a willing seller-willing buyer principle, an inclusion that derailed the speedy land transfer from the Whites to the Blacks. The 1979 constitution was resultantly castigated as a strategy designed to ensure continued land domination by the Whites.

According to Lebert ([www.foodfirst.org](http://www.foodfirst.org)) the settlement of beneficiaries on land took place through one of four models, although the bulk of reform made use of only one of these. The models were summarized in table 2 below

**Table 2 Resettlement models**

|  |  |
| --- | --- |
| **Model of resettlement** | **purpose and target** |
| **Model A** (intensive resettlement on individual family basis) | * beneficiaries receive cropping land (10 to 65 ha) * Communal grazing land (55 hectares or the equivalent, depending on the agro ecological region). * Land was acquired by the state (usually in the form of large commercial estates), and then divided into smaller plots that were then redistributed to beneficiaries. * Tenure was in the form of three annual permits—one for settlement, one for cultivation, and one for grazing. |
| **Model B** (Village Settlement with Cooperative Farming) | * Cooperatives to manage purchased farms on a collective basis. * This model was supposed to be selected for properties with developed infrastructure (e.g. irrigation or infrastructure for specialized agricultural enterprise) |
| **Model C** ( State Farms with Out-Growers) | * Nucleus estate concept with a core commercial estate and/or processing facility and settler outgrowers. |
| **Model D**(Commercial Grazing for Communal Areas) | * intended for the low rainfall natural regions IV and V * Use of ranches for grazing by communal communities, to reduce the pressure on communal grazing areas by increasing the amount of grazing land to communities. This model was not intensively implemented. |

**(summarized from** [**www.foodfirst.org**](http://www.foodfirst.org)**)**

According to Mabaye (2005), at independence, the government made a commitment to resettle 162 000 farmers by 1990 under the willing buyer willing seller agreement. However, in 1990 came the expiry of the willing buyer willing seller agreement, the government had not reached half of its target. This was because under the willing buyer willing seller agreement the seller did not want to sell and the buyer had no money. Although Britain had pledge a package of 630 million to support resettlement in Zimbabwe on the Lancaster house conference, by 1990 only 47 million had been donated.

Upon the expiry of the willing buyer willing seller agreement in 1990 the government came up with a new land reform policy (the 1990 land reform policy). In 1992, the land Acquisition Act with compensation was enacted. According to Mabaye (2005), with the act the government compulsorily acquired land that it deemed under productive, land owned by an absentee or foreign landlords, land owned by farmers with more than one farm and land contiguous in communal areas. The idea behind this move was to in speed up resettlement process through designated and compulsory acquisition. However, the policy did not yield the much expected target of 162000 farmers, by 1997 only 71 000 families were resettled. Out of Zimbabwe’s 12 million populations in 1997, 1 million black families were still living in overcrowded communal land at an average of 3ha per family (Mabaye 2005). Ruchanyu A1 resettlement is one the earliest mode of resettlement established in 1992 where setters that have been for long placed on waiting list where given land in Pontevie and Otina after acquisition.

In 1998 the government published its framework for the land reform and resettlement programme phase II at the land reform Donor conference in 1998. The framework allowed the government to publish its target in land reform processes and development of infrastructural services. The plan intended the government to purchase 1 million hectares of land every year for 5 years from the 11 million hectares owned by white farmers, parastals, co operations and multinational companies. All the participants of the conference agreed and pledged US$100 million but the Britain government instated that the land acquisition should not be compulsory but on a willing buyer and willing seller basis. The situation prompted the government to pass the land acquisition act for compulsory acquisition without compensation for the land where land belongs to the state. Beginning in 2000, landless blacks led by war veterans began to invade farms and seize white owned land (Mabaye 2005)

**2.2 A1 resettlement scheme**

Four different models of resettlement were initially pursued in the various resettlements under the land reform and redistribution programme. However, they were later supplemented by other variations. Katerere () eluded that model A was further elaborated into two categories model A1 for accelerated intensive resettlement and model A2 normal intensive resettlement. One of the government objectives by the A1 model was to decongest the communal areas by provision of farms that were relatively small but adequate to sustain a family and produce surplus (UNDP 2000)

According to Moyo (1995) A1 model can be of two types; villagized or self-contained. For the former; settlers were provided with at least five hectares of arable land depending on agro ecological regions and communal grazing whilst the self-contained was one contiguous area that could be used for crops and livestock. As in the case of Ruchanyu which is a villagized A1 resettlement scheme settlers were provided with 5 hectares of arable land and communal grazing. A1 is the decongestion model for the generality of the landless people. It has a villagized and a self-contained variant. According to Matsa (2011), the villagized model A1 variant is a translocation type of resettlement with the village type of settlements. Settlers are allocated individual residential and arable plots but share common grazing, woodlot and water points. According to Fox e tal (2007) the A1 model was designed to aid decongestion of the communal areas and find livelihoods for landless people; two sub-variants were proposed. There was a villagised variant (similar to the Model A of LRRP I) and a self-contained, small farm units variant

**2.3 Natural resources**

Life on this earth depends upon a large number of things and processes provided by the nature which are known as natural resources (Kushik 2006). Water, air, soils, mineral, forest and wildlife are all example of natural resources. As in the case of Ruchanyu, water, forest, mineral (gold), soil and wild life are the most common and used natural resources.

Natural resources are of two types, renewable resources which are in exhaustive and can be regenerated within a given space of time for example forest and wildlife, nonrenewable resources which cannot be regenerated for example minerals, once we exhaust these resources the same cannot be replenished. Even renewable resources can become nonrenewable if exploited to the extent that their rate of consumption exceeds their rate of regeneration (Kaushik 2006). If a specie is exploited so much that its population size declines below the thresh hold level then it is not able to sustain its self and gradually the specie become endangered or extinct. Therefore natural resources should be used in a way that they will be able to sustain the present and future generations.

Forests are one of the most important natural resource on planet earth. Forest provides several environmental services and products which are essential for life. However, it is a matter of concern that almost everywhere the cover of natural forest has declined over the years (Kaushik 2006). Since time immemorial, humans have depended heavily on forest for food, medicine, wood, timber and fuel. Excessive use of fuel wood and expansion of settlement, agriculture and over grazing have together led to over exploitation of forest leading to rapid degradation. Unsustainable use of forest resources compromise the life supporting processes like the generation of rainfall through transpiration. The trend of unsustainable utilization is one that goes on beyond the existing generations to future generations where some forest species become extinct. For example the trend that the once savanna vegetation is gradually turning to a thorn and bush forest impedes the future generations their fullest benefits to the forest.

Furthermore, water is an indispensable natural resource on this earth on which all life depends. Water is the most precious natural resource on earth because it has got a life supporting effect. According Kaushik (2006) human beings depend on water for almost every activity. Domestically water is used for drinking, washing; commercially water is used for disposal for industrial waste and naturally water shapes the earth surfaces and regulates our climate. Human’s use of water is of two types, that is water withdrawal and water consumption. The earlier refers to the taking of water from underground and surface water, the later refers to the water that is taken up but not returned for reuse (Kaushik 2006).

Human activities have the potential to pollute water and disturb life processes that depend on water for survival. Kaushik (2006) states that with increasing human population and rapid development, the world water withdrawal demands has increased many folds and a large proportion of water withdrawal is polluted due to anthropogenic activities. Gold panning emerged as one of the serious and major pollutant activity in resettlement areas of Zimbabwe. For example gold panning is done on mountain slopes destabilizing slopes and chemicals like mercury are used during extraction. Such activities lead to siltation of water reservoirs and death of aquatic flora and fauna. Zwane etal (2006) postulates that, river bed alluvial gold panning activities are a cause for degradation of river channels and banks as well as water resources particularly accelerated erosion and siltation in many areas of Zimbabwe. In a study by Zwane etal (2006) on the impact of alluvial gold panning in Zambezi basin, individual water users considers siltation to be the major problem resulting from gold panning, muddiness of water and the creation of pools along river beds. The above mentioned activities in Zambezi basin has resulted in the reduction of land for gardening and caused problems in fishing, bathing and washing, the wading of streams and provision of water for domestic purposes.

Mineral depletion and exhortation is one of the likely problems to affect regions with minerals in Zimbabwe due to increase in activities of gold panning.Minerals are naturally occurring resources. According to recent baseline survey of the great dyke conducted by the Environment Law Association of Zimbabwe (ZELA) the midlands province is endowed with approximately eight minerals (Sunday news 2012). The endowment of the province with various precious stones has seen a proliferation of mining activities and a subsequent relentless assault to the environment within the province. According to Sunday news the unregulated mining activities, commonly referred to as panning has put midlands under siege

**2.4 The problems of resettlement on natural resources**

The rapid depletion of natural resources beyond the rate of regeneration (renewal) is likely to bring out untold misery for the present and for future generations. They are needs for sustainable utilization and management of natural resources because the resources of nature are finite. The rate and manner in which a natural resource is used can drive specie to extinction or causes major changes to natural ecosystem. For example the uncontrolled use of forest, waste and wetlands can cause the extinction of species that relies upon these habitants.

The government produced a policy reform for sustainable use of natural resources but fell short to the context of exploitation in resettlement areas. According to Moyo (2004), although the government produced a policy document on land reform and wildlife management which was designed by Department of Natural Resources (DNP) midway through the land reform and redistribution programme, the policy was not to guide sustainable natural resources utilization in resettlement areas. The policy failed because it does not define the land use to be devoted to natural resources utilization and agriculture.

Natural resources utilization in resettlement area remains a subject to discussions because of the policy designed for sustainable utilization in A1 and A2 farmers. Moyo (2004) argue that there was no differentiation of natural resources utilization policy to target A1 and A2 farmer’s needs. For example A1 farmers required broad based benefits from natural resources at the local level for the poor whilst A2 farmers required very little if not nothing form resources like forestry, but the policy does not provide for such varied needs.

Resettlement resulted in changes in production and processing ways. These shifts emerged as new threats to sustainable natural resources utilization. For example, the shift in tobacco curing from using coal by large scale colonial farmers to wood by A1 resettled small holder farmers means that large tracks of wood were cleared to supplement production by small holder farmers that does not afford to use coal. Moyo (2004)postulated that changes in the grower base have resulted in major shift in the source of energy for tobacco curing from coal to wood.The expansion of tobacco growers under the land reform programme have threatened indigenous forests resulting in environmental degradation as the majority of the new resettled farmers especially those under A1 model rely on wood energy for tobacco curing. Resettled A1 farmers experienced problems from accessing coal and as a result they resorted to wood to cure the tobacco. Therefore, on the same note it is justified to say, changes in production process brought about resettlement poses a serious threat to the natural resources and the environment at large.

Resettlement have caused an increased the activities of illegal mining particularly gold panning. This is so because resettlement has made it possible to discover mineral deposits in places that were not under cultivation. For example the discovery of gold deposits in Chironde range of Ruchanyu in 2005 was after settlement of Pontevie and Otina Farm. According to Moyo (2004) gold panning is seen to be more lucrative than farming mainly because of the instant incomereturns compared to agriculture.As in Ruchanyu, gold panning emerged to be the main stay of livelihoods for most of the resettled farmers.

In a study by Regassa etal (2011) in Ethiopia assessing the impact of resettlement on natural resources utilization, it was discovered that there has been clear natural resources degradation particularly loss of forest, fertile soils and wildlife resources from resettlement sites. Forest and wood in the resettlement Areas have been cleared to create farmland, for house construction, for firewood and for settlement of young off spring farmers.

Furthermore, the study in Ethiopia also reviewed that cultural differences brought about resettlement were a major obstacle towards sustainable natural resources utilization and management. According to Regassa etal (2011), there were significance cultural differences among settlers in respect to natural resources particularly management of farm trees. Resettlers from Sidama Zone have a tradition of keeping important tree species in their farm lands while resettlers from Gurafarda were known for cutting all trees down. The resettlers from Sidama cut only branches rather than uprooting the tree for whatever purpose they want. This was so because settlers were drawn from different cultural zones like in the case of resettlement in Zimbabwe where selection of settlers was done without taking into consideration the background and traditions. Settlers in A1 resettlement were not only drawn from communal as one of the primary objective of resettlement in zimbabwe rather they selected farmers from communal zones, urban zones, mining zones and even growth points to settle as one unit. Therefore one is justified to say such scenarios in selection of settlers are detrimental to natural resources utilization and management as was the case in Ethiopia.

In general as human population increases in each resettlement site, there is a gradual encroachment into forestlands leading to further clearing of forests for expansions of farmland. As in the case of Ruchanyu A1 resettlement scheme human population increase almost doubles the initial population, according to a report from Tongogara rural district council at inception the resettlement was established to sustain 80 families however due to increase in population the site holds 154 families. According to Ragessa (2011), increase in population of illegal settlers around Sidama and Gurafarda resettlement zones in Ethiopia noted a trend in tree density as one goes further out of the resettlement site and settlers have to travel quite a distance (7-10km) searching for firewood since the forest is turning into a mere thorn and bush forest.

# 2.5 Challenges faced by resettled A1 farmers and their impacts to natural resources.

Much of the discussion paid attention to the challenges faced by A1 resettled farmers and their impact on natural resources utilization and management. The review of literature on this subject showed that resettlement was a case to sustainable utilization and management of resources of nature. Although the planers and policy makers were preoccupied with addressing the colonial imbalances in land ownership as a panacea to poverty reduction in communal lands and peasants in general, they have grossly failed to predict environmental damage that was likely to be brought by resettlement. There was a need for planners and policy makers to carry out an Environmental Impact Assessment of the policy before its implementation in 1980 up to the present day. The trend in natural resources depletion and degradation in resettlement areas is one that goes back to 1980 where the principle of willing buyer willing seller was adopted up to the present fast track land reform programme.

Firstly, the land tenure arrangement in resettlement areas was one that facilitated and permitted natural resources depletion and degradation. Land tenure systems influence the manner in to which land is put for agricultural development. According to Bassey (2004), land tenure is a tool for conservation and it involves set of rules and regulations used to control and manage natural resources, unfortunately the impact of tenure on natural resources allocation and exploitation is often ignored in public land policy.

The system of land tenure in resettlement areas during the phase I (1980-1998) of land reform and resettlement was based on the government providing settlers with written permits to reside and use the land (UNDP 2002). According to Moyo (2005), most settlers feel that the permit system was insecure because in theory the permit could be withdrawn without compensation. With this in mind settlers tend to exploit the environment by engaging in non agricultural activities like timber harvesting, gold panning and poaching. According to UNDP (2002) in its survey conducted in 1997 they were very little production developments made by resettled farmers because they feel that permits can be withdrawn anytime. Matondi(2011) states that, land tenure is critical in Zimbabwe simply because resettled households have endured years of tenure uncertainty much to the hesitancy drawn from land politics. According to Fox e tal (2007) One key issue regarding the success of any resettlement programme is clarity concerning the tenure system underpinning it. The LRRP Phase I was based on a government permit system and the insecurity which this presented was one reason why the Government was proposing a leasehold system under LRRP Phase II

Furthermore, resettlement has brought together between with different and conflicting beliefs and values towards natural resources utilization and management. A1 settlers were drawn mostly from various communal areas, urban areas, growth points and mining areas creating a cosmopolitan mixture of settlers (Mugabe etal 2011). This scenario resulted in disintegration of natural resources management indigenous knowledge and institutions whose effect on natural resources utilization and management is detrimental. According to Bassey (1995), resettlement has eroded sustainable conservation of natural resources through traditional rules, regulations and taboos. Mixing of traditional beliefs towards taboos and the inability to enforce clan traditional beliefs in resettlement areas have lead to unsustainable utilization and management of natural resources.

Extension is important in increasing productivity as far as it transfers technology to farmers. According to UNDP report 2000, the resources allocated to extension workers for field travel, training and planning support in the resettlement areas have been dwindling. The capacity of the extension staff to provide new settlers with the intensive advice required for sustainable natural resources utilization and management is limited. According to Moyo (2004), the extension services appear not to have a well-coordinated strategy for promoting sustainable natural resources utilization. According to Maposa e tal (2013), there is woeful shortage of extensionofficers in resettlement schemes across the country. For example, the current ratioof extension officers to farmers is about 1:300 in the resettlement schemes.Natural resources degradation in new resettlement areas is not being adequately countered by extension services.

Communal grazing is one of challenges faced by resettled farmers in Zimbabwe. Common property is where the rights to exploit resources are held by persons in common with others (Agrawal 2001). Wade in Agrawal (2001) argues that long line of theorists on property rights has argued that common property resources are bound to be over exploited as demand rises. In smith’s words, it is by treating a resource as a common property that becomes locked in its inexorable destruction. Common pool resources are to be understood as a sub-set of public goods. All public goods have the property that many can use them at the same time because exclusion is difficult. Common pool resources are public goods with finite or substrative benefits, i.e. if A use more, less remains for others. Common pool resources are therefore potentially subject to congestion, depletion and degradation.Each individual has an incentive to ignore the social and environmental effects of his resource use for fear that others will capture the benefits of the resource before he can. The lack of exclusion for the resource creates an incentive for a rate of aggregate use which exceeds the physical and biological renewal of the resource (Agrawal 2001).In A1 villagized model of resettlement grazing land was made a common pool resource. Natural resource utilization and management in villagized A1 models is not sustainable since grazing was made a common property. This left grazing land as a no man’s property. Competition for use and control of grazing land is stiff unlike in self contained model were grazing land was made specifically for one farm unit. In resettlement areas natural resources are held as common pool resources. According to Bassey (1995) this implies common exploitation and management of resources with respect to hunting, collection of firewood and grazing of livestock. Presidential land review committee (2003) report also alluded that requisite sharing of forests resources by farmers in A1 resettlement areas recreate some of the problems experienced in communal areas where the commonly shared land resources are often over utilized and degraded.Therefore to minimize the environmental effects of communal grazing in villagized A1 resettlement areas they is need to establish private rights for grazing land. According to Demsetz(1967), the establishment of full private rights over the commons is a necessary condition for avoiding such a tragedy of over exploitation and degradation.

# 2.6 Legal instruments on natural resources in Zimbabwe

Environmental law at both the national and international level has two basic rule types: those designed to ensure compliance or conservation, these are perspective and those designed to facilitate better practice these are process oriented (Katerere). Natural resources in Zimbabwe fall under ministry of mines, environmentand tourism. Within the ministry, there is Department of natural resources tasked with regulation and monitoring natural resources nationwide and a Department of National Parks and wildlife management with overall responsibility for wildlife (Grundy and Breten). The forest commission, a separate parastatal manages large expanses of commercial forest as well as providing forestry extension services to rural communities. In 2000, the government adopted the integrated environmental management approach and the Environmental management Act (EMA) was enacted to protect and provide the legal framework on natural resources management. The Environmental Management Agency was a body created to enforce the provisions of the act. However, dispute the enactment of environmental management act and creation of Environmental management agency as a watchdog on issues to do with natural resources, disempowered bodies like the Forestry commission, department of Parks and Wildlife still exist. Such a situation is detrimental to sustainable natural resources utilization since departments tend to implement specific line objectives. Legislations that govern access and use of natural resources in Zimbabwe include:

* Natural resources act
* Forest act
* Communal lands forest act
* Parks and wildlife act
* Rural district and councils act
* Communal lands act
* Mines and minerals act
* Environmental assessment act
* Atmospheric pollution and prevention act
* Traditional leaders act
* Environmental management act (EMA)

The major legislation in the case of this research is the Natural Resources Act which was enacted to address soil erosion problems that had been identified on grazing land on both in communal land and commercial farming areas and these include the villagized models schemes, A2 farms and self contained plots (Chenje 1989). Enforcement of environmental legislation in Zimbabwe at grass root level is done by a number of organs and institutions that include the traditional leaders (chiefs, headman and village heads), Rural District Councils, CAMPFIRE and the environmental management Agent (EMA).

At grass root level traditional leaders were empowered through the Traditional Leaders Act to enforce and over see the use and management of natural resources. Traditional leaders in the contest of Zimbabwe include the chief, headman and village head. According to the traditional leader’s Act [chapter 29:17] it shall be the duty of a headman to enforce all environmental conservation and planning laws including local field boundaries on behalf of the chief, the rural district council and the state and is it the duty of the village head to ensure all land resources in his area is utilized in accordance with any enactment in force for the use and occupation of communal or resettled land. Committees have been established in the resettlement areas but these have not been as effective.

Furthermore, Rural District Councils were also empowered through the local government ministry to perform a watchdog function on natural resources utilization and management. Each district within Zimbabwe has a rural district council (RDC) made up of specifically elected councilors representing each ward within the district. According to Grundy and Breten RDCs form the local government and have been given a greater degree of authority over local level governance, administration and development activities. This makes RDCs more important institutions since they are owners of communal and resettled areas thus they have become owners of natural resources within their jurisdiction. The RDCs are responsible for policy formulation provided that it is not in conflict with national policy, district planning, regulation and control of activities subject to national legislation. Each rural district in Zimbabwe has the mandate to craft by-laws that governs the use of natural resources within its operational district depending on available resources. To decentralize this authority, RDCs have been given the authority to establish the Village Development Committees (VIDCOs) and Ward Development Committees (WADCOs) in communal and resettlement areas. The village head preside as the chairman of the VIDCO in communal areas; however when it comes to resettlement areas farm chairmen have been given the status of a village head.

Natural resources management at grass roots level was further provided with the establishment of Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) program.CAMPFIRE program was established to solve the problems of resource management in communal areas of Zimbabwe. The Campfire solution was to introduce new systems of group ownership and territorial rights to natural resources to communities and provided appropriate institutions for legitimate resource management for the benefits of these communities (Martin 1986). The enactment of an amendment of the parks and wildlife act in 1975 enables the government to delegate appropriate authority over the wildlife to communal representatives (Murombedzi 2003). CAMPFIRE program constitutes a transfer of ownership, successfully implemented with regard to individual landowners to communal landowners (Farguharson 1993). Therefore, CAMPFIRE program was basically a resources tenure reform for the communal landowners of making wildlife management a part of the local household economies. The program gave the communal areas the authority to foresee and control wildlife resources in their areas in a bid to minimize the problem associated with common property resources depletion.

Lastly the environmental management Agent is another body tasked to enforce environmental legal provisions in Zimbabwe. After the enactment of the Environmental Management Act in 2002, the Environmental management Agency was established to act as a watchdog on all issues to do with environmental issues. The agency was formed to enforce the provisions of the act. With the establishment of Environmental Management Agency, the Act took away the legal standing of various agencies that acted as environmental watchdogs (The EMA Chapter 20:27/2002). The Department of Natural Resources is an example of such a disempowered Agency. However the effectiveness of the agency remains questionable since it lacked the resources and capacities to effectively implement its operations (Rajah etal 2010)

# 2.7 Weakness of natural resources legislation in Zimbabwe

The main reason why Zimbabwe failed to achieve millennium development goal 7 lies within the overall policy arena. The major challenge that the country faces in ensuring environmental sustainability is ineffective implementation of the environmental management act ([www.thestandard.com.zw](http://www.thestandard.com.zw)). The environmental management Agency plays a key role in translating the objectives of the environmental management act into reality but it lacked both human and financial resources. As a result they are low levels of awareness among stakeholders which include the communities themselves.

The post-colonial era in Zimbabwe saw the inheritance of colonial laws in environmental legislation (Chinamora1995). The laws that the government adopted were specially designed by colonial government to deny access and use of natural resources to indigenous peasantry communities. According to Munowenyu (1999) the laws were discriminatory and inappropriate particularly when it comes to the rights over use of resources by communal people in comparison to white owned commercial farms. By so doing the government put natural resources and management under serious threat giving the historical imbalances of natural resources use and control, communities continued to use the resources unsustainably much to the fear that the resources did not belong to them anytime the government can claim its resources. Therefore one can say by resettlement the government opened another avenue of natural resources exploitation to resource-hungry indigenous black farmers.

Before the enactment of the environmental management act (EMA) into law, environmental legislation was contained in more than eighteen different statutes administered by at least eight different ministries (Chenje 1999 in Rajah etal 2012). This resulted in fragmentation of environmental law, duplication and overlapping of duties and roles making it expensive and difficult to implement environmental legislation. Implementation was also impeded by corporate greedy, nominal penalties, budgetary constraints, ineffective compliance and enforcement. This was due to the fact that sartorial ministries coordinated specific environmental responsibilities an aspect that made administration and implementation extremely difficult if not impossible (Rajah etal 2012).

Furthermore, different policies and departments made reference to these fragmented environmental law, an aspect that made any efforts to effectively manage natural resources a difficult and somehow an impossible task. According to Rajah etal (2012) a review by the ministry of environment and tourism showed that there were many policies and acts that made reference to fragmented environmental administration legislation from different government ministries and departments. Some of the acts cited include natural resources act, environmental impact assessment act, mines and minerals act, forestry act, atmospheric pollution and prevention act, water act, parks and wildlife act. With these pieces of legislation in place implemented by eight different ministries, coordination and effective enforcement of compliance measures were very difficult since specific line ministries focuses on specific line of objectives. One has to take note that resettlement in Zimbabwe occurred in an environment with such legislation disorder that it madeit difficult for effective implementation of the provision of any of the laws by resettlers since the administration itself was anarchic. Therefore, A1 villagized resettlement scheme brings more harm than good to the environment since the policy makers did not take the environmental implications of resettlement rather they focused solely on empowering the once disadvantaged landless peasants yet they allowed for the sharing of common pool resources like grazing.

The authority of local government structures has extended to natural resources management and use, indigenous local law systems are no longer considered vital .According to Chanock (1985) customary law was dismissed as either backward or colonial construct. Customary law was applied by the state as a product of interaction with the values of colonial administration and consequently was codified and distorted (Katerere).Customary law refers to the law and practices of people .In Zimbabwe the application of customary law to the environment was restricted under statute of civil law and land allocation. By excluding the application of customs the state has effectively denied a role for local values and priorities to inform resources utilization and management and it has further trivialized the role of traditional leadership (Katerere).

The failure to include local knowledge and values has contributed to the failure of many development project (Langil 1999). However, if projects and polices recognize the need of local rules and values natural resources management at local level will be very successful. However the use of custom norms and values in resettlements area remains a fallacy since resettlers were drawn from different zones .Though majority comes from communal areas settlers were drawn from different communal zones with different values and norms. The problem may however increase because A1 villagized model of resettlement does not have established traditional leaders particularly village heads rather chairmens were left to fore see the duties of a village head.

Although the traditional leaders act gives the chiefs, headmen and village head power to ensure that natural resources are used sustainable. The RDC acts override the powers of the chief. It is the role of the chief to protect over cultivation, over grazing, the indiscriminate destruction of flora and fauna , legal settlements and the abuse of natural resources (Traditional Leaders Act 5:1) .The rural district council act (charpter29:13)established a local government structure that excluded traditional leaders. The empowerment of traditional leaders has been opposed by councils on the ground that with the changing composition of rural society through migration chiefs were no longer able to represent rural communities as they would discriminate against people who belong to groups other than their own (Parliament of Zimbabwe 1995). However, this might have been informed by the need by RDCs to use natural resources to accumulate revenue. The trivializing of chiefs left the communities with no clearly defined authority to report environment degradation VIDCOs and WADCOs were established to partake natural resources watch dog rights in theory not in practice. According to (Katerere 1996) there is a lack of investment in these structures in terms of financial resources, training and skills development and that the is no remuneration for committee members means that at the local level they are often seen simply as the “masters voice “

Environmental management act was enacted in 2002 as a way to effectively coordinate fragmented environmental law in Zimbabwe. The environmental management agency was established to act as a watchdog to issues to do with environmental sustainability. The government adopted the integrated environmental management approach, a brainchild of the Bruntland commission. Fuggle (1999) in Rajah etal (2012) sees an integrated environmental approach as the selection, design and implementation of mutually supporting activities contributing to solve a particular problem (s). The environmental management approach has however emerged with a new face of problems. According to Rajah (2012) etal environmental management act attempts to consolidate synergize and rationalize environmental legislation in Zimbabwe as a means of achieving integration management in environmental issues however the integration failed to create an environmental ethic for law enforcement and implementation. To this end, the integration was supposed to ensure that people understand and appreciate their rights and duties through effective communication, education and raising awareness. Rajah etal (2012) alluded that the underlying principles of the law were supposed to be communicated to both rural and urban dwellers, discussing with communities how they can use the law to protect the environment, learn about the environmental interest of people and what they think about the law and to facilitate exchange of environmental information, public participation to enhance decision making. However, most of the people either urban or rural settlers were not yet well aware of the provisions of the act.

According to Rajah etal (2012), inspite of the fact that EMA was promulgated over seven years ago, it is yet to be fully operationalized due to problems and challenges within and without the organization. The first pot of call after the enactment of EMA was the establishment of the Environmental management Agency to enforce the provisions of the act but the agency lacked adequate funds for its operations and implementation processes.

Furthermore, with disempowering of environmental agencies through the enactment of EMA problems of environmental issues did not seem to decrease. According to Rajah etal (2012) the EMA repealed several pieces of legislation without putting in place interim measures to ensure smooth and peaceful transition. The act took away the legal standing of various agencies that acted as environmental watchdogs (EMA CHAPTER 20:27). For example the department of natural resources was disempowered. According to Shoko (2003), the result of disempowerment of existing environmental agencies was that environmental degradation was on the increase as both public and private sector enterprises and individuals exploited the void in the law.

The challenges of integrated environmental management approach according to Rajah etal (2012) include the following:

* Poor definition of roles; the Act does not clearly define the roles and responsibilities of sectorial ministries.
* Lack of effective stakeholder participation; there is not an adequate flow of information to inform interested parties about the relevant issues.
* Lack of information
* Preservation of traditional norms versus enforcement of the act; Traditional chiefs felt that their role as chiefs and Custodians of the natural resources within their jurisdiction had been violated
* Lack of resources for implementing agencies; Regional and local authorities do not have adequate resources or capacity to pursue integrated environmental management

Although the integrated environmental management approach was adopted for sustainable environmental management, one question the new face of challenges emerged as far as environmental management issues were concerned. One therefore argues that environmental management remains problematic in A1 villagized resettlement scheme because of the atrocities facing EMA with its Integrated Environmental Management Approach.

The establishment of recent local government structures has undermined the roles of chiefs and village heads as traditional natural resources management personals. The integrated environmental management approach which was informed by the Brunt land commission. In Zimbabwe, IEM is administered under the Environmental Management Act (EMA) of 2002 to promote the sustainable management of Zimbabwe’s natural and physical resources. According to Katerere at village level, traditional land management has been undermined by the imposition of more recent local government structures which are not equipped to assume this responsibility. The Environmental Management Agency established sub committees in villages that fore see environmental issues. The integrated environmental management approach of 2002 has failed to preserve the traditional norms of natural resources management. Environment law in the pre-colonial period were more of traditional methods of natural resources conservation, where the custodian of environmental laws were the chiefs, these laws were territorial in nature and were enforced in the designated areas over which the chief had control. Thus with Integrated Environmental Management Approach chiefs felt that their roles as chiefs and custodians of the natural resource within their area of jurisdiction had been violated. Thus whenever settlers appear to use natural resources unsustainably; for example indiscriminate cutting down of trees, chiefs tend to relax and wait for EMA officials to take necessary steps.

# 2.8 Conclusion

This chapter reviewed literature on the background to resettlement and resettlement schemes in Zimbabwe. The chapter also reviewed literature on Natural Resources, the tragedy of resettlement to natural resources; challenges faced by A1farmers and their impacts to natural resources; legal framework of natural resources and its weakness in Ruchanyu and available legislation on resettlement and natural resources, weakness of existing law and law enforcement agencies communal and resettlement areas. The review of the literature helped the researcher to identify other gaps in other researched literature.

The next chapter is on research methodology of the study

## CHAPTER III: REASERCH METHODOLOGY

# 3.1 Introduction

Cooper and Schindler (2003), defines research methodology as the methods by which data is gathered for a research project, the blueprint for the collection, measurements and analysis of data in order to achieve the objective of a research project. The previous chapter reviewed literature related to the study of the impacts of A1 resettlement scheme on natural resources utilization and management. This chapter presents the methods that were used by the researcher to collect and present data. The chapter discusses the researcher design, sampling techniques, sample population, research to tools and researcher ethics that the researcher made use of.

# 3.2 Research design

The researcher made use of both qualitative and quantitative research design on data collection and presentation. A research design typically include how data was collected, what instruments were employed, how the instruments were used, the means of analyzing data collected ([www.businessdictionary.com](http://www.businessdictionary.com)). Qualitative research seeks to understand people’s interpretation and produce more in depth, comprehensive information and use subjective information and participant observation to describe the context or natural setting of the variables under consideration. Quantitative research is a systematic empirical investigation of variables via statistical, mathematical or numerical data. Triangulation of data collection and presentation helped the researcher to overcome research gaps in collection and presentation of data. According to Denzin (1970), data triangulation entails gathering data through several sampling strategies whilst methodological triangulation refers to the use of more than one method for gathering data.

# 3.3 Population and sampling procedures

Population is defined as items or groups of people with the characteristic one wished to study and draw conclusion (Cochran 1977). The target population of the study was 154 households of Ruchanyu A1resettlement farmers of ward 20B of shurugwi district. Of the four villages, each village had 20 households of farmers who have been allocated land in 1992, to tally the population of old farmers at 80 households. The population of offspring farmers (son of old farmers) was 74 households. These are famers who have been allocated land to the land that was once set aside for grazing. The sample size of the study included 40 households from farmers resettled in 1992 excluding village chairmen, 30 households from offspring farmers and 2 technocrats from each f the following organs: Tongogara RDC, Environmental Management Agency (EMA), and office of the DA, AGRITEX, the councilor of ward 20B and 4 village chairmen. The total population sample of the study was 83 items. The researcher used simple random sampling to select the samples of old and new farmers and purposive expect sampling to select and identify technocrats sample.

# 3.4 Sampling techniques

Sampling refers to the procedure by which some elements of a given population are selected as representative of the entire population (Copper and Schindler 2003). The researcher made use of probability sampling and non probability sampling procedures in selecting respondents to the questionnaires and interviews respectively. Probability sampling methods ensured that there was a possibility for each item or person in sample population to be selected, whereas non-probability methods target specific individuals. Out of 80 households from 4 villages, the researcher settled on a sample of 10 households per village to tally the sample population of old farmers at 40. The researcher also decided a sample of 30 households from offspring farmers (sons of old farmers). To select respondents of questionnaires from old and new farmers the researcher made use of simple random sampling. 20 cards containing residential stand numbers of each village were placed in a box, 10 picks were made from the box without replacement to select a village sample. This process was repeated in every village of the area. To select a sample of new farmers (off spring famers) the same process was repeated since their stands are numbered. 74 cards were placed in a box and 30 picks were made from the box without replacement to select a sample of 30 households from offspring famers.

**3.5Simple random sampling**

Simple random sampling is a technique under probability sampling procedures where items in the population have a known probability of being selected. Probability sampling ensures that the results are representative and precise (Mohamand). To select the respondents, the researcher randomly selected the sample from the targeted population of A1 small holder farmers of Ruchanyu. There are three techniques used in selecting the sample size, which are the lottery method, a table of random numbers and randomly generated numbers using a computer program. In this research the researcher made use of the lottery method. In using the lottery method (blind draw method or the hat model), the numbers representing each element in the target population are placed on chips (cards, paper). The chips are then placed in a container and thoroughly mixed, next the researcher blindly pick chips from the container without replacement until the desired sample size has been obtained ([www.cengage.com](http://www.cengage.com)). The chips that were picked without replacement tend to be more efficient than sampling with replacement in producing representative samples because it does not allow the same population elements to enter the sample more than once. However, the disadvantages of using the blind draw method in selecting a sample are that it is time consuming and is limited to small populations.

**3.6 Judgmental or purposive sampling**

The researcher also made use of purposive (expect) non probability random sampling to select 13 key informants who responded to structured interviews. Wellman etal (2005) noted that judgmental or purposive sampling the researcher relied on experience, ingenuity or previous research findings to select respondents who seem to be appropriate for the research project.

Judgmental or purposive sampling is a non probability sampling procedure where the researcher decide the sample in terms of his or her judgment or where items are decided on the basis of specific characteristic (Black 1999). To generate a sample, non probability sampling requires researchers to use their subjective judgments drawing on practices or experiences. Purposive sampling, also known as judgmental, selective or subjective sampling, reflects a group of sampling techniques that rely on the judgment of the researcher when it comes to selecting the units. To select the technocrats that responded to the interviews the researcher made of expert non probability sampling. Expert sampling is a type of purposive sampling technique that is used when your research needs to glean knowledge from individuals that have particular expertise ([www.dissertation.laerd.com](http://www.dissertation.laerd.com)). In this regard the researcher’s judgment was that the selected organs or technocrats have administrative authority on issues to do with natural resources and resettlement areas. The main goal of purposive sampling is to focus on a particular characteristic of a population that are of interest which enables the researcher to answer the research question.

**3.7 Research instruments**

These actually refer to the tools used to gather information relevant to the research problem. To capture the much needed data of the study the researcher made use of questionnaires, structured interviews and participant direct observations as tools of gathering primary data. The researcher made use of administered questionnaire to the selected sample of A1 farmers, while structured interviews were used to solicit information from the technocrats. Participant direct observations were also used to complement questionnaires and interviews by observing variables as they occurred on the ground.

**3.7.1 Primary data**

Primary data is a type of information that is obtained directly from first hand sources by means of surveys, observations or experimentation. It is data that has not been previously published and is derived from a new or original research study [www.ask.com]. According to Sewel (2005), primary data refers to data structures of variables that have been specifically collected from and assembled for the current research problem. For the purpose of this study, questionnaires, interviews and direct participant observation were used to collect primary data.

**3.7.2 Questionnaires**

Churchhill (1998) defines a questionnaire as a book let of structured procedures, pre-coded and containing open ended questions and closed questions that are used to collect information from the respondents. A questionnaire can be divided depending on the nature of the questions therein: open ended questionnaire, closed ended questionnaire and mixed questionnaire. To gather data from A1farmers, the researcher made the use of a mixed questionnaire as a primary research instrument. A mixed questionnaire contains both closed and open ended questions ([www.mbaguide.com](http://www.mbaguide.com)). The researcher used a mixed questionnaire in order to gather qualitative and quantitative data. Closed ended questions allowed the respondents to respond to a given scale or select an answer from a list of possible responses whilst open ended questions allowed respondents to respond to the questions in his/her own words airing out their views, feelings and perspective to the study.

**3.7.2.1 Questionnaire administration**

The researcher made of a face to face questionnaire administration where the researcher presents the questions orally. The researcher decided to use a face to face administration in order to cater for the literacy levels of the society and provide clarity to issues that the respondent might not understand.

**3.7.2.2 Advantages of face to face administered questionnaire to the researcher**

The use of face to face administered questionnaire helped the researcher to achieve a high turnout response rate. This was made possible because the researcher made follow ups to reach respondents at their place and explained the need and requirement of the research verbally. The assurance of anonymity and privacy to the research findings to the respondents enables them to feel free in proving honest responses. This mode enables the researcher together data to the respondents that were not able to write and read as the researcher interpreted the questionnaire

**3.7.2.3 Disadvantages of face to face administered questionnaire**

The present of the researcher was viewed with great suspicious by respondents especially in collecting data on illegal gold panning activities, an aspect that appears to be very sensitive to the respondents. In most cases, particularly the gathering of data from the economically active population on illegal gold panning, the researcher found that this sector was under reported. Without providing the consent letter from the department of Development Studies and a student Identity Document of Midlands State University, the researcher was first identified as belongs to the police sector something that the respondents feared to be victimized.

**3.7.3 Face to face interviews**

To compliment responses from the respondent to the questionnaire, the researcher also conducted face to face structured interviews with some of the technocrats or experts in administration of natural resources and A1ressetlements communities. An interview is a direct form of investigation in which the researcher obtains data from selected respondents on face to face basis through the use of structured questions (Trochim 2000). The researcher conducted eleven interviews with key informants from the office of district administrator, Tongogara rural district council, EMA, AGRITEX, the councilor of ward 20B and village chairmen. Interviews helped the researcher to obtain and triangulate data collected from A1 farmers and expertise. However, the conducts of interviews were expensive as compared to questionnaires.

**3.7.4 Direct participant observation**

Participant observations has been used in a variety of disciplines as a tool for collecting data about people, processes and cultures in qualitative research. Observations enable the researcher to describe existing situation using the five senses, providing a written photograph of the situation understudy (Kawulich 2005). Participant observations are a primary method used by anthropologists doing fieldworks. Field work involves looking, improving memory, informal interviewing, writing detailed field notes. Observations are used as a way to increase the validity of the study, as observation may help the researcher to have a better understanding of the context and phenomenon understudy (Kawulich 2005). Observational research has been advantages to the researcher since it gave insight into thoughts that respondents cannot or will not verbalize ([www.sagepub.com](http://www.sagepub.com)).The use of participant observation as primary research tool allowed the research to directly translate findings to the situation on the ground. This made it possible to validate responses from questionnaire through pictorial presentation of sites pictures at different stages of degradation. Participant observations enabled the researcher to unearth and observe sensitive issues that respondents unwilling divulge on the basis of the fear to be victimized.

**3.8 Data presentation and analysis**

The presentation of findings was done using qualitative and quantitative content analysis. Qualitatively data was presented using descriptive statements and quantitatively data was presented using visuals.

# 3.9 limitations

The major problem that was faced by the researcher was the shortage of funds and expert skills to in conducting the research. Limited funds made it difficult to visit the scattered sample of the study. Obtaining of data from technocrats was another challenge due to some delays and postponement of scheduled dates of interviews due to other commitments to their office duties. The collection of data from resettled farmers particularly on sensitive issues like illegal gold panning was viewed by some researchers as a way on identifying intrudes.

# 3.10 Ethical considerations

A consent form was provided before the start of any interactions pertaining to the research to the respondents of questionnaires and interviews. The form introduced the student to the respondents and the purpose of the study. The principle of anonymity and confidentiality were adhered to all the respondents and individuals who do want to be identified. The questionnaire and interviews were structured in simple English and the researcher made translations where ever possible

# 3.11 Conclusion

This chapter gave a road map to the research design of the study. The chapter gave a detailed structure of the population and sample population and sampling techniques that the research made use of in deciding on the respondents of the study. Research tools were also discussed and justified of their relevance to the study,

The next chapter focused on the presentation of data collected using questionnaires, interviews and direct observations.

**CHAPTER IV: DATA ANALYSIS AND PRESENTATION**

# 4.1 Introduction

This chapter focused on quantitative and qualitative approach that was used to analyze, present and discuss research findings. In order to indentify the challenges faced by A1 farmers in Ruchanyu on natural resources utilization and management, investigate the consequences of unsustainable natural resources utilization, assess the effectiveness of available legal instruments and identifying other strategies for sustainable natural resources utilization and management in Ruchanyu A1 resettlement scheme, data was discussed using visual and descriptive context analysis.

# 4.2 Presentation and analysis of data

# 4.3 Response rate

**Table 3: Questionnaire response rate**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sample population** | **targeted** | **administered** | **Variance** | **Response rate** |
| Old farmer (settled in 1992**)** | 40 | 4o | 0 | 100% |
| New farmers (offsprings of old farmers) | 30 | 30 | 0 | 100% |

**Source:** primary data 2014

The researcher achieved a 100% response rate on questionnaire because the researcher used face to face administered questionnaire. Face to face administered questionnaire enabled the researcher to make follow ups to the items of the sample and get immediate feedback as quickly as possible. At times the researcher asked the family to respond to the questionnaire as a group but most preferably were the elder members of the households, be it men or women

**Demographic characteristic of the samples**

**Fig 1: Sex ratio of respondents to questionnaires**

**Source:** primary data 2014

From the sample size of old farmers which was 40 households, 28 males and 12 female, responded to the questionnaires, which was to say 70% were males and 30% females. The researcher observed that of all the respondents from old farmers the average age of the eldest member of the family was between 51 to 52 years although in some cases the families responded to the questionnaire as unit, the researcher gave preference to the information provided by the oldest member of the family since the researcher wanted to observe and identify the trend in changes of the state of the environment. It was only the oldest member that was able to give that trend in terms of the initial statistical requirements and policy instruments of resettlement. However, for offspring farmers, 43% of the respondents were males and the remaining 57% were females. From this cluster the researcher largely aimed at indentify and tracing the course of unsustainable utilization and management of natural resources. The researcher did not pay particular attention to age but any member of the family would respond but most preferred were the household heads (father and mother) and any available member above the age of 18. The average age of this cluster was between 26 to 40 years. The majority of female respondents in this cluster said their husbands were out to dig for gold in various mining sites in Chironde range and nearby river streams like Pisamoyo, Heme and Mutevekwi. The researcher also noted that most of the husbands in this cluster were found at their home places towards the dying hours of the day and this saver to suggest that they were out to dig for the precious mineral (gold).

**Table 4: Interview response rate**

|  |  |  |  |
| --- | --- | --- | --- |
| **Key informant (technocrats)** | **targeted** | **Achieved** | **Response rate** |
| Village heads (chairmen) | 4 | 4 | 100% |
| Tongogara rural district Council | 2 | 2 | 100% |
| EMA | 2 | 1 | 50% |
| District Administrator | 1 | 1 | 100% |
| Agritex | 1 | 1 | 100% |
| Councilor | 1 | 1 | 100% |

**Source: primary data 2014**

There was a high turnout in interviews particularly of chairmens. The researcher failed to conduct an interview with one environmental official from Environmental management Agency (EMA) due to other work commitments and duties. However, besides these scheduled interviews the researcher also conducted in depth interviews with the members of the environmental management committees of village 2.

# 4.4 The state of natural of resources in Ruchanyu

**Fig 2: The trends of the state of vegetation cover since 1992**

**Source: primary data 2014**

The graph above shows what the respondents from questionnaire said about the state of the environment since 1992. 100% of respondents to questionnaires said that the forest were very dense between1992-1997. Between 1998-2003 70% said the forest were dense, from 2004- 2009 40% said the vegetation was sparsely and between 2009 and 2014 98% said the forestry was/is very sparse. The trend in vegetation cover was one that transcend from being very dense to more like a desert where the forest is largely turning into a merely bush and thorn forest. On the causes of this shift in vegetation cover, 80% of the respondents from old famers indicated that during the initial stages of settlement wood was used to built houses since the government did not go on to built houses for them. Farmers had to build temporary houses in order to get title to the land. However, in some cases settlers of A1 resettlement were provided with housing infrastructure. Besides building, the forests were being cleared to open fields for cultivation. According to an interview with chairman of village 1, during initial stages of settlements some settlers had a tendency of repatriating wood for firewood and construction to their former colonial communal land particularly those settlers who happen to come from areas like Muponda and Mharishongwe communal areas. Vegetation was further cleared by farmers who settled themselves around the resettlement sites. These farmers were said to have acquired land under the customary law where the chairman allocated land to male offsprings of these old farmers and others settled themselves during the land invasion period that started in 2002 under the Fast Track Land Reform Programme (FTLRP).

The forest around Ruchanyu was once a forest enriched with various tree and animal species. Respondents from the questionnaire acknowledged that there were some tree and animal species that were becoming fewer and fewer. 80% of the respondents revealed that tree species of *Mususu* and *Mupani* were no longer available within reasonable distance from the site. This extinction was said to be a result of the use of these tree for building and fencing during the initial stage of settlement since there were considered very strong. Furthermore, the use of wood as an alternative source of fuel was also cited as one of the cause of exhaustion of tree species. 60% of the respondent from A1 farmers said, settlers were cutting down trees for commercial business along Shurugwi-Zvishavane road. This activity was said to be at its peak during years of droughts particularly in 2008 where wood as at high demand in urban areas. This period correspond with the longest ever load shading in towns and cities that even extends for days. Today, the trend in tree density cover is one that goes away from the resettlement sites where people have to travel considerable distances to collect firewood. The once diversified forests are turning into a cluster of thorn and bushes as shown in Fig 3 below.

**Fig 3**: **State of vegetation in Ruchanyu A1 Resettlement scheme**



**Source:** Primary data 2014

During initial stages of settlement 80% of the respondents said animal species of wild pigs, antelope, kudus, Impalas, baboons and monkeys were found in large numbers. However, today game meat species were becoming very few due to poaching while some have relocated elsewhere escaping from threat caused by increased human settlement. Settlers have the tendency of hunting down hyenas and baboons since these animals were considered to be threats to their livestock and crops respectively. According to an interview with chairman of village 1, today one rarely sees hyenas hunting around their sites. During winter seasons, their goats and sheep would gather in Chironde range for the whole season something that was impossible during initial stages of resettlement.

**4.5 Challenges faced by farmers in Ruchanyu and their impact on the environment**

**Fig 4: Changing Land use patterns since 1992**

**Source:** primary data 2014

Ruchanyu A1 resettlement scheme had in 1992 with a carrying capacity of 80 families that were settled in four villages. During this period the policy of compulsory acquisition of land with compensation was used by the government to acquire land. The government acquired 1000 hectares of Pontevie and Otina farm. According to an interview with MrKwashira village chairman of Outward Bound farm who was once employed at DDF as a land technician, settlers in Ruchanyu were provided with 5 hectares each of arable land, 0.25 hectares of residential stands and 2 hectares for woodlots per village giving a total of 406 hectares of arable land. The remaining hectarage was left for communal grazing where each family was entitled to 5 hectares. According to interviews with village chairmen and Agritex Officer of shurugwi ward 20B Mrs. Ndana settlers, were allowed to have a maximum of 8 heads of cattle per family. At average, during initial stages of settlements the heads of cattle in Ruchanyu was at 250. The grazing area was left in paddocks where settlers were told to frequently rotate their heads. However, settlers immediately destroyed these paddocks. According to interviews with the village chairmen these paddocks did not last for a year. Today, at average each family has about 20-30 heads of cattle. The average number of stocks in Ruchanyu was at around 2500. Human population increases has put the resettlement site under serge. The area that was once established with a carrying capacity of 80 families now has almost 160 settlers.

The other challenge faced by small holder farmers was on communal grazing. Data gathered through questionnaire from farmers revealed that 80% of the settlers said communal grazing was not good against a 20% response. Farmers revealed stiff completion to use and access resources in grazing land. Grazing in Ruchanyu is shared amongst four villages. There were no stipulated boundaries as to where a village grazing area ends. Paddocks that were once left during initial planning in 1992 were all destroyed by settlers. The sharing of resources has indeed attributed to massive resources depletion. According to Demsetz(1967), the establishment of full private rights over the commons is a necessary condition for avoiding such a tragedy of over exploitation and degradation.

Furthermore, illegal gold panning was noted with greater concern as one of the chief causes of environmental degradation in Ruchanyu A1 resettlement scheme. Data gathered from questionnaires, interviews and observations shows that the extent of gold panning in Ruchanyu is detrimental to sustainable resources management. On the exact number of mining sites that have be opened in the area ever since settlements, participants pointed out that they were countless since settlers dug everywhere in search of gold. Settlers within the area have gone on to rent their fields for panning where they would share the proceeds with the miners. Miners came as far as Mberengwa, Chivi and Chiredzi to for gold deposits in the area. These miners have established their camps at every mining site that seems to be rewarding at a particular point in time. The trend in vegetation density on these sites was one associated with extensive areas of bare grounds, devoid of trees and pits erosion and degradation. Once the area is exhausted, miners left leave behind unclosed shafts. Farmers noted with a greater concern that their livestock have been found dead trapped into these pits. Observations from the site showed extensive hectares of fields that were cleared and a left fallow. In an with interview the village chairmen, “land was abandoned in 2002 and 2008 where the area was stricken by serious droughts and farmers never attempted to utilize such fields for crop production since agriculture was no longer a lucrative sector. According to Chigumira (2010) the poor macroeconomic environment particularly the hyperinflationary environment of 2007 and 2008, reduced income from crop and livestock production and employment opportunities, most households turned to exploiting their natural resources. Farmers were aware of environmental damage caused by gold panning. Siltation on river Heme, Mutevekwi and Pisamoyo was rampant. There was massive degradation and soil erosion at the base on Chironde range. Mining was done through surface mining, underground mining and alluvial mining at different locations. Observation confirmed the damaging impact of gold panning in Ruchanyu as noted in the site pictures below

**Fig 5: Surface mining in Ruchanyu Resettlement Scheme**

**Source: primary data 2014**

**FIG 6: Underground and Alluvial Mining in Ruchanyu Resettlement Scheme**

****

**Source: Primary data 2014**

**4.6 Strategies for Natural resources management in Ruchanyu**

According to the responses from respondents of questionnaires, interviews with village chairmen and Tongogara rural district council, there are no strategies in place to improve the state of the environment in Ruchanyu. Furthermore, information from most the old farmers pointed out during initial stages of settlement farmers were advised to construct contour ridges and grazing was controlled using paddocks. However, these mechanisms did not last of long as settlers went on to remove the fences on paddocks for their personal household use. Observations from the fields of new farmers’ showed a trend where framers were just opening the land for cultivation without constructing contour ridges at strategic points.

All resettlements in Zimbabwe fall under local chiefs. However this is not the case in Ruchanyu, there has been a long loyalty dispute between chief Nhema and Chief Danga. These chiefs claim loyalty to the resettlement. According to an interview with the District Administrator in settlements areas natural resources management were administered by the committee of seven and operates within the traditional setup where the chairman was similar to a village or kraal head who reports any complaints to the local headman and to the chief. However, village chairman were reported to be not very effective, amongst some of this attribute was that village chairman have never received allowances from the government ever. They have since submitted their details to the office of the district administrator in 2003, but up to date nothing much has been done by the office for these chairmen to acquire a village head status and start receiving allowances. The chairman complained that in as much they are not included on traditional leader’s pay-role the state of the environment further continues to deteriorate. However, the powers of traditional leaders as enforncemence organs in issues to do with natural resources management in communal and resettlement areas have been reduced and rural district councils and EMA have been given too much power above customary chiefs.

80% of the respondents from questionnaires and interviews with village chairmen acknowledged that they were no village development committees to supervise and coordinate issues of environment management while 20% said they once had these committees but they are not functioning. According to an interview with the chairman of village 3, they had these committees functioning well during the initial stages of settlements, however since their establishment, the council did not come back to re- elect and coordinate the members of these committee. An interview with the environmental officer at Tongogara rural district council revealed that these committees were just established as a mandatory policy, but in practice the settlers were not aware of its major duties something that made it difficult if not impossible for the needs of the settlers to reach the officers. According to Katerere (1996) lack of investment in these structures in terms of financial resources, training and skills development and lack of remuneration for committee members means that at the local level they are often seen simply as the “masters voice “.

Interviews with village chairmen revealed that during the settlement process each village was allocated 2 hectares for woodlot plantations. They were promised that they will receive seedlings from the forest commission to partake the project. Up to date settlers haven’t received any form of such help. Settlers themselves failed to improvise in order to make use of the land set aside for woodlots. Observations showed that of all the four targeted woodlots in four villages of Ruchanyu, not even a single plantation has been established. The idea behind woodlots was that farmers would have an exotic source of timber since exotic trees quickly regenerate. As a result the settlers solely relied on the indigenous forest timber resources for any use.

Furthermore, the government once established CAMPFIRE programmes in Ruchanyu resettlement. Information from the council said that these programmes died a still birth. The programmes enabled the government to delegate appropriate authority over the wildlife to communal representatives where they was once a body of selected community members that perform a watchdog role in preventing exhaustion of special endangered species through introduction of group ownership under which resources can be managed for the benefit of communities through financial and technical support in Ruchanyu. The idea behind CAMPFIRE programmes was to give some sort of resources tenure to the once deprived peasants. According to Katerere (2002), it failed to effectively link authority and responsibility. Communities were not involved in all levels of decision-making. Although community structures provide some opportunity for local decision-making, control is ultimately retained by the RDCs. The decisions were once done through the customary chief; however with the coming of mainstream law the powers of the chiefs were trivialized.

# 4.7 Consequences of unsustainable utilization of natural resources in Ruchanyu A1 resettlement scheme

Evidence in Ruchanyu showed that unsustainable natural resources utilization and management has/is degrading the state of the environment at an alarming rate. On consequences of unsustainable natural resources management, data gathered through questionnaires, interviews and observations revealed that, erosion and land degradation, river siltation, water pollution, deforestation and reduced land for cultivation were seriously affecting setters in Ruchanyu A1 resettlement scheme.

Erosion of all forms, ranging from sheet to gullies was noted in Ruchanyu resettlement scheme. Erosion and degradation were at its peak in and around mining sites, river banks, and mountain bases and cattle tracks to grazing land. Increase in livestock population coupled with an increase in human population has caused a decrease in the amount of land available for grazing as shown in Fig **7**. Illegal mining was also another chief contributor to soil erosion where miners have been known to dig everywhere in search of gold. The use of gold detectors by miners has since been blamed to have caused environmental degradation; miners first cleared the area using veldt fires.

**FIG 7: Erosion in Ruchanyu Resettlement Scheme**

**Source: primary data 2014**

Furthermore, siltation and water pollution were also noted as seriously affected the state of the environment in Ruchanyu. Siltation was rife in river Heme, Pisamoyo and Mutevekwi. The problem was solely attributed to the activities of gold panning. Alluvial mining on river banks was noted with concern as the chief mining activity in most of the rivers around the area. Miners sometimes took their residuals to the river for purification where they travel considerable distances to the river. At some point particularly in mining camps the locals were at one point employed to ferry the residuals to the river and water to the sites. Gold panning activities has caused significant water pollution in Ruchanyu where streams flow with mud water throughout the resettlement site. Research revealed that panners that practiced rift mining sometimes used traditional methods of extraction where they would crash their stones and use mercury to extract the deposit or took their stones to the mill that is located on the shores of river Pisamoyo. The act of water pollution in Ruchanyu has resulted in serious problems to famers that practiced gardening and result in pollution of drinking water since settlers predominantly drunk water from

these streams. **FIG 8** below shows site pictures of water pollution and siltation in Pisamoyo stream.

 **Water pollution river siltation**

**Source: primary data 2014**

When human population flocked into Ruchanyu, the once Otina and Pontevie farm, data gathered from questionnaires and interviews showed that they was biological diversity at its highest level. Farmers admitted that they were some tree and animal species that have become extinct in and around the site. Trees like *Mususu and Mupani* have become exhausted in the site in question. The trend on the availability of these tree species was one that extends for quite a distance away from the site. Reasons as to what has caused this trend shows that these trees were/are dominantly used for building and other domestic purposes like fencing, cattle kraals, gardening, as they were considered as hard timber. In addition, the area was said to be rich in various kinds of wild animals. Animals like Kudus, Impalas, and antelopes were hunted down for game meat and game hunters likes hyenas were killed in raids as there were considered threats livestock. Settlers agreed that all these animal species were for long be exhausted in the site, where they rarely saw one on their sites.

Lastly information gathered from interviews with technocrats from Tongogara rural district Council and AGRITEX officers highlighted climate change as one of the likely problem to be experienced in the area around the site and the district in general. Very few farmers cited climate change as a possible environmental change problem associated with unsustainable natural resources utilization and management. The researcher on climate change on the site was not done by the research but information gathered at national to international level on climate change has attributed the problem deforestation as one of the major causes of climate change. Recent debate on climate change has focused on sustainable natural resources management particularly vegetation cover as one of the precautions against the phenomenon of climate change.

# 4.8 Perceptions of famers on strategies to ensure sustainable natural resources management in Ruchanyu

On strategies to improve the state of natural resources utilization and management in Ruchanyu, data gathered through questionnaires from farmers revealed that about 90% of the respondents advocated for responsible ministries and departments to engage the community through educational awareness campaigns in Ruchanyu. Research on the effects of unsustainable natural resources management shows that farmers lacked knowledge on how their use of resources will affect the future and presents generations

Interviews with village chairmens revealed that in as much as sustainable natural resource is concerned, they is a need to include village chairmens on traditional leaders pay-role. Information from these chairmens revealed that ever since there were granted the authority to act as village heads in 1992, they haven’t received any allowances from the government as what is the case for communal lands village heads. Enforcement is difficult if not impossible as some members of the community declared that they don’t have a village head. Research shows that settlers are divided as to who should be the village head. In village 2, Settlers that came from areas like Machacha and Matsika have go on to appoint individuals eligible to be their village heads whilst a village chairman was appointed already. The inclusion of village chairmens helps settlers to settle such kind of disputes and know as to who should take enforcement responsibility.

In addition, research on the ways to improve the state of natural resources in Ruchanyu established that there is a need to transfer allowances to members of EMA sub-committees. Interviews with the members of this committee revealed that, this body is not doing its duties effectively because there are not receiving anything to reward their efforts. Interview with Mr. Mashindi, one of the members of EMA-subcommittee of village 2 said that he volunteered to be a member of this body under the pretext that he would receive allowances. Since 2006, when he volunteered to be a member of this body, the committee had never referred any case of environmental damage to EMA.

Information gathered on perceptions of farmers on communal grazing revealed that almost every participant said communal grazing is not good for sustainable natural resources management. Farmers advocated for the establishment of village grazing units. There is stife competition for grazing land and resources available on grazing land amongst the four villages of Ruchanyu. Establishment of village grazing units will help to demarcate village grazing units and a village will be able to control its grazing patters.

To combat the destructive effects of illegal gold panning in Ruchanyu, farmers suggested that they is a need to sentence stife penalties to illegal gold panners. Illegal gold panning in Ruchanyu has its detrimental effects as shown in site pictures provided above. Furthermore, information gathered from the most economically active group of the population revealed that perceptions were centered on the need for government support in opening up employment opportunities in Unki and Todall mines, the two mining companies in the district. This section of the society complained that these two mining companies are employing people as far as Bikita, Masvingo, Gweru, Mberengwa and other districts. The need for employment will help to minimize destructive activities of illegal gold panning as families will be able to earn incomes outside illegal gold panning.

# 4.9Conclusion

Chapter analyze and discussed data gathered through questionnaire, interviews and participant observations as research tools for gathering primary data. Analysis of data shows that almost everyone in Ruchanyu and administrators acknowledge that utilization and management natural resources in Ruchanyu is not sustainable for the future generations to effectively use natural resources as what the present generations are doing. Researcher on the impacts of resettlement on natural resources utilization and management in Ruchanyu showed the once blessed environment has deteriorate as result of activities that followed after settlement on this site. Findings from the site showed that human and livestock population increase has resulted in changes on land use patterns that were available during initial stages of settlements. The trend in sland use changes was one characterized by an increase in land available for agricultural and a decrease on land that was set aside for grazing. An increase in human livestock and human population, farmland allowed lying fallow as a result in of turning to illegal gold panning as a lucrative survival means, land degradation, water pollution and river siltation on various points of the settlement site. Environmental management enforcing mechanism in Ruchanyu was problematic. Village chairmen, committee of sever and Environmental management committees were found to be not effective on reasons that included they need for allowances or rewards by village chairmen and members of operating committees. AGRITEX, Tongogara RDC and EMA did not make frequent visits to advise on issues to do with environmental management but rather the come occasionally.

The next chapter is on conclusions and recommendations

# CHAPTER V: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

# 5.1 Introduction

This section of the researcher gave a brief overview of the research, conclusions and possible recommendation to improve the state of the environment in resettled areas. A highlight of major findings is also given in brief.

# 5.2 Summary

Ruchanyu A1 resettlement scheme was established in 1992. Through the 1992 compulsory land acquisition policy on land redistribution, the government acquired Otina and Pontevie farms combined to make 1000 hectares in shurugwi district. The resettlement site was planned to support 80 families that were settled on four village and setters were allowed to have a maximum of 8 heads. Each family was entitled to 5 hectares of arable land, 0.25 h of residential stands and grazing was left communal owned. However, today the carrying capacity of the site is at 154 families and the average number of heads per family is between 20 and 30. Settlers continued to allocate land to their son to the land that was once set aside for grazing. In addition, since agriculture was on long a lucrative subsistence under the pretext of limited government support and lower market prize for commodities, illegal gold panning emerged to be a mercy for survival. Thus from this background the researcher looked at the impact of A1 resettlement scheme on natural resources utilization and management and challenges facing farmers on natural resources utilization and management. The researcher reviewed literature on the background to resettlement in Zimbabwe and A1 villagized schemes; challenges facing resettled farmers and their impact to natural resources management; legal structures that govern use and control of natural resources in zimbabwe and its gaps. The target population of the study was four villages of old farmers resettled in 1992 and new offspring farmers. Questionnaires, interviews and direct observations were the primary research tools used to gather data from the farmers and technocrats. Simple random sampling and purposive sampling were to select respondents of questionnaires and interviews respectively. Quantitative and qualitative context analysis was used to analyze and present data. Major findings on the state of natural resources utilization reviewed that the there was significant human and livestock population increase, the trend trendy on vegetation density was one that goes further from the resettlement site, massive land degradation and soil erosion on various portions of resettlement due to illegal gold panning, uncontrolled grazing patterns and increase in human settlements clearing land for agriculture, extension of tree and animal species. Photographs as evidence of deteriorating environment in Ruchanyu were included depicting the nature and extent of environmental damage. However the researcher was viewed the skepticism and mistrust during the process of gathering data by farmers something that makes data collection a bit difficult and such a long process.

# 5.3 Conclusions

The researcher concluded that, although the government wanted to redress colonial imbalances in land ownership and control and access to natural resources with land redistribution programmes of various policies, by A1 villagized resettlement scheme created much of the problems in natural resources experienced in communal areas. In a bid to decongest communal areas through resettlement, the government has further opened other serious avenues of environmental degradation. The fact that farmers were offer letters meant that settlers went on exploit the resources much to the fear of evictions that were the order of the day during colonial period. The idea of common grazing in resettlement resulted in competition for use and control of natural resources by settlers, much to the fear that others will exploit at their expense. Research in Ruchanyu A1 resettlement scheme on the extent of environmental degradation justified that resettlement was a blessing in disguises as far as environmental conservation is concerned. Researcher noted that since settlement in these areas they have been a gradual decrease on the state on environment and natural resources at large. Limited capacity on the part of government and its operational departments has further increased degradation in resettlement areas since department like EMA, AGRITEX, Forestry commission, Parks and wildlife are under resourced to coordinate and supervise natural resources management in resettlement areas. Lastly the researcher concluded that as long as village chairmen continue to claim responsibility on issues to do with resettlement sites, environmental degradation increases in resettlements areas.

**5.4 Recommendations**

* Environmental impact assessment: there is need for government and policy makers to first carry out an environmental impact assessment before the implementation of project and programmes. Environmental impact assessment helped programme and project planners to predict the likely environmental damage that a programme will likely to produce and developed coping strategies in the event that a problem do exist in future.
* Capacitate environmental management organs: there is need for ensure that EMA, Forestry commission, parks, RDCs, are effectively provided with funds, vehicles so that they would monitor environmental cases in resettlement frequently.
* Private grazing units for all resettlements: private rights on grazing land prevent exploitation of resources by commons.
* All stakeholder participation: they is need to ensure that EMA, Forestry commission, RDCs, Nongovernmental organizations (NGOs), traditional leaders, relevant ministries and farmers are effectively coordinated and work towards a single goal in environmental issues through awareness campaigns and training services at different levels.
* Empowering village chairmen in resettlement areas: the ministry of local government should take measures to ensure that village chairmen in resettlement areas are given a village head status by including them on traditional leaders pay-role
* Poverty reduction: extreme poverty poses a serious threat to sustainable natural resources management and utilization. According to Cliffe (1988) ecological problems can only be eliminated if poverty is eliminated.
* Secure tenure: the government must provide some more secure forms of land tenure in resettlement other than offer letters and permits.

# BIBLIOGRAPHY

Angrawal, A and Ribot, J, C. (2000). Accountabitility in Decentralisation: A Framework with South and West African Countries. Fourthcoming in Journal of Development Studies.

Chenje, M, Mohamed Katerere and Ncube, W. (1996). Rights and Fairness In Zimbabwe’s Environmental law. Report produced for Ministry of Mines and Tourism.

Chitsike, F. (2003) A Critical analysis of the land reform programme in Zimbabwe

Chigumira.E, (2010). Livelihoods after land reform in Zimbabwe working paper 14

Cochran, W.k (1977). Sampling Techniques, 3rd ed. John Wiley and sons. New York. Also Available online [www.amazon.com]

Cooper, D.R and Schindler, S (2008). Business Research Methods. McGraw Hill Higher Education

Chanock, M. (1985). Law Custom and Social order, Cambridge University Press

Demsetz, H. (1967) Towards a theory of properly rights,American economic review vol 57

Denzin, N, K. (1970). The Research Act in Sociology, Chicago: Aldine

Fox, R. C., Chigumira, E. and Rownfree.K.M, (2007). On the fast track to land degradation. A case of the impact of the fast track land reform programme in Kadoma district

Government of Zimbabwe land reform and resettlement programme ii. A policy framework and project document draft (1998)

Government of Zimbabwe value for money project (spear report) of the comptroller and Auditor. (1993) General on the land acquisition and resettlements programme ,Harare. Office of the comptroller and auditor general

Grandy.I and Breten.C.The SafareMib Programme.A new approach to Natural Resource Management in Community areas in Zimbabwe.

Gusworth, J. (1990) land resettlement issues background paper:Zimbabwe agriculture sector memorandum a paper prepared for the word bank Harare

Hove, M and Gwiza, A (2012). The Fast Track Land Reform Programme and Food Security: A case of Zimbabwe from 1992 to the present. American Journal Of Contemporary Research, Vol 2. No\*

Kaushik.A and Kanshik.P (2006) Perspective in Environmental Studies. New age International Pvt Limited New Delhi.

Katerere, J. M. Participacitory Natural resources management in Communal land of Zimbabwe: what role for customary law. African studies Quarterly.

IRIN. Africa Humanitarian news and Analysis; available on [www.irinnewsafrica.com](http://www.irinnewsafrica.com)

Kawulich,B,B. (2005). Participant observation as a data collection method.Vol 6.No2.[www.qaulitative-research.net](http://www.qaulitative-research.net) [Assessed on 12 May 2014].

“Land reform in zimbabwe” all party parlimentyAfrica . Group report (2009 December)

Midlands Province Under siege, Sunday News 22 April 2012 http//price.coalrussian.com/2013/09/25 mining in Zimbabwe Midlands

Mabaye, T. M. (2005). Land reform in Zimbabwe: An Examination of Past and Present Policy short comings and successes and recommendations for improvement. Ethics of Development in a Global Environment, Engr.297c.EDGe, [www.raceandhistory.com](http://www.raceandhistory.com) [Accessed on 12 May 2014].

Manjengwa, J. (2006). Natural Resources Management and land Reform in Southern Africa.Center for Applied social sciences and Programme for Land and Agrarian Studies. Also available Online [www.plaas.org.za]

Maposa, R S, Hlongwana, J and Muguti, T. (2013). Marching forward to the past? : Challenges and Prospects for the Theology Of Land In Zimbabwe, European Journal for Sustainable Development

Matsa, M. (2011). Fast Track to prosperity or into poverty: An assessment of Zimbabwe’s fast Track Resettlement Programme on Beneficiaries lies at Beacon Kamp farm in shurugwi district. Journal for sustainable development in Africa.Vol 13. No4

Marongwe, N. (2004). Redistributive land reform and poverty reduction in zimbabwe. A working paper for the research project on livelihoods after land reform

Mohammed, Katerere, J. (2014).Participatory Natural Resources Management in Communal land of Zimbabwe: what role for customary law. African Studies Quarterly available at http://asq.africa.ufl.edu/

Moyo, S. (2004) A review of Zimbabwe agricultural sector following the implementation of the land reform: overall impacts of land reform programme

Moyo, S. (1999) The land question in Zimbabwe settlers, Harare

Mugabe, P. H., Kajinga, Chingarande, D. Nyelele, C., Sunginga, M. P. (2011) Land reform and forest management in zimbabwe

Murombedzi, J,C.(1992). Decentralisation and Recentralisation? Implementing CAMPFIRE in the Omay communal lands of the Nyaminyami District, Center for Applied Social Sciences, University of Zimbabwe.

National land policy of 1990

Overuse of Natural resources. [www.princes20468.blogsport.com](http://www.princes20468.blogsport.com). Accessed on 20 July 2012

Overutilization and conservation of Natural resources, Joy deep Ghosh. Available on [www.duazlife.com](http://www.duazlife.com) Accessed on 21 march 2012

United Nations development programme in Zimbabwe land reform and resettlement: assessment and suggested frameworks for the future, interim mission report

Rajah, N, Rajah, D and Steven Jerie. (2012). Challenges in Implementing An Integrated Environmental Management Approach In Zimbabwe, Journal of Emerging Trends in Economics and Management Sciences (JETEMS) 3(4): 408-414http://www.jetems.scholarlinkresearch.org/articles

Regassa, N., Muhigata, T., Abiye, A. and kiros M. (2011). Impact of resettlements on the livelihood food security and natural resource utilization in Ethiopia DCG report no’’ 65

Scoones. I and .Matose. F (2003) Local Woodland Management: Constraints and Opportunities for Sustainable resource use in Bradley PN and Mcnance K.

Trochim,W.M.K (2000). National Report on Sustainable Development

United Nations development programme:Zimbabwe land reform and resettlements: An assessment and suggested framework for the future (2002)

UNEP organization.[www.gridnairobi.com](http://www.gridnairobi.com)

What is Qualitative Research? Available on [www.cmsu2.ucmo.edu/]

Weiner, D. (1985) land use and agricultural production in Zimbabwe.Journal of modern African studies vol – 23 no’’ 2

Wellman,W.L, kruger, L and Mitchell, M.(2005). Research Methodology. New York, McGraw-Hill.

woube. M. (2005) Effects of resettlements schemes on the biophysical and human environment. The case Gambella region Ethopia. Universal publishers bocaratonflorida USA

Zwane . N. David .L, ZvikomboreroHok , Shoko D. (2006) Managing the Impact of gold panning activities with the content of International water resources management planning in the lower Manyame, Sub Catchment , Zambezi Basin

**Appendix 1 questionnaire for farmers**

Questionnaire for A1 resettled farmers

I am EniasCheza, a fourth year student at Midlands State University studying BA in Development Studies. This questionnaire seeks to solicit data for use in carrying out an academic research study on the impact of A1 resettlement scheme on Natural resources utilization and management in Ruchanyu A1 resettlement scheme. Your responses shall be used for academic purposes only and will be kept confidential; they are not going to disclosed any where whatsoever.

May you please assist me by providing the following information, by simply **ticking** your preferred responses or **write** where necessary.

**Please do not write your name on the questionnaire.**

**Section 1: Demography Information**

**Sex male female**

**Age group below 18 18-25 26-30**

**30-36 36- 40**

**41-45 46-50**

**51+**

**Highest level of education** no schooling primary level

Secondary level tertiary level

Specified………………………

**2** How was the state of vegetation when you first settle here?

Very dense. Dense

sparsely very sparsely

how is the state of vegetation as compared to the time you first settle here

Still dense sparsely very sparsely

If the answer is **sparsely/ very sparsely**. What do you think is the cause of that change?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

Are they any tree species that are becoming few and few since you first settled here?

**YES NO**

If **YES,** what are these species?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

What do you think is the cause of the extinction?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**3**Which wildlife family species were found in this area since you first settled here?

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

Do you see a change such species? YES NO

If yes which wildlife family species has been reduced in numbers?

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

What do you think is the cause of that change in those wildlife species?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**4**. How many livestock cattle do you have when you first settle here?

1-5 6-10 11-15 16-20 21+ 21-25

How many cattle do you have today?...............................................

What do you think are the impacts of too many livestock to the environment?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………...

Is communal grazing good to the environment? **Yes No**

If **NO,** What are its problems?

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**5** How many mining sits have been discovered since you first settle here?

How mining has been done or being done in this area?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………..

What are the environmental problems being faced as a result of mining activities in this area?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**6** How often do extension officers (AGRITEX) visit is area.

Never visited Monthly During cultivation seasons

Occasionally

If any, what do you think are the effects of such visits to the environment?

…………………………………………………………………………………….....................................

**7** Do you have a village head? **Yes No**

If **YES** how effective is he/she on environmental issues? Effective Not effective

If **not effective**, why is he/she not being effective?

………………………………................................................................................................................................................................................................................................................................................

If **NO,** which environment problems are being faced as a result of not having a village head?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

Do you have a village development committee (VIDCO)? Yes No

If **YES** how effective is the VIDCO? Effective not effective

If not effective, what are the causes of this?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

Do you have environmental management committees? YES NO

If **YES,** how effective are these committees effective not effective

If not effective, what the problems faced by these committees?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**8** Are you aware of the effects of bad use and management of natural resources? **YES NO**

If **YES,** what are the effects of bad use and management of natural resources?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

What problems are you facing towards good environmental management?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

What can be done to ensure good use and management of natural resources?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**Thank you**

# Appendix II interview guide for key informants

**INTERVIEW GUIGE FOR TECHNOCRAST**

MY name is Enias Cheza, fourth year student at MIDLANDS STATE UNIVERSITY studying BA honors degree in development studies, am carrying out a research on **the impacts of A1 resettlement scheme on natural resources utilization and management in Ruchanyu resettlement**. The researcher acknowledges that natural resources management in Ruchanyu is problematic. Can you please assist me by responding to the following questions?

1 what can you say about natural resources utilization and management in Ruchanyu

2 Is natural resources and management in Ruchanyu sustainable?

3 what do you think are the problems faced by farmers on natural resources utilization and management?

4 are they any efforts implemented by your office in as much natural resources management in resettlement schemes? (And their effectiveness)

5 If they are any efforts, how effectiveness is these efforts?

6 What can you say about environment legal framework?

7 What do you think are the consequences of unsustainable natural resources utilization and management?

8 what can be done to ensure sustainable natural resources management?