OPPORTUNITIES AND CONSTRAINTS TOWARDS SUSTAINABLE ECOTOURISM DEVELOPMENT IN KENYA'S RANGELANDS: THE CASE OF IL NGWESI COMMUNAL RANCH AND SWEETWATERS GAME SANCTUARY, KENYA

By

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A Thesis Submitted in partial fulfilment for the Degree of Master of Environmental Studies (Science) in The School of Environmental Studies and Human Sciences, Kenyatta University.
DECLARATION

This Thesis is my original work and has not been presented for a degree or any other award in any other University.

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I would like to dedicate this thesis to my husband Vald Mwakima and children Eddah and David who constantly prayed for me as I undertook my studies. I wish to thank them for their emotional and material support. My special thanks also go to my mother Alice Mafundisho Mghanga who has been my source of inspiration and encouragement. Thank you all for praying and being there for me.
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# TABLE OF CONTENTS

DECLARATION .......................................................................................................................... 1  
DEDICATION ............................................................................................................................ II  
ACKNOWLEDGEMENT ............................................................................................................ III  
LIST OF ................................................................................................................................. VIII  
LIST OF MAPS ......................................................................................................................... VIII  
LIST OF FIGURES .................................................................................................................... IX  
LIST OF APPENDICES ........................................................................................................... X  

ABBREVIATIONS .................................................................................................................. XII  
ABSTRACT .............................................................................................................................. XV  

## CHAPTER 1: INTRODUCTION

1.1 Background ..................................................................................................................... 1  
1.2 Statement of the Problem .............................................................................................. 5  
1.3 Research Questions ....................................................................................................... 8  
1.4 Hypotheses .................................................................................................................... 9  
1.5 Objectives of the Study ............................................................................................... 9  
1.6 Justification of the Study ............................................................................................. 10  
1.7 Significance of the Study ............................................................................................. 14  
1.8 Scope of the Study ....................................................................................................... 14  
1.9 Definition of Operational Terms .................................................................................. 16  

## CHAPTER 2: LITERATURE REVIEW

2.1 Introduction .................................................................................................................... 19  
2.2 The Status of Tourism .................................................................................................. 19  
2.3 Sustainable Development ............................................................................................ 25  
2.4 Concept of Sustainable Ecotourism ............................................................................ 29  
2.5 Responsive Practices for Sustainable Ecotourism Development .................................. 32
4.3.2 Infrastructure and Services ................................................ 77
4.3.3 Health Facilities and Services ............................................. 78
4.3.4 Interaction between Local Community and Visitors .............. 79
4.4 Perception of Ecotourism Development ................................... 80
4.4.1 Participation in Ecotourism ............................................... 81
4.4.2 Wildlife Conservation ..................................................... 82
4.5 Obstacles to Ecotourism Development .................................... 83
4.5.1 Human Wildlife Conflicts .................................................. 84
4.5.2 Development Funds ....................................................... 87
4.5.3 Land Ownership and Utilization ....................................... 88
4.5.4 Land Tenure System ....................................................... 89
4.5.5 Education and Management Skill ..................................... 90
4.5.6 Communication Barrier ................................................... 90
4.5.7 Corruption .................................................................. 91
4.5.8 Politics ........................................................................ 92
4.5.9 Other Constraints ............................................................ 92
4.6 Community Initiatives for Ecotourism Development ............... 94
4.6.1 Natural Resource Management .......................................... 96
4.6.2 Expenditure Preferences for Ecotourism Revenue .................. 97
4.7 Stakeholders Analysis .......................................................... 98
4.7.1 Central Government ......................................................... 99
4.7.2 Local Government ........................................................... 99
4.7.3 Communal Ranch Members ................................................ 100
4.7.4 Kenya Wildlife Services ................................................... 101
4.7.5 Lewa Downs Conservancy ................................................. 102
4.7.6 Laikipia Wildlife Forum ..................................................... 103
4.8 Ecoproducts .................................................................. 104
4.9 Towards Sustainable Ecotourism Development ....................... 105
LIST OF TABLES

Table 1. Local Community Perceptions of Ecotourism................................. 81

LIST OF MAPS

Map 1. Location of Laikipia District......................................................... 44
Map 2. Administrative Boundaries of Laikipia District................................. 47
Map 3. Location of Ill Ngwesi Communal Ranch........................................ 56
Map 4. Location of Sweetwaters Game Sanctuary...................................... 58
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 2.1</td>
<td>International Tourist Arrivals</td>
<td>20</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>International tourist Arrivals: Regional Market Shares- 2003</td>
<td>22</td>
</tr>
<tr>
<td>Figure 2.3</td>
<td>International tourist arrivals: Kenya 1995 – 2003</td>
<td>23</td>
</tr>
<tr>
<td>Figure 2.4</td>
<td>Number of Visitors to Kenya’s Parks and Reserves 1994 – 2002</td>
<td>24</td>
</tr>
<tr>
<td>Figure 3.1</td>
<td>Land Use in Laikipia District</td>
<td>53</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>Sources of Household Income in ICR and SGS</td>
<td>67</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>Other Direct Benefits from Ecotourism in ICR and SGS</td>
<td>69</td>
</tr>
<tr>
<td>Figure 4.3</td>
<td>Distribution of Income from Accommodation Facilities in ICR and SGS</td>
<td>70</td>
</tr>
<tr>
<td>Figure 4.4</td>
<td>Participation in Economic Activities in ICR and SGS</td>
<td>72</td>
</tr>
<tr>
<td>Figure 4.5</td>
<td>Distribution of Education Levels in ICR and SGS</td>
<td>74</td>
</tr>
<tr>
<td>Figure 4.6</td>
<td>Indirect Benefits from Ecotourism in ICR and SGS</td>
<td>76</td>
</tr>
<tr>
<td>Figure 4.7</td>
<td>Distribution of Indirect Economic Benefits in ICR and SGS</td>
<td>78</td>
</tr>
<tr>
<td>Figure 4.8</td>
<td>Frequency of Tourist – Host Interactions in ICR and SGS</td>
<td>79</td>
</tr>
<tr>
<td>Figure 4.9</td>
<td>Extent of Human Wildlife Conflicts in ICR and SGS</td>
<td>85</td>
</tr>
<tr>
<td>Figure 4.10</td>
<td>Other Constraints to Ecotourism Development</td>
<td>93</td>
</tr>
<tr>
<td>Figure 4.11</td>
<td>Preferred Usage of Ecotourism Revenue</td>
<td>97</td>
</tr>
<tr>
<td>Figure 4.12</td>
<td>Ecoproductions in Il Ngwesi communal ranch</td>
<td>105</td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
<td>Page No.</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>I</td>
<td>Agro-ecological Zones of Laikipia District</td>
<td>126</td>
</tr>
<tr>
<td>II</td>
<td>Selected Photographs of Il Ngwesi Lodge</td>
<td>127</td>
</tr>
<tr>
<td>III</td>
<td>Selected Photographs of Sweetwaters Tented Camp</td>
<td>130</td>
</tr>
<tr>
<td>IV</td>
<td>Household Survey</td>
<td>131</td>
</tr>
<tr>
<td>V</td>
<td>Group Ranch Questionnaire</td>
<td>141</td>
</tr>
<tr>
<td>VI</td>
<td>Stakeholder Questionnaire</td>
<td>144</td>
</tr>
<tr>
<td>VII</td>
<td>Benefits of Ecotourism in the Study Areas</td>
<td>153</td>
</tr>
<tr>
<td>VIII</td>
<td>Constraints to Ecotourism Development in the Study Areas</td>
<td>154</td>
</tr>
<tr>
<td>IX</td>
<td>Obstacles to Ecotourism Development in the Study Areas</td>
<td>155</td>
</tr>
<tr>
<td>X</td>
<td>Attitudes Towards Ecotourism Development in the Study Areas</td>
<td>156</td>
</tr>
<tr>
<td>XI</td>
<td>Obstacles to Ecotourism Development in the Area</td>
<td>157</td>
</tr>
<tr>
<td>XII</td>
<td>Obstacles of Ecotourism Development Based on Lickert Scale</td>
<td>158</td>
</tr>
<tr>
<td>XIII</td>
<td>Attitudes Towards Ecotourism Development Based on Lickert Scale</td>
<td>159</td>
</tr>
<tr>
<td>XIV</td>
<td>Attributes that Encourage Ecotourism in the Area Based on Lickert</td>
<td>161</td>
</tr>
<tr>
<td>XV</td>
<td>Attributes that Discourage Ecotourism in the Area Based on Lickert</td>
<td>162</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>ACF</td>
<td>African Conservation Foundation.</td>
<td></td>
</tr>
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<td>ADMADE</td>
<td>Administrative Management Design for Game Management</td>
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<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<td>ARF</td>
<td>Agricultural Research Fund</td>
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<td>ASALs</td>
<td>Arid and Semi Arid Lands</td>
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<td>AWF</td>
<td>African Wildlife Foundation</td>
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<td>CAMPFIRE</td>
<td>Communal Areas Management Programme for Indigenous Resources</td>
<td></td>
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<td>CBC</td>
<td>Community Based Conservation</td>
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<td>CBNRM</td>
<td>Community Based Natural Resource Management</td>
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<td>COBRA</td>
<td>Conservation of Biodiversity Resource Areas</td>
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<td>CWM</td>
<td>Community Wildlife Management</td>
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<td>ESOK</td>
<td>Ecotourism Society of Kenya</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<td>EUHOFA</td>
<td>International Association of Hotel Schools</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
<td></td>
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<td>GRMC</td>
<td>Group Management Committee</td>
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<td>GTZ</td>
<td>German Technical Cooperation</td>
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<tr>
<td>HIV</td>
<td>Human Immune Deficiency Virus</td>
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<td>ICDPs</td>
<td>Integrated Conservation and Development Projects</td>
<td></td>
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<td>ICR</td>
<td>Il Ngwesi Communal Ranch</td>
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<td>IDS</td>
<td>Institute for Development Studies</td>
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<td>Acronym</td>
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<td>-------------</td>
<td></td>
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<tr>
<td>IHRA</td>
<td>International Hospitality Research Association</td>
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<td>IIED</td>
<td>International Institute for Environment and Development</td>
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<td>ITCZ</td>
<td>Intra Tropical Convergence Zone</td>
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<td>IUCN</td>
<td>International Union for the Conservation of Nature</td>
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<td>IYE</td>
<td>International Year of Ecotourism</td>
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<td>KARI</td>
<td>Kenya Agricultural Research Institute</td>
<td></td>
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<td>KTB</td>
<td>Kenya Tourism Board</td>
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<td>KUC</td>
<td>Kenya Utalii College</td>
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<tr>
<td>KWS</td>
<td>Kenya Wildlife Service</td>
<td></td>
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<td>LDC's</td>
<td>Least Developed Countries</td>
<td></td>
</tr>
<tr>
<td>LDDP</td>
<td>Laikipia District Development Plan</td>
<td></td>
</tr>
<tr>
<td>LIRDP</td>
<td>Luanga Integrated Rural Development Program</td>
<td></td>
</tr>
<tr>
<td>LWC</td>
<td>Lewa Wildlife Conservancy</td>
<td></td>
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<td>LWF</td>
<td>Laikipia Wildlife Forum</td>
<td></td>
</tr>
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<td>MAZ</td>
<td>Moisture Availability Zone</td>
<td></td>
</tr>
<tr>
<td>NGO</td>
<td>Non governmental organizations</td>
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<td>OSSREA</td>
<td>Organisation for Social Science Research in Eastern and Southern Africa</td>
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<tr>
<td>PRA</td>
<td>Participatory Rural Appraisal</td>
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<tr>
<td>SARS</td>
<td>Severe Acute Respiratory Syndrome</td>
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<tr>
<td>SAM</td>
<td>Social Accounting Matrix</td>
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<td>SERVQUAL</td>
<td>Service Quality</td>
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<td>SGS</td>
<td>Sweetwaters Game Sanctuary</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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TIES  The International Ecotourism Society
UN  United Nations
UNCED  United Nations Conference on Environment and Development
UNEP  United Nations Environmental Programme
USA  United States of America
USAID  United States Agency for International Development
USIU  United States International University, Nairobi
WCED  World Commission on the Environment and Development
WTO  World Tourism Organization
Rangelands constitute about 80% of the land surface in Kenya. They are mainly used as pasture for both livestock and wildlife. The presence of wildlife has led to the development of several ecotourism enterprises such as Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary in the Laikipia Ecosystem.

Whereas the presence of ecotourism activities in the rangelands is considered an economic success, overall benefits to the local communities are questionable. Thus there is need to establish the linkage between economic benefits accruing to local communities and natural resource management. This study, therefore, assesses opportunities and constraints towards attaining sustainable ecotourism in Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary in order to determine whether it is better achieved through privately owned or community based enterprises.

Household surveys, informal interviews and observations were the main primary data collection methods. Secondary data was obtained from documented and un-documented literature such as government and non-governmental organization reports, bulletins, articles, institutional brochures, academic journals, specialized magazines and the internet. Data analysis was performed using both descriptive (Percentages, means, standard deviation) and inferential (t-test, and \( \chi^2 \)-square test) statistics. Quantitative data was processed and presented using figures and tables. This was achieved through the use of the Statistical Package for Social Sciences (SPSS) software and Microsoft Excel
spreadsheet while, the respondent’s perceptions were measured using a 5-point Lickert-type of scale.

Results from the attitudinal scale in both study areas indicate that ecotourism through wildlife activities contributed significantly to the well being of the local communities (2.17) in general as well as to specific individuals (3.91). These economic benefits to the local communities instill a positive response towards natural resource management, hence the sustainability of ecotourism in rangelands. This was more evident in Il Ngwesi Communal Ranch compared to Sweetwaters Game Sanctuary. In Il Ngwesi, 96% of the respondents indicated that there was equitable distribution of income from ecotourism activities; while in Sweetwaters 48.5% cited that there was a lop-sided trend in this distribution. Despite the presence of human wildlife conflicts in the two study areas, 98% of the respondents felt that the benefits received from wildlife far outweighed the losses caused by wildlife (1.89) and that these benefits had led them to appreciate wildlife better (1.46). The respondents’ support of ecotourism development and natural resource management in Il Ngwesi Communal ranch relative to Sweetwaters game Sanctuary was found to be significant at ($\chi^2=65.14; \text{df}=1; P<0.05$). This means that ecotourism is more likely to be sustainable in communally owned ecotourism enterprises than those that are privately owned.

On the whole, this study has underscored the value of community participation in ecotourism activities as a prerequisite for improved natural resource management in the rangelands. In order to encourage this participation, the study recommends increased
government and private sector support for the local communities. In addition, there is need for improvement of infrastructure, regularising of the land tenure system, provision of capital and increased capacity building for the communities in Kenya’s rangelands.
CHAPTER 1: INTRODUCTION

1.1 Background

As the world’s population continues to increase at an unprecedented rate, demand for food and economic development has made many countries, especially the Less Developed Countries (LDC’s) increase their efforts to improve the socio-economic livelihoods of their citizens. This in return, has continued to exert pressure on the natural resources they depend on for economic development, especially within the tropical rangelands. High ambient temperatures and unreliable rainfall, ranging from 250-900 mm per year, which is highly variable both in space and time, characterize these rangelands. In addition, temporal and spatial distribution of rainfall over any season is erratic, with most of the rain concentrated in a short duration, rendering rangelands unsuitable for arable farming or intensive livestock production.

Kenya lies across the Equator on the East coast of Africa between latitude 4° North and 4° south, and longitude 34° East to 41° East. Due to lack of heavy industries and mineral deposits, the country relies heavily on agriculture and tourism for its economic survival, with agriculture accounting for 24 % and tourism 11% of Kenya’s GDP. According to the 1997-2001 National Development Plan (Republic of Kenya, 1997a), eighty per cent of the country’s land area of approximately 583,000 square kilometres constitutes of arid and semi arid lands. These areas support 25% of the country’s total human population of approximately 30 million. The remaining twenty per cent of the land area is high potential arable land, which is used for agricultural production.
In Kenya, pastoral communities predominantly inhabit rangelands which are located outside the country's gazetted parks and reserves, in what are known as dispersal areas. It is in these areas that approximately 75% of the wildlife resides. Kenya has 25 terrestrial and 4 marine national parks, 21 terrestrial and 5 marine national reserves (Kenya Wildlife Service, 1996). These rangelands form the basis of wildlife based ecotourism (Reid, 1999). The utilisation of these dispersal areas by the local communities is governed by statutory tenure which is secured and expressed through various acts of parliament such as Government Land Act (Cap 280) and Trust Land Act (Cap 288) of the laws of Kenya (Republic of Kenya, 1962).

Kenya Wildlife Management and Conservation Act (Cap. 376) ordinances Kenya Wildlife Service the ownership and management of wildlife on behalf of the Central Government (Republic of Kenya, 1985) by ensuring that these resources (fauna and flora) in national parks, national reserves and the surrounding wildlife dispersal areas (communal lands) are in optimal conditions for multiple benefits to the state and the local communities (Barrow et al. 2001a.). However, the complexity of government legislation constrains the actual conservation of wildlife outside protected areas. This is because land use planning and utilisation in the dispersal areas is under the jurisdiction of government agencies and private individuals under the Government Land Act, (Cap. 300) and the Trust Land Act (Cap. 228) (Republic of Kenya, 1962)., while wildlife utilisation is governed by the Wildlife Act (Cap. 376) (Republic of Kenya, 1985).
According to the Sessional Paper No.6., on land use policies, owners of private land in Kenya are solely responsible for determining types of land utilisation in accordance to accepted practices of good land management husbandry (Sindiga et al. 1999). However, this is not usually the case because the priority is usually to derive maximum monetary benefits from the property, often through agriculture, livestock production and urban housing, amongst others. In the past, traditional values, human perceptions and attitudes, land use patterns; and patterns of land ownership made wildlife conservation possible outside protected areas. However, rapid population growth experienced in the country has lead to a shift in these arrangements. As a result, human-wildlife conflicts have intensified and humans have become less tolerant to wildlife. In addition, modern farming activities often dictate that land is cleared off wildlife. There is, therefore, need for alternative conservation approaches such as ecotourism, which create economic incentives for the coexistence of people and wildlife. It is also a question of equity, where the state and communities share benefits and burdens from wildlife on a sustainable basis.

Kenya Wildlife Service (1990) suggests that communal ranches, which are a key form of land use in dispersal areas adjacent to National Parks and Reserves, should be an integral part of wildlife protection and conservation. However, this sometimes conflicts with the community’s desire to improve their socio-economic status by utilising the land for subsistence agriculture and / or livestock production. According to Borini-Feyarabend et al. (2000), if local communities receive more benefits from wildlife, they will have a greater incentive to ensure that the environmental impacts of tourism are better managed. By turning wildlife into an asset instead of a liability to the local community, biodiversity
is more likely to be conserved in the long run (Reid, 1999). What is, therefore, required are enterprises like ecotourism that benefit communities living adjacent to and who share such rangeland resources with wildlife.

In a wildlife utilisation study report, Kenya Wildlife Service (1996), acknowledges that local communities should be allowed to benefit from local wildlife resources rather than just bearing the cost of damage by wildlife to crops, pastures, water resources, fences and threat to human life. The Wildlife Conservation and Management Act of 1976 (Republic of Kenya, 1985), considers wildlife as a state resource with conditional user right to wildlife. This user right is exploited by private land owner(s) in game ranches and to a lesser extent by communal ranches. Embedded in this Act, are clear definitions of the benefits from wildlife to the private landowners, such as the provision of economic incentives to induce them to conserve wildlife on their land (Kenya Wildlife Service, 1996).

Kenyan rangelands are endowed with unique ecoproducts, some of which include game viewing, bird watching, camel safaris, cultural safaris, and nature walks. Positive utilisation of other available natural and physical attributes of the environments, such as attractive scenery and landscapes, water and cultural resources could lead to the development of a wide range of other ecoproducts, with the possibility of increasing socio-economic benefits to the local communities and raising household incomes and reducing idleness within the communities.
1.2 Statement of the Problem

Kenyan rangelands have tremendous diversity of wildlife with herbivores being the most abundant among the mammals. These herbivores compete for pasture with livestock resulting into human-wildlife conflicts (Kenya Wildlife Service, 1990). In addition, there is a trend within the local communities to sub-divide land, for example where communal ranches are sub-divided into individual titles, thereby leading to loss of wildlife habitats as landowners’ fence off their parcels of land for other uses. Migratory movements by pastoral communities, in pursuit of forage and water, coupled with communal ownership of grazing lands, characterize the management of rangeland resources. However, due to increased land sub-division in rangelands, coupled with increasing trend to commercial wildlife ranching, pure pastoralism is increasingly becoming a highly threatened land use practice. This has marginalized pastoral communities with concomitant resource-use conflicts in rangelands. This increased resource use conflict has made the future of this rich diversity of wildlife as a natural resource in Kenya uncertain, thus calling for sustainable wildlife conservation initiatives.

Over the years, wildlife in Kenya has been managed using a ‘protectionist’ conservation policy, which evolved over time, as the government tried at various times to intervene and halt rampant abuse of wildlife utilisation and solve crisis in previous management regimes (Wamicha and Mwanje, 2000). Given that 75% of Kenya’s wildlife is found outside the protected areas, these protectionist policies have not been technically responsive enough in addressing resource use conflicts in the rangelands. These conflicts
revolve around the need to improve the socio-economic livelihoods of the communities living in the dispersal areas and the need to protect and conserve wildlife.

Despite the government’s acknowledgement that socio-economic benefits can be realised from tourism in Kenya, local communities living in rangelands have not been given adequate consideration, in terms of the distribution of these benefits where they occur. Besides, government policy is not responsive enough to the needs of communal ranches, because its implementation has been largely inadequate and inconsiderate (Adams and McShane 1999; Olukoye et al. 2003).

Gachigiri (2003) notes that the government wildlife authority’s inability to control poaching in the early 1970s led to the ban on all wildlife hunting as defined in Wildlife Legal Notice No. 120, of 1977. A year later, the ban on the sale of trophies and wildlife curios was entrenched in Act No. 5, of 1978 (Mburu, 2003). Kenya’s current wildlife policy is embodied in the 1975 Sessional Paper and the 1991-1996 Policy Framework and Development Program (also known as the Zebra Book). The Sessional Paper No. 3 of 1975 outlines the Government’s policy on wildlife conservation and management, while optimising returns from wildlife for the benefit of landowners.

The government’s conservation policy does not encourage explicit consumptive wildlife utilization on game ranches. However, wildlife is being cropped in selected private ranches, with game meat and other by-products being sold locally. This is done in order to check wildlife population increase and their demand for ranch resources as well as for
financial gain. This activity is only allowed on commercial rather than communal ranches (Olukoye et al. 2004). In addition, both private and communal ranches have started utilizing wildlife through non-consumptive ways such as ecotourism but the government policy since 1978 has been one of promoting wildlife use through tourism, with an often-heard argument that consumptive wildlife utilization is incompatible with successful wildlife tourism. The implementation and sustainability of this type of utilization has been compounded by lack of an ecotourism policy and guidelines in Kenya which is an issue that needs to be addressed.

According to a study by Brohman (1996), national parks and adjacent wildlife dispersal areas can yield greater returns from ecotourism than from cultivation and grazing combined. However, since the benefits of ecotourism never reach the local people, they develop negative attitudes towards conservation of wildlife and related biodiversity. This has resulted in many conflicts between these communities and wildlife conservationists, with the local communities believing that the natural resources they have evolved with and protected for long, only benefit ‘outsiders’ and the government (Eastman, 1995). There is, therefore, need to establish the extent to which local communities benefit from ecotourism enterprises in Kenyan rangelands and whether such benefits translate into positive environmental conservation actions.

Although wildlife authorities have conceded that local authorities and landowners have a right to share knowledge, technical skills, ownership and benefits derived from wildlife, only large-scale ranches owned by a few private individuals in Laikipia District generate
some income from tourism, with the local communities' receiving negligible benefits, from the sale of handicrafts and artefacts to tourists (Sikoyo et al. 2001). The monopoly and irrational stratification of the wildlife industry, which continues to be the cause of intense conflicts between local authorities, communities and the Kenya Wildlife Service, is a problem that is yet to be addressed.

1.3 Research Questions

This study intends to answer the following questions in relation to sustainable Ecotourism development in Kenya's rangelands with specific reference to the study sites:

(i) Is sustainable ecotourism better achieved in privately owned or community-based enterprises?

(ii) Are benefits that accrue from ecotourism enterprises in Sweetwaters Game Sanctuary and in Il Ngwesi Communal Ranch adequate to warrant participation in natural resource management by the local communities?

(iii) What is the extent of ecotourism impacts on natural resources' conservation attitudes and practices among the local communities at Sweetwaters Game Sanctuary and Il Ngwesi communal ranch?

(iv) What are the main obstacles to ecotourism development at Sweetwaters Game Sanctuary and Il Ngwesi community ranch?
1.4 Hypotheses

The following three hypotheses were tested in this study. That:

1. There are economic benefits accruing to the local communities in Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary from ecotourism.

2. There exists a relationship between economic benefits accruing to the local communities from Ecotourism and their involvement in natural resource management.

3. Community based Ecotourism enterprises are more sustainable than those that are privately owned.

1.5 Objectives of the Study

The broad objective of the study is to assess opportunities and constraints towards attaining sustainable ecotourism in Kenya's rangelands. The following are the specific objectives of the study:

(i) To determine the economic benefits of ecotourism to the local communities in Il Ngwesi communal ranch and Sweetwaters game sanctuary.

(ii) To establish whether economic benefits which accrue to the local community from ecotourism enterprises are adequate incentives to elicit activities for sustainable management of natural resources.
(iii) To develop an inventory of the main obstacles to ecotourism development in Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary.

1.6 Justification of the Study

Conservation of biodiversity is now a worldwide concern (WCED, 1987). Sustainability of the biodiversity within arid and semi arid lands, was a major topic of discussion at the Earth Summit in Rio de Janeiro, Brazil (UNEP, 1992). In addition, the United Nations declared 2002 as the International Year of Ecotourism, whose theme was “Providing a Forum for the World to Understand the Synergy Between Conservation, Cultural Awareness and Community Benefits through Ecotourism” (WTO, 2001a). This means that, if communities living adjacent to conservation areas were made to benefit from ecotourism, this would ensure the conservation and sustainable utilisation of natural and cultural resources (Norton-Griffiths, 2000).

Various authors have studied different aspects of tourism development, growth, and marketing in Kenya. Bachmann (1988), using Kenya as an example, critiqued the hypothesis that tourism is the panacea for economic growth in developing countries. Dieke (1991) analysed Kenya’s tourism development policies, while Mulindi (1997) using modern economic analytical techniques estimated and forecasted the economic impact of international tourism in Kenya. Other authors have studied different aspects of tourism in the country, such as Sindiga (1996a) on tourism education in Kenya and on its effects on marginalizing local people (Sindiga, 1996b).
A review of the literature shows that while tourism studies have been more popular at the national level, there have been fewer studies assessing tourism effects at the community level. Using the input output method, Wagner (1997) enlisted the factors affecting the extent of income multiplier effects caused by tourist expenditures. Principal factors governing the magnitude of economic impacts outlined by him are: initial volume of tourist expenditure; size of the economy; value added in the first round; linkages between tourism establishments and other sectors of the national economy. Lindberg and Enriquez (1994) constructed input-output tables for Belize, and Hugo (1992) used input output tables to analyze impacts of South African tourism on the economy. Both found positive impacts and a certain amount of leakages of tourism expenditures in these countries. However, a few studies have been conducted to measure impacts at the community level. Using the Social Accounting Matrix (SAM) to examine the regional economic benefits of ecotourism in a conservation area in Brazil, Wagner (1997) noticed lack of forward and backward linkages in the region. Singh (1989) studied leakages from hotel spending in Kullu-Manali area of Himachal Pradesh. He found out that the imports of goods and services reduced profits from tourism in hotels in the area. Walpole and Goodwin (2000) using the inventory/budget method for assessing the local economic impacts of tourism examined the local income effects of tourism among the local communities in Indonesia and identified the leakage of the first round benefits. Ross and Wall (2004), used the input-output method to examine the gap between tourism theory, as revealed in literature and tourism practice as indicated by its on-site application in North Sulawesi, Indonesia. In addition, some authors have suggested guiding principles and practises of tourism, few practical assessments of socio-economic impacts in specific locations have been conducted. This is
partially due to the fact that standardised evaluation criterions are yet to be developed (Hvenegaard, 1994; Bottrill and Pearce, 1995, Ceballos-LasCurain, 1996; Mbura et al. 2003).

In Kenya, Herren (1991) examined the socio-economic strategies of pastoral Maasai households in Mukogodo, Laikipia district, while Sikoyo et al. (2001), in two case studies, investigated the impact of wildlife based tourism on local livelihoods and conservation at Arabuko Sokoke forest, Kilifi, district and at Il Ngwesi, Laikipia District. In order to identify the organisational structure of the co-management approach to tourism in the dispersal areas of Kimana, in Amboseli National Park and in Golini-Mwaluganje, Shimba Hills National Reserve Mbura and Birner (2002) did a comparative study of benefits and costs of tourism to the local community. This present study is a departure from those reviewed so far because it attempts to evaluate the sustainability of ecotourism in Kenyan rangelands, an approach yet to be documented.

There is a tendency by many conservationists to blame pastoralists for environmental degradation in rangelands because of their large herds of livestock (Dahl and Hjort, 1979). While this may be the case, pastoralists are only struggling for economic survival. To reduce livestock populations among such pastoralist communities, so as to balance the carrying capacity of the rangelands, an acceptable alternative and sustainable source of livelihood has to be found. Over the past two decades, several developing countries in Sub-Saharan Africa have experimented with community-based wildlife utilization which has, in most cases, been implemented in form of Integrated Conservation and
Development Projects (ICDPs). Such projects include the Communal Programme Management for Indigenous Resources (CAMPFIRE) in Zimbabwe; the Luangwa Integrated Rural Development Programme (LIRDP) in Zambia; ADMADE (Zambia), Eco-Partners (South Africa), the Community Wildlife Management in Tanzania (CWM) and the Conservation of Biodiversity Resource Areas (COBRA) in Kenya.

However, these have not been successful due to lack of responsive and supportive legal and institutional framework (Emerton, 2001 and Virtema, 2003). In addition, Kiss (1999) argues that community-based tourism activities, though essential for generating political support for conservation and reducing and mitigating human wildlife-conflicts, can rarely, if ever, fully substitute direct protection of unique and valuable biodiversity resources. Ecotourism as an alternative source of income in rangelands has not been effectively assessed and where possible implemented. This study therefore aims at giving some insights into the best direction to take in policy formulation so that responsive and sustainable policy guidelines are set for Ecotourism.

One of the goals of ecotourism is to ensure that local communities participate in the conservation and management of wildlife and secure a fair share of both direct and indirect economic benefits from this resource. Whether this is the case in the two study areas has not been documented, especially with regard to co-ordinated environmental management strategies for sustainable ecotourism development (Johnstone, 2000).
1.7 Significance of the Study

There is heterogeneity in Kenya in terms of agro-climatic zones, ecotourism products, culture and beliefs. Nevertheless, opportunities for ecotourism and problems which hinder its sustainable development as an industry in Kenya cut across the broad spectrum of the country’s rangelands. This study is, therefore, important because it will contribute towards establishing an alternative approach to community participation, which identifies the problems that hinder the development of sustainable ecotourism and suggests responsive solutions to these problems. This is expected to make ecotourism a more competitive land-use option compared to pure pastoralism or livestock ranching in the rangelands. Sustainable ecotourism could ensure an integrated management of rangeland resources through human settlement, livestock ranching and wildlife (flora and fauna) conservation programmes. The role of all stakeholders will also be reviewed so as to understand forces shaping the long-term future of ecotourism. It is expected that the results of this study will contribute towards the development of suitable, responsive and supportive ecotourism practices and guidelines in Kenya’s rangelands.

1.8 Scope of the Study

The study concentrated in Laikipia District and specifically on Sweetwaters Game Sanctuary and Il Ngwesi Communal Ranch. This is of a limited scope considering the variety and distribution of rangelands in Kenya. In addition, it was restricted to the issue of ecotourism policies, economic benefits to the local communities and the relationship between these benefits and natural resource management. It did not consider social and
environmental impacts. The study also investigated host community expectations and perceptions but not those of the ecotourist.

While the Laikipia rangelands (Il Ngwesi and Sweetwaters) were surveyed in this study, there might be other rangelands within and outside the district that should be studied in order to confirm the main findings of this study and to provide a better basis for generalisation.
1.9 Definition of Operational Terms

**Tourism** – Temporary movement of people to destinations outside their normal place of residence or work for a period of not less than 24 hours and not more than one year for leisure and should spend some money at the destination country or region, or location or site (WTO, 1996).

**Sustainable Development** – The kind of economic development that takes full account of ecological principles, considerations and consequences of economic activity. It is based on the use of resources in such a way that they may be replaced or renewed and therefore not depleted as opposed to mining of resources irretrievably (WCED, 1987).

**Sustainable Tourism** – The World Tourism Organization (1999) suggests that sustainable tourism deals with the ability of a destination to remain competitive against newer, less explored destinations and which remains culturally unique and is in balance with the environment.

**Nature-tourism** – This is a form of tourism in which the main motivation of the tourist is the observation and appreciation of nature (WTO, 2002).

**Ecotourism** – Ecotourism is neither a simple concept to define, nor straightforward phenomena to evaluate (Ross and Wall, 2004). However, this study defines ecotourism according to Goodwin (1996) to mean low impact Nature tourism that contributes to the maintenance of species and habitats. This is either through conservation and / or
indirectly by providing revenue to the local community which acts as an incentive for them to protect wildlife and cultural heritage.

**Sustainable Ecotourism** - Ecotourism that considers potential strategies to support the conservation of natural resources, while at the same time, promoting sustainable local community development (WTO, 2002).

**Eco-products** – The range of goods, attractions, values and other activities that encourage ecotourism in an area (Bottril and Pearce, 1995).

**Stakeholders** – All individuals, groups and organisations participating in ecotourism activities and whose income and welfare solely or partly depends directly or indirectly on them (Borrini-Feyerabend *et al.* 2000).

**Local Communities** – The peoples’ population found within a radius of between 2-5km from Il Ngwesi Communal ranch and Sweetwaters game Sanctuary who have been evolving or have evolved in specific localities where the resources of interest also occur (Ecotrek, 2002).

**Rangelands** – Land on which the indigenous vegetation is formed predominantly by grasses, trees or shrubs and is managed as a natural ecosystem. If plants are introduced, they are managed similarly. Rangelands in Africa include natural grasslands, savannas, scrublands, marshes and desert communities (Society for Range Management, 2003).
Community Participation – Involvement of the community in the identification, planning and implementation of ecotourism projects and programmes. This involvement entails commitment by the community to contribute towards the evolution and development of ecotourism activities and therefore, to derive benefits and also to control the impacts of ecotourism (Gakahu et al. 1992)

Economic Impact – this is the measured economic effect of, or change, which is attributable to an impacting agent on the economy in question. The impacting agent may be an actual or potential source of economic change in the economy or even an established industry (ecotourism) operating in the economy (Jensen and West, 1986).

Economic Benefit – this is a gross increase in the wealth or income measured in monetary terms of the local community in an area. This increase is above the levels that would prevail in the absence of the activity (ecotourism) under study (Fretchling, 1994)

Consumptive Wildlife Utilization – this is the harvesting or direct utilization of wildlife or wildlife products through hunting, culling or cropping (Gamassa, 1998)
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter first, looks at the status of tourism in the World, Africa and in Kenya. It then reviews literature on sustainable development, the concept of sustainable ecotourism; and ecotourism as a beneficial economic activity. It also explores community involvement in ecotourism activities and obstacles to its development. In addition, the methodological approaches used in measuring economic and environmental impacts of ecotourism are examined.

2.2 The Status of Tourism

The World Tourism Organisation (2004) reported that in 2003 there were 694 million international tourists, representing a 1.2% decrease from 2002. This drop in visitor numbers was due to a global economic downturn, general insecurity resulting from the September 11, 2001 bombings in the United States of America, the unexpected crisis caused by the Severe Acute Respiratory Syndrome (SARS), the chicken flu scare and the war in Iraq. However, the World Tourism Organization (2001b) reported that global tourist arrivals were expected to grow by an average of 4.1% per year over the next two decades, surpassing a total of 1 billion international travelers by the year 2010 and reaching 1.6 billion by the year 2020. In terms of tourist expenditure, international tourists spent a total of US $ 474 billion in 2002. Figure 2.1 shows the global trends in international tourist arrivals from 1999 to 2003.
Ecotourism is the fastest growing niche market in the travel industry today, with an annual growth rate of between 10% - 30% with one out of every five international travellers being an ecotourist. This accounts for 20% of the world travel market (TIES, 2004). According to the World Tourism Organization (2002), ecotourism activities globally have been expanding rapidly over the past two decades and further growth is expected in future. It is also estimated that ecotourism is growing globally, at an annual rate of 3.5% in the developed countries and 6% in the developing countries (WTO, 2002). While analysing inbound tourist motivations to different worldwide destinations, Wall (1996) identified that 40% - 60% of all international tourists were nature or ecotourists, and that 20% - 40% of these are wildlife related tourists.
The rapid growth of ecotourism globally is as a result of a number of trends. These include the gradual aging of tourist populations; the maturing of the ‘sun and fun’ vacation segment and the general publics’ increasing environmental awareness (WTO, 2002). Studies of the German and American travel markets indicate that environmental considerations are now a significant element of traveller’s destination choosing process (Hvenegaard, 1994). Wells (1997) proposes that 43 million people in the USA consider themselves ecotourists to some extent and are willing to pay an 8.5% extra premium to stay in what they perceive to be environmentally friendly destinations. This implies that there is a huge potential for ecotourism development and growth in developing countries like Kenya. The country’s 350 million US dollar tourism industry (Republic of Kenya, 2004) could gain greatly from increased investment and aggressive marketing of ecotourism.

According to WTO (2004), Europe generates 58 %, Asia & Pacific 18 %, America, 16 %, Middle East 4 % and Africa 4 % of the global tourist arrivals. Sub-Saharan Africa accounted for about 2.4 per cent of total global international ecotourists arrivals and 1.3 per cent of tourism receipts in 2000. Africa has seen a substantial growth in tourism in the recent past with Europe, North America and Japan generating the greatest number of ecotourists to Africa. World Tourism Organisation (2003) statistics show that in 2002 there were 29.1 million international tourist arrivals in Africa compared to 28.3 million in 2001, which represents a 2.8% increase. Figure 2.2, shows the regional market share of global international tourist arrivals in 2003.
The most popular recipients of these tourists in Africa are Tunisia, South Africa, Morocco, Zimbabwe, Kenya, Botswana and Namibia. Due to its outstanding natural attractions, including nature parks and reserves with their scenic beauty, abundant wildlife and vegetation as well as beaches and marine areas, Kenya has numerous opportunities to expand its ecotourism. However, despite these advantages, several factors constrain ecotourism development in the country. These include, poor marketing, a weak and often negative international image, the long distances from some of the country’s major markets, and limited financial resources for investment in tourism (WTO, 1999).

Source: WTO, 2004

**Fig. 2.2: International Tourist Arrivals: Regional Market Share 2003**
According to the Economic Survey (Republic of Kenya, 2004), the annual tourist arrivals into the country in 2002 were 993,600 while in 2003, there were 1,001,300. This represented a 0.8% increase. Figure 2.3 shows the number of international tourist arrivals to Kenya between 1995 and 2003.

Source: Republic of Kenya, 2004

**Figure 2.3: International Tourist Arrivals: Kenya (1995 to 2003).**
Tourism has become one of the most vital sectors of Kenya's economy and a major foreign exchange earner. Tourism earnings increased by 18.9% from Kenya shillings 21.7 billion in 2002 to 25.8 billion in 2003. The industry accounts for 12% of Kenya's GDP and 18% of all wage employment (Republic of Kenya, 2004). The industry also offers direct employment to over 135,000 segments and indirectly to 360,000 (Okungu, 2001). The industry depends largely on beach and wildlife attractions. The number of visitors to Kenya's parks and game reserves between 1994 and 2002 is shown in figure 2.4.

![Graph showing the number of visitors to Kenya's parks and game reserves from 1994 to 2002.](image)


**Fig.2. 4: Number of Visitors to Kenya's Parks and Game Reserves: 1994-2002**

Ecotourism in Kenya took effect essentially when Kenya's first tree hotel "Treetops" was introduced in the Aberdare rain forest to tourists. Hope ran high, that by paying money to enjoy pristine habitat, ecotourism would save the forests from logging. It is seen today as a positive step towards conservation of natural resources. Ecotourism products in Kenya
can be classified as historical, cultural, physical, nature, wildlife and building related. Some of the ecoproducts in Kenya include nature and wildlife safaris, cultural and rural tourism, camping, trekking, nature trails, white water rafting and agro-tourism among others.

Some of Kenya’s unique ecotourism destinations include Golini-Mwaluganje of Shimba Hills District, Lualenyi, Oza and Muramba in Taita-Taveta District, Group Community Projects in Samburu and Maasai-Mara, Kimana, Selengei, Mbirikani and Lorarashi in Amboseli (Mburi, 2002).

Ngwesi Lodge is unique and is a pioneer of Ecotourism in Kenya. The lodge received the British Airways best Eco-tourism Destination Award in 1997, the Best Self-catering Camp by readers of Travel Magazine in 2000 and 2001, and The Equator Initiative Award at the World Summit in Johannesburg in 2002. It has also become a role model for community eco-lodges throughout the East African region (LWC, 2001).

2.3 **Sustainable Development**

International recognition that environmental degradation was threatening not only economic and social well being, but also life on earth came about at the Stockholm 1972 Conference on Environment and Development (WCED, 1987). This led to the establishment of United Nations Environment Programme (UNEP) as well as the subsequent establishment of the World Commission on the Environment and
Development (WCED), often referred to as the Bruntland Commission, whose landmark report "Our Common Future" was published in 1987.

The report by the Bruntland Commission calls for "a new era" of environmentally sound economic development and notes that humanity has the ability to make development sustainable (Bowel et al. 2001). In June 1992 the United Nations Conference on Environment and Development (UNCED), the Earth Summit was held in Rio de Janeiro. Focusing on achieving sustainable development, the earth summit produced the Rio Declaration of Environment and Development and Agenda 21. Section three of the Agenda 21, which is a global plan of action for sustainable development, outlines strategies for ensuring that all social groups participate in and benefit from sustainable development (WCED, 1987).

The environment is the key resource for tourism and to eliminate a clean and healthy environment is to eliminate tourism. According to the World Tourism Organization (2001a), the haphazard and uncontrolled development of tourism is putting at risk the survival of natural environment, which is the very bedrock of ecotourism business. There are various elements needed to minimize the negative social, economic and environmental impacts of tourism and guarantee the long-term sustainability of any tourism development. These include:

- providing efficient co-ordination between public and private sectors including the active involvement of local communities in planning, developing, managing and regulating ecotourism projects,
• managing the movement of tourists to avoid overcrowding and thus monitoring the
visitors’ impacts on the environment,
• minimising the impacts of tourists’ accommodation and transport facilities.
• ensuring that a reasonable proportion of income from tourism is channelled into local
communities and into conserving natural heritage, and
• ensuring that tourism contributes to the conservation of natural areas and the
sustainable development of adjoining lands.

There is, therefore, a need for ecotourism to be among the policy strategies of Least
Developed Countries (LDCs) since it is compatible with non-farm rural development of
small and medium scale enterprises and new infrastructure (WTO, 2001a).

Sustainable development is about responsible entrepreneurship, long-term product
improvement, and economic as well as environmental viability. For this type of
development to succeed, it should integrate three elements of sustainability – economic
growth, socio-cultural, and environmental conservation and management. Varughese and
van den Breemer, (1999) summarize the three main principles of sustainable development
and suggest that:

• economic sustainability should ensure that development is economically efficient
and that resources are managed so that they can benefit local communities;
• social and cultural sustainability should ensure that development increases
people’s control over their lives, is compatible with the culture and values of the
people affected by it, while maintaining and at the same time strengthening community identity, and

- environmental sustainability should ensure that development is compatible with the maintenance of essential ecological processes, biological diversity and biological resources that will support future generations.

It is, therefore, important to note that a connection exists between natural resource conservation and the flow of economic benefits as well as between biodiversity and the well being of local communities.

Environmental degradation and the loss of biodiversity in Kenya, as elsewhere on the continent, result from a variety of factors. The most important of which is lack of recognition and understanding of the relationship between the flow of socio-economic benefits and natural resource conservation burdens (Norton-Griffiths, 2000). Specific conflict areas between human and biodiversity conservation are loss of habitats, increased pressures on predator / prey relationships and restrictions on wildlife movements (Olukoye et al. 2004).

The loss of habitats is realized when instead of finding a buffer zone in the park hinterlands; animals encounter competition for water, pastures and agricultural activities from local community like in the Masai Mara National Reserve (Western, 1975). In addition, increased pressure on predator/prey relationships takes place when animals are restricted to the parks. This reduces their hunting territories and disrupts their life support systems and when natural prey is in short supply the predators turn to domestic animals.
for food. As a result, livestock owners resort to killing such predators as it has been observed in Nairobi, Amboseli and Lake Nakuru National Parks.

2.4 Concept of Sustainable Ecotourism

Lindberg et al. (1997) define sustainable tourism as the integrative linkage between tourism development, the environment and society. He suggests that tourism can only be attained when there is a balance between environmental, socio-cultural and economic development. He recommends an assessment of the existing tourism policy, legal and institutional frameworks as far as community benefits from tourism are concerned, as well as the formulation of action plans to harmonize natural resource conservation and community development and this is the essence of sustainable ecotourism.

Ecotourism is usually considered to be more than just nature tourism. Since the formal introduction of the term by Ceballos-Lascurain almost twenty years ago, controversy over appropriate use of the term and inconsistency in its application has hindered its development and its practical realisation at specific sites (Scace, 1992; Nelson, 1994; Bottrill and Pearce, 1995; Lindberg et al. 1997; Ashley et al. 1999). Throughout the 1980s and 1990s, widespread environmental interest fostered “environmental opportunism” and encouraged loose use of the pre-fix “eco” (Kreuzwiser, 1993). Promotion of eco (-) tourism, with or without a hyphen, and without a clear indication of its meaning, has often resulted in the term being little more than a tactic to give businesses an apparent green edge on the competition.
Ecotourism has been defined in many ways in tourism and environmental literature (Ceballoz-LasCurain, 1996; King and Stewart, 1996; Malkin, 1999; Mader, 2000; Shores, 2003; Mader, 2004 and Ross, 2004) but has been advocated in the absence of widespread recognition of the practical conditions under which it is best promoted, managed and evaluated. Ecotourism is low impact nature tourism that contributes to the maintenance of species and habitats. This is either through conservation and / or indirectly by providing revenue to the local community which acts as an incentive for them to protect wildlife and cultural heritage (Goodwin, 1996).

Unlike conventional tourism, ecotourism advocates for a higher environmental consciousness among tourists through enhancement of understanding and respecting the need to protect valued natural and cultural environments, thus helping in the protection of natural and cultural resources of the local communities. However, for ecotourism to meet economic, ecological and socio-cultural needs of communities in range areas, a responsive and supportive policy framework is essential. This is currently lacking in the Kenya’s tourism industry (Mwanje and Gotu, 2001; Olukoye et al. 2003).

In spite of the existing literature highlighting its potential benefits (Epler et al. 1991; Lindberg, 1991; Moore, 1991; Wight, 1993; Ashley and Garland, 1994; Lindberg and Enriquez, 1994; Wall, 1996) a growing number of case studies have reported the failure of ecotourism to achieve the goals upon which it is expected to operate (Ross and Wall, 2004). In other words, ecotourism theory has often not been successfully put into practice.
Hvenegaard, (1994) suggests that standardised or acceptable methods to evaluate sustainable ecotourism are still being developed. Bottrill and Pearce (1995) advocate the need for a framework, which will define and evaluate the functions and status of ecotourism at the site level in order to understand gaps between ecotourism theory and practice. This framework will guide and facilitate the principles and practices of ecotourism at operational level. This study, therefore, advocates for sustainable ecotourism not as espoused by its advocates, but its application and its manifestation at the grassroots level. This is because sustainable ecotourism, by definition, requires the embodiment of “intrinsic rather than extrinsic values” which also reflect a biocentric rather than homocentric philosophy” (Scace, 1992). In this regard, sustainable ecotourism should balance between natural resource conservation and development through the promotion of synergistic relationships between natural areas, local community and ecotourists. Ecotourism is often considered to be a potential strategy to support conservation of natural resources while, at the same time, promoting sustainable local livelihoods.

### 2.5 Responsive Practices for Sustainable Ecotourism Development

The World Tourism Organisation (2001a.) provides a valuable source of information on a variety of practical experiences that can be adopted at tourism destinations and the responsive practices that contribute towards sustainable ecotourism. These include the:
Josvafu village ecotourism project in Northern Hungary that has limited the number of people in guided tours to 35 people at a time. This has led to minimal negative impacts from foot-trails and enhanced a satisfactory visitor experience.

Busigiro ecotourism site in Budongo forest, Uganda which has sensitised the villagers towards energy saving and agro-forestry activities as an alternative to forest use. A maximum of six people are allowed to go for chimpanzee tracking and are requested to keep a distance of 5 metres away from the animal. Sick visitors are not allowed to go for Chimpanzee tracking in order to avoid infecting the animals. This is an example of visitor management in wildlife areas.

Eselenkei Conservation area near Amboseli National Park in Kenya has now a great concentration of wildlife including Lion, Leopard, and Cheetah. This is because it has employed staff from over 25 families as game rangers, borehole attendants, Safari Camp staff, drivers, and in road maintenance. This has made KWS not to employ rangers as the local people provide the security.

Arabuko Sokoke butterfly farming “Kipepeo” Project in Kilifi district, Kenya has incorporated a combined approach to development and conservation objective. The enterprise has contributed to conservation of the Arabuko Sokoke forest by raising awareness among the local communities on the importance of the forests and on the benefits of conservation. It is also now a significant source of income to the community's livelihood as well as providing work that can be done easily at home, with little investment of money or time (Barrow et al. 2001b).
This means that the economic rationale behind benefit-based approaches to ecotourism is that communities must benefit from wildlife for them to conserve it willingly. This rationale constitutes a major advance from traditional exclusionist approaches to wildlife conservation, which are largely based on denying community access, and gain from wildlife resources to providing economic incentives to conserve the same and this is only possible through sustainable ecotourism.

2.6 Ecotourism as an Economic Activity

Forty three million Americans consider themselves as ecotourists and are prepared to pay 8.5% premium to stay in what they perceive to be environmentally friendly properties. 50% of these eco-travellers have incomes between US$ 50,000 and US$ 70,000, and take lengthier vacations compared to 35% of other travellers and are aged between 35 and 54 years (Wells, 1997). Furthermore, Wells (1997) predicts that eco-travel in the US will grow by between 10 and 15 per cent per annum. This is a huge market that destinations in developing countries like Kenya can tap into.

Several studies (Ingram and Durst, 1989; Boo, 1990; Wehlan, 1991; Eagles, 1992; Cater, 1994 and Wight, 1996), show that ecotourists are mostly affluent people looking for natural learning experiences in pristine environments. They are willing to pay more for products and services provided by environmentally conscious suppliers.
Although there is a wide range of eco-products available to the ecotourists worldwide, Bottrill and Pearce (1995) suggest that an ecotourism product should satisfy the following criteria. It should:

- be environmentally friendly,
- be based on natural attractions that are being conserved and managed,
- involve or otherwise directly benefit the local community,
- minimize the impact of fluctuations in the market,
- be financially self-sustaining, and
- be insulated from the adverse effects of political change and interference.

Dieke (1998) has given some examples of ecotourism products, which have proved economical and may be developed for a marketable ecotourism concept. These include: - Bush Trails and Trekking in South Africa, Okavango River canoe trips in Botswana, Deep Sea Diving in the Comoros Islands, Gorilla Tracking in Rwanda, Trekking in the Ruwenzori Mountains of Uganda, Rock Painting Treks in the Tassi li N’Ajjer, Algeria and Camel Safaris in Northern Kenya. The identification and development of eco-products in Kenyan rangelands will help increase the range of activities available to the tourist and as a result increase the income earning opportunities for the communities.

The sustainable tourism debate tends to focus on developing countries because, unlike the developed countries, most of its natural attractions are pristine (WTO, 1999). The World Tourism Organisation suggests that ecotourism in developing countries, should be planned, developed and managed in a sustainable manner, ensuring that there are no adverse effects to the natural environment at the destination.
As an example, Uzbekistan, which is situated in the heart of Central Asia, boasts a varied, largely arid terrain and rich biodiversity. This substantial natural capital, further enhanced by the strong park system initiated during Soviet Union days, has presently become the solid basis for development of ecotourism projects that is serving to strengthen local economies, improve the well-being of local citizens, and has helped in the conservation of Uzbekistan's natural resources. Despite the rangeland nature of Uzbekistan, ecotourism forms a substantial foreign exchange earner to the country (Sievens, 1998).

Ecotourism is often more effective than other industries in generating income and employment in rural, remote and economically depressed regions of a country. Economic returns on land devoted to ecotourism in some countries in Africa, such as Botswana, South Africa and Zimbabwe have proved to be much higher than similar land with agricultural crops or cattle (WTO, 1999).

Lindberg (1991) highlighted the benefits derived from ecotourism enterprises by using an economic model drawn from Rwanda's Parc National Des Volcans, which is operated as an ecotourism enterprise. His work showed that ecotourists going to see the mountain gorillas generated approximately 1 million US dollars in entrance fees and about 2-3 million US dollars in other expenditures annually. In addition, he noted that in 1983, Nepal earned about 45 million US dollars from visitors attracted primarily by eco-products, namely Himalayan geography, nature and culture. The Galapagos National
Park of Ecuador earns ecotourism revenues of at least 700,000 US dollars a year and has a potential of earning over 25 million US dollars per annum (WTO, 2002).

Using Kenya's Amboseli National Park, Western (1982) estimated that each lion in the park was gross worth 27,000 US dollars per year in tourism revenues, while an elephant herd was about 610,000 US dollars gross worth per year, generated mainly from viewing. This means that, such animals, which are also found in rangelands such as Il Ngwesi and Sweetwaters, are worth more alive as tourist attractions than dead. It is, therefore, more advantageous for the community to help keep wildlife alive for mutual benefits within the concept of ecotourism. Diversification of tourism by encouraging activities like ecotourism in Kenyan rangelands will, therefore, benefit the local communities more than if they were to continue with their traditional economic activities.

2.7 Community Involvement in Ecotourism Activities

According to the World Tourism Organization (1999), some national governments around the world encourage increased community involvement in the tourism sector. This is however, limited to community-led ‘alternative’ forms of tourism, such as cultural tourism, rural tourism and ecotourism. The organization goes on to describe benefits of greater community involvement, which include:

- multiplier effects among the host population.
- minimal natural resource-use conflicts, and
- enhanced local environmental knowledge and perspectives.
If local communities are involved in the decision-making process, they will have a greater incentive to make sure that the environmental and socio-cultural impacts are better managed. For example, in the Ranveli Holiday Village in Sri Lanka, over 43% of the permanent and contracted employees, including taxi drivers, suppliers and artisans are derived from the local community. This has encouraged continuity of a cordial relationship with the village and has prevented tourism related social conflicts and encouraged equitable distribution of benefits (WTO, 2001a). Through the involvement of the local community, the Amara Project in Eastern Africa has helped to conserve the Eastern Arc mountain Forests and conserve the endangered African violet, *Spaint paulia spp* in Kenya and Tanzania (AFC, 2001).

Apart from the protection of natural environment, the establishment of ecotourism enterprises should aim at local community involvement as they derive economic benefits (Barnes et al. 2002). Local inhabitants may be the most efficient conservationists because they have evolved practical ancestral knowledge of their environment and so, given the sense of ownership and involvement, they are more likely to be supportive of ecotourism (Ceballoz-Las-Curain, 1992). The future of natural resource conservation in the rangelands, therefore, depends on the involvement of the local communities in the planning, development and management of the protected and non-protected areas.

One of the criticisms levelled at ecotourism is that of equity: - incomes generated through tourism activities are rarely spread evenly among the host population and thus fail to benefit the local community as a whole. Instead, tourism incomes tend to be appropriated
mainly by trans-national companies, non-local land or enterprise owners (WTO, 1999), and in the case of communal ranches, the management committees. Watson (1999) noted that due to lack of local community involvement these enterprises are not sustainable, and sometimes result in resentment by the local community.

Often proposals to establish new protected areas or even to protect wildlife outside existing parks and reserves are confronted by outright opposition by the local community when they are not involved. It is also argued that the local communities bear the cost of wildlife conservation but receive minimal economic benefits. These costs include foregone income and benefits from livestock, due to competition with wildlife as well as loss of wildlife to predators. Nonetheless, Ndiaye (1990) suggests that when ecotourism involves the participation of local communities and provides financial rewards, they support and protect the natural environment. This has been successfully achieved in Costa Rica where the ‘Raga Avis’ a private wildlife reserve, has helped save the threatened rain forest, generated foreign exchange and promoted visitor education towards higher environmental responsibility and awareness by involving the local people (WTO, 2000).

A study done by Drake (1991) showed that the participation of the local communities in biodiversity conservation promoted their ability to influence ecotourism projects aimed at protecting the natural resource base, which may have a direct impact on them. He suggests that if the environmentally sustainable development, such as ecotourism is to be successful, it must have local support. Drake further argues that, involving local
communities in the ecotourism project planning helps in problem identification, formation of alternatives, planning activities and allocation of resources. The local community also becomes useful in managing the projects during their implementation and receive the resultant economic, social and cultural benefits from such projects either individually or collectively.

Considering the current conservation trends, Reid (2001) acknowledges the importance of local communities in natural resource management. Such community initiatives also known variously as community based natural resource management (CBNRM) or Community Based Conservation (CBC), have emphasized the sustainable use of natural resources by local communities as a means of improving both rural livelihoods and the prospects for biodiversity conservation. These projects have now been initiated throughout Africa (Barrow et al. 2001a).

Developing countries have the potential to realize these economic and environmental benefits by combining effective natural resource management and community involvement in ecotourism development. For example in Amani Nature Reserve in Usambara Mountains in Tanzania, through ecotourism, the local communities have enhanced conservation activities that have helped in the conservation of a number of bird species, reptiles, amphibians and butterflies (WTO, 2001a).
Although it is evident that local communities living adjacent to parks and reserves can realise socio-economic benefits from ecotourism (Thorsell, 1984), a study by Lindbergh (1991) showed that, in reality, the wilderness models of protected areas, exclude the local communities from direct participation. They view them as an impediment to effective conservation of wildlife, which has often resulted in resource-use conflicts. Occasionally, local people have been forcibly removed from proposed protected areas giving them the perception that wildlife is more important than them. The result has been deliberate destruction of wildlife (Western, 1992). Integration of resource conservation with the requirements of the local communities and a shift from the strict “protectionists” approach to integrated development is more desirable (Boo, 1990). Such co-management of parks and dispersal areas by the local populations and conservationists is increasingly being viewed as an effective approach to sustainable development. To refuse this challenge is to risk extinction of both plant and animal species or wildlife in general.

Migot-Adholla (1989) reports that the involvement of local population is a tool for progressive sustainable development as it solicits support for environmental conservation and minimizes local conflicts. If local population can be educated about the benefits of the projects then their support can be solicited. Also through this approach, project benefits are likely to reach the targeted groups better. There are, however, certain issues that need to be addressed when involving local populations in ecotourism projects. These are gender bias and cultural beliefs. For example, Mburu (2002) noted that all decisions in community-based projects funded by Wildlife Development Fund in Mukogodo Division, Laikipia District are made by men while women sit and watch. Despite their
important role in conservation, Maasai women are culturally not expected to make any
decisions affecting the community. Their exclusion from contributing in the decision
making process has sometimes caused ecotourism endeavours to be unsustainable. This is
exemplified by the Pasanarua Community Ecotourism Project in Kurikuri communal
ranch in Mukogodo Division, Laikipia District, which was managed by Maasai women
but due to cultural bias against women, the project lacked community support and
therefore stalled after about five years (Kathurima, personal Communication).

While examining community conservation policies and practices in East Africa, Barrow
et al. (2001a), and Emerton (1998) in their discussion on community conservation in
Africa suggest that improving community welfare, such as infrastructure, health,
education, and enterprise, can also lead to community support for ecotourism and speed
up its growth in these destinations. Similar conclusions have also been arrived at by
Muiruri et al. (1996).

According to Emerton, (1998), the communities living with wildlife are often the most
economically marginalized. Involving them in ecotourism through sharing wildlife
benefits will, therefore, enhance their socio-economic livelihoods. Benefit-based
approaches require that ecotourism simultaneously generate natural resource benefits
(which will justify its sustainability), Government revenues (which will provide funds to
distribute to the communities) and community benefits (which will stimulate positive
approaches to natural resource management). With more than 75% of Kenya’s wildlife
residing outside the country’s protected areas, on private land devoted to farming,
livestock ranching or community trust lands (KWS, 1996) it is imperative that the local communities be actively involved in the planning, development and management of wildlife tourism attractions in their areas.

2.8 Obstacles to Ecotourism Development

Emerton (1998) reports that most approaches to ecotourism development are based on sharing income as a broad development benefit. In most cases their success has been evaluated in terms of the total value of revenues and the range of development projects initiated among neighbouring areas. She further argues that it is not self-evident that sharing revenues as development benefits will automatically lead to community participation. There are a number of other economic impacts, which may counterbalance, or even negate the gains from revenue sharing arrangements, such that benefit based approaches only partially address the economic issues involved in natural resource management. She outlines three important factors which help to explain the underlying forces contributing to limited support of ecotourism development by local communities in rangelands. These include the:

- nature of livelihood systems,
- form in which communities in wildlife areas receive benefits,
- costs that wildlife incurs on local livelihoods, and
- broader policy factors, which influence land tenure systems, land use and economic activities.
Gichohi (1996) argues that forms of land tenure systems tend to be biased towards settled agriculture and have thus discouraged ecotourism enterprises. She says, for example, that throughout East Africa, there has been a shift towards consolidation and individualisation in land tenure systems, which have resulted in wildlife conservation land being smaller than the minimum viable area for wildlife populations. According to Mwau (1996), this is a hindrance to ecotourism development as the land units do not fit the objectives of ecotourism. Policy factors, which limit property rights for the local communities to own wildlife and other resources, can also severely constrain the extent to which communities benefit from ecotourism on their land (Emerton, 1997). This means that, even where wildlife can generate high financial returns and compete with alternative land uses, local communities are often not permitted to legally capture these benefits.
CHAPTER 3: MATERIALS AND METHODS

3.1 Introduction

This chapter describes the research design and the methodology used to assess the success and to determine the opportunities and constraints towards attaining sustainable ecotourism in the Kenya’s rangelands. The subsequent sections describe criteria for site selection, sampling procedures, data collection instruments and data analysis approaches.

3.2 The Study Area

This study was conducted in two selected ranches, Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary in Laikipia District of Kenya. Map 1 below, shows the location of Laikipia District in Kenya.
Map 1: Location of Laikipia District.

Source: Republic of Kenya, 1994
3.2.1 Location, Size and Human Population

Laikipia District is located in the northern Rift Valley Province of Kenya. It lies between the Great Rift Valley to the West and the Aberdare Ranges to the East and Mt. Kenya to the South. The district had a population of approximately 400,000 in 1999 (Kaunga, 2004) and it covers a total area of 9,179 km$^2$. Sixty five percent of the total land area is occupied by private and communal ranches.

The District is divided into six divisions namely: Lamuria, Central, Rumuruti, Mukogodo, Ngema and Nyahururu Municipality. Il Ngwesi Communal Ranch is in Mukogodo while Sweetwaters Game Sanctuary is in Central. Map 2, below shows the administrative boundaries of Laikipia District. It has high population growth rate of 7.3% per annum (Republic of Kenya, 2003). This is attributed to immigration from high population areas of Central Province as well as from other Arid and Semi Arid Land (ASAL) areas of the country such as Baringo and Samburu districts (Mwangi, 2000).

The high population growth rate in the district is having a direct impact on the operations of game ranches and conservancies in the District. For instance, increased competition between people, wildlife and livestock for space and other resources in the area has often led to frequent human-wildlife conflicts (Cheeseman, 2002). Human life and other properties like crops have been lost due to these conflicts.
3.2.2 Infrastructure

Access to Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary is very good as they are close to a number of facilities, which include Nairobi - Isiolo road, the Nanyuki railway line and the Nanyuki airstrips. However, the condition of these facilities is better in Sweetwaters compared to those in Il Ngwesi Group Ranch. For example most roads in
Sweetwaters game sanctuary are all weather. The airstrip near Nanyuki is only 17km from Sweetwaters game Sanctuary and about 65km from Il Ngwesi communal ranch.

With regard to water, the Central Division of Laikipia District has several major water facilities that are either for domestic and livestock use or for irrigation purposes. The tributaries of northern Ewaso Ng'iro River drain Central Division plateau of Laikipia District while on the other hand; Mokogodo Division where Il Ngwesi communal ranch is located does not have any major rivers. Il Ngwesi area is drained by four seasonal rivers, namely: Ngare Ndare, Ngare Sergoi, Eastern Marani and Western Marani (Mwololo, 2002). As a result, it has little surface water, and instead relies on a number of boreholes (Republic of Kenya, 1997b). This area, therefore, has a slower economic development with poor living standards compared to Sweetwaters game sanctuary.

3.2.3 Physical Environment

The oldest rock in Central and Mukogodo Division is the Precambrian metamorphic of the Mozambique Belt (Republic of Kenya, 1987) which once covered a large belt of land from Jordan Valley to Mozambique 600 million years ago. In Il Ngwesi ranch, the rocks are mainly gneiss with granitic and magmatic bands (Ahn and Geiger, 1987). These outcrops are prominent in most parts of Mukogodo Division. Younger rock formations and deposits of volcanic origin however overlie the Central Division, forming a plateau (Hackman, et al. 1967). On Sweetwaters Game Sanctuary, the rocks form topography of steep valleys, gradual slopes and undulating hills with occasional steep river valleys (Holdt, 1999).
3.2.4 Soils

The type of bedrock, topography and climate determine pattern of edaphic factors in Central Division and Mukogodo Divisions (Mwangi, 2000). The soils of these divisions have been developed from various volcanic materials, mainly of pyroclastic rocks and ash. According to Ahn and Geiger (1987), these soils have influenced the land use pattern in the two divisions and they have divided them into three major units:

- **Chromic Vertisols**: This is the major type common in the divisions. This soil type is found in gently undulating areas developed over basalt and occurs north of Mukogodo and Sirmon. This soil is very sticky when wet but extremely hard and cracking when dry. The soils though rich in nutrients are found in dry areas resulting in little development for agriculture. Il Ngwesi Communal Ranch falls in this soil unit.

- **Pellic Vertisol with chromic vertisols and Luvic Phazoms**: This unit lies on a structure plateau. In Nanyuki it is found in formations that consist of volcanic materials of mainly silt with subordinate lower sand, gravel and pebble deposits eroded from the Mt. Kenya massive. Most agricultural activities take place where these soils are distributed. Sweetwaters game Sanctuary lies in this unit.

- **Pellic Vertisols with Chromic Luvisols**: This unit is dominated by heavy textured, dark coloured cracking clay that occupy most of the flat and gently undulating summit areas with little agriculture activities.
3.2.5 Climate

The climate of Il Ngwesi and Sweetwaters ranches is mainly governed by their positions across the equator and their position west of Mt. Kenya (Thouless, 1995 and Mwangi, 2000). They receive relief rainfall that ranges between 400mm to 800mm annually. Sweetwaters has three main rainy seasons: The "long rains" which fall between April and May, the "Continental rains" which fall between July and August and the "short rains" which fall between October and December (Berger, 1989).

Il Ngwesi Communal ranch, on the other hand, has two main rainy seasons; the "long rains" from March to May, and the "short rains" from October to December (Mwololo, 2002). The "long rains" and "short rains" are as a result of the influence of the Inter-Tropical Convergence Zone (ITCZ), while the "continental rains" are due to the Congo Air Stream (Ahn and Geiger, 1987). In the two range units, annual rainfall distributions show great disparity both over space and time (Flury, 1987; Thouless, 1995). Periods of prolonged drought are more common in Il Ngwesi compared to Sweetwaters game Sanctuary. This makes Il Ngwesi area more agriculturally marginalized compared to Sweetwaters.

The total precipitation and its distribution correlate highly with relief. High altitude (1800-2600m) results in temperatures being between 15°C and 20°C (Flury 1987 and Republic of Kenya, 1994). Temperatures drop at the rate of 0.6°C per 100m rise in altitude. Thus it is hotter in the low-lying areas of Il Ngwesi Communal ranch where temperatures often reach 45°C (Republic of Kenya, 1997). The average temperatures of Il
Ngwesi and Sweetwaters Ranches do not vary with the seasons due to their positions near the equator. The average sunshine hours per day range between 6 and 8 hours in the study areas (Ahn and Geiger, 1987). This makes the areas suitable for outdoor activities which is common among ecotourists.

Most of Central and Mukogodo Divisions fall in the moisture availability zone five (MAZ-V), in which annual rainfall averages between 25% and 40% of potential evaporation (Herren, 1991). There is a substantial deficit in the availability of water on an annual basis, though in individual wet months, rainfall may temporarily be in excess of the potential evaporation. This makes the area potentially unsuitable for agricultural production. A small portion of Central division falls under MAZ-IV, which is a result of the area's closeness to Mt. Kenya. The central part of Mokogodo division falls mainly in agro-climatic zone V-4, V-5 and V-6 (Herren, 1991). Zones V-4 and V-5 have similar moisture availability in that they all fall in MAZ-V, but differ in temperature ranges with Zone V-4 being slightly cooler.

3.2.6 Vegetation

The geology and climate of the district govern vegetation in the two study areas. However, human influences have altered the original vegetation in Sweetwaters and II Ngwesi giving rise to an arrested climax of extensive vegetation of mostly open grasslands with scattered bushy trees. The dominant vegetation consists of mainly *Acacia drepanolopium* on heavy soils, and *Acacia gerradii, Acacia tortilis* and *Acacia seyal*, on the flat to very gently undulating soils. The grasses on the range include *Themada*
triandra, pennisetum stramionium, pennisetum meziamum and Cynodon dactylon (Wakhungu, et al. 2002). This type of grass favour herbivore utilization thus the high variety of herbivores in the two study areas.

Il Ngwesi, on the other hand, forms a transition from semi-arid lowland to arid lowlands. Most of this area can therefore, be described as Savannah (Pratt and Gwynne, 1977). The ranch is covered with grass and tree vegetation with varying amount of Acacia drepanolobium on wetlands. Indigenous forests such as Mukogodo, Mangum, and Kijege are also present in this area (Republic of Kenya, 1997b).

### 3.2.7 Land Use

In the pre-colonial times (before 1900), most of Laikipia District and parts of the surrounding districts formed part of the Maasai community territory whose population in the district is 35,000. They practise traditional pastoralism, which is dependent on climate. During the colonial period (1900-1963), the Maasai in the region were restricted to the native reserve area to the north of Laikipia district, which is the current Mukogodo division, where they are currently being organised into communal Ranches (Wamicha and Mwanje, 2000). Other areas such as central division were sub-divided into large tracts of land exclusively owned by white settlers.
Game ranching, livestock ranches and mixed farms with dairy and cereals production and now ecotourism are the major land uses in most parts of Laikipia District. Appendix I shows the agro-ecological zones and land-use patterns in the district, while Figure 3.1 above shows the percentage land-use levels in the district.

According to Laikipia District development plan (Republic of Kenya, 1994), Laikipia District supports a broad mosaic of land use and economic activities. The district constitutes of 48% large-scale private ranches, 8% communal ranches, 26% small-scale farming, 7% forest, 9% pasture land; the rest of the land is either an urban or rural
centres. In the southern parts, small-scale farmers do farming at subsistence levels whereas in the Central and Northern areas, large-scale private and communally owned game and livestock ranches are found. In addition these areas have abundance of wildlife and are currently being used for wildlife-based ecotourism with potential for other forms of ecotourism enterprises.

This wildlife includes some of the known endangered species such as Black Rhino and the Grevy Zebra, therefore, making it an important tourism destination in Kenya. In addition wildlife from Aberdare National Park and Samburu National Reserve use the area as a migratory corridor connecting their traditional home ranges to the Mt. Kenya ecosystem. Other tourist attractions in the district include unique landscapes like the nearby snow-capped Mount Kenya, the Equator and the colourful culture of the Laikipia Maasai i.e. the Il Laikipia. Some of the large ranches such as Lewa Downs, Ol Pajeta and Sweetwaters have developed a variety of tourist facilities, including access roads and lodges, which have enabled them to attract tourists. They have also developed their own marketing initiative. However, human-wildlife conflicts are a major problem in the area and are more pronounced in smallholder farming systems, where there is an increase in human population (Sikoyo et al. 2001).

3.3 Description of the Study Sites

3.3.1 Il Ngwesi Communal Ranch

The Il Ngwesi ranch is a communal ranch that was established in 1996 with the assistance of a private ranch (Lewa Downs Conservancy) and Kenya Wildlife Service. It
is 56 kilometres northwest of Mount Kenya and 24 kilometres west of Isiolo. The communal ranch covers an area of 165,000 acres (Sikoyo et al. 2001).

The local inhabitants of Il Ngwesi are Maasai, who are traditionally nomadic pastoralists and whose livelihood depends on indigenous livestock husbandry, hunting and food gathering. The ranch is managed by the local community and has set aside land for livestock ranching, maintaining wildlife migration corridors, tourist lodge management and cultural activities.

According to the Lewa Wildlife Conservancy (2001), the ranch represents a model of community-based tourism by maintaining traditional use of the land while encouraging the integration of wildlife with livestock ranching. The ranch has an innovatively designed lodge that acts as a catalyst and a rallying point of tangible benefits from ecotourism to the local community as well as the development of the natural resource conservation programmes. Map 3, below shows the location of Il Ngwesi Communal Ranch.
Adapted from Sikoyo et al. 2001

Map 3: Location of the Il Ngwesi Communal Ranch

The lodge, which opened in December 1996, is constructed using local natural materials and is utilized by both Kenyan and international visitors. It has accommodation for up to sixteen people in six bandas set in natural habitat. Rates are dependent on the number of guests, their country of origin and whether the lodge is booked exclusively. The rates are US $385 (double), self-catering US$ 190 (7-16 people), US$ 375 (3-6 people) and US$
360 (1-2 people) per person per night (Let’s Go Travel, 2004). Appendix II shows some selected pictures of the lodge.

The ecoproducts available from the lodge include game viewing drives, bush walks and camel rides. Guests can also visit nearby cultural villages, where they can gain an insight into the history and traditions of the Masai, witness their cultural practices, including rites, rituals and dances and occupations such as livestock keeping and traditional hunting.

3.3.2 Sweetwaters Game Sanctuary

Sweetwaters is one of the four licensed private game reserves operating in Laikipia District, the others being Solio Ranch, Mount Kenya Game Ranch and Lewa Conservancy. This 24,000-acre reserve, situated within Ol Pajeta Ranch was established in the early 1970's. The Game Reserve is 17 kilometres, South West of Nanyuki town or 200 kilometres North of Nairobi (see Map 4).
Map 4: Location of Sweetwater's Game Sanctuary.

Unlike Il Ngwesi, Sweetwaters is a private ranch owned and managed by Serena Group of Hotels. Within Sweetwaters game sanctuary, there is a Rhino Sanctuary, which was established in 1974 to provide a home for the endangered White Rhino and a Chimpanzee Sanctuary established in 1993 to provide for the welfare as well as a permanent sanctuary for orphaned Chimpanzees from Central Africa. The Jane Goodall Institute provides financial and technical support to the Chimpanzee sanctuary. Visitors to the Sanctuary are also invited to contribute to the survival of these vulnerable wildlife on a voluntary
basis. The Reserve has a luxury-tented camp with 30 en-suite tents, which can accommodate approximately 60 clients. The rates are US$ 320 (double), and US$ 245 (single) per person per night (Lets Go Travel, 2004). Appendix III shows some selected pictures of the lodge. Ecoproducst available to clients from the camp include game drives within the reserve, camel rides, boat rides along the northern Usao Ngiero River, bird and nature walks, visits to the Chimpanzee and Rhino sanctuaries accompanied by naturalists and armed guides.

Il Ngwesi Communal Ranch was selected because it is one of the first community-based ecotourism projects to be initiated in Kenya. It is also wholly owned and managed by members of the local community. According to Johnstone (2000) Il Ngwesi is a global model towards community-based ecotourism enterprises. On the other hand, Sweetwaters Game Ranch was selected for comparison because it is privately owned and it is among the first such enterprises to be established in Kenya. It has also integrated the community in a number of its activities.
3.4 Sample Size and Sampling Procedures

There are several formulae for determining sample size. Mwanje and Gotu (2001) provided a useful listing of such formulae.

The following formula was adopted to determine the sample size:

\[ n = \frac{Z^2 \cdot p \cdot q}{d^2} \]

Where:

- \( n \) = the desired sample size
- \( Z \) = The standard normal deviation at the required confidence level
- \( p \) = The proportion in the target population estimated to have characteristics being measured.
- \( q \) = \( 1 - p \)
- \( d \) = the level of statistical precision (Mugenda and Mugenda, 1999)

To select a representative sample, a sampling frame was developed. The sampling frame included a list of cases from which the sample was selected and these formed the units of observation in the study. Systematic random sampling method was mainly employed to select the sample from the list of all members in the sampling frame at 95% degree confidence corresponding to \( p = 0.05 \) and a \( Z \) value of 1.96.

Il Ngwesi area had a recorded 448-registered household heads living within the ranch while Sweetwaters game sanctuary had about 350 households all living outside the sanctuary. Out of this, 125 households were selected from Il Ngwesi communal ranch while 98 households were selected from Sweetwaters game sanctuary. Of particular
interest were members of Sweetwaters game sanctuaries, who moved out of the group ranch and occupied some land adjacent to it. Most of them have now settled permanently next to the game sanctuary.

3.5 Data Collection

Household surveys, interviews and checklists were the main primary data collection methods. There were two household surveys for the respondents in Il Ngwesi and Sweetwaters game sanctuary and six questionnaires for the stakeholders. Each questionnaire had an ecorating checklist whose details are in Appendix I. Secondary data was obtained from documented and un-documented literature such as Government and Non Governmental Organisation survey reports, newspaper articles, institutional brochures, academic journals, specialised magazines and the Internet. However, care was taken in gauging the reliability of the sources of data, especially when citing time sensitive material from the Internet, as not all websites are regularly updated.

Both male and female respondents were interviewed. Gender consideration catered for different interests and viewpoints. The respondents for the survey were grouped in two main clusters- namely women and men. Institutions and/or individuals carrying out activities on the ranches were also interviewed.

Three instruments: namely: a household survey (Appendix IV), group ranch questionnaires (Appendix V) and stakeholders questionnaires (Appendix VI) were designed to collect information to be used in the process of estimating local economic
impacts as well as in determining respondents perceptions on the study areas future of
etourism and natural resource management. The information collected was grouped
into two categories. The first category referred to the demographic characteristics of the
respondents in the group ranch and the game sanctuary. This was intended to provide
detailed profiles of the local communities in the study areas. The second category related
to the respondents’ perceptions on matters such as economic benefits, natural resource
management, ecotourism development and policy implementation.

In order to ascertain further the economic benefits to the local communities in the two
study areas, respondents were asked to state how ecotourism had contributed to their
individual households’ income and what other economic activities they participate in.
The questionnaire did not limit the respondents to one response. The results obtained
from the respondent perceptions were each ranked by giving them a score of $Z = 0$: Not
significant, $1$: little significant, $2$: significant, $3$: very significant which facilitated
computation.

Traditional economic analysis methods are used to estimate impacts using
macroeconomic techniques such as input-output analysis. But such large-scale techniques
are inappropriate for community-level inquiries where data is often unavailable. In view
of this, this study evaluated the distribution of direct economic benefits from ecotourism
expenditure using the inventory / budget method. As the second and subsequent rounds of
benefits were not being investigated, the estimation of multiplier values was not done.
In addition, the estimation of multipliers requires substantial amounts of data, which was beyond the scope of this study.

The respondents in the two study areas were requested to prioritise what they considered as important projects in the area which needed funding from revenues collected from ecotourism. This gave an insight into the priorities of the local community in relation to the utilization of economic benefits accrued from ecotourism. It also helped in assessing their views regarding ownership and project responsibility.

Changes in residents' attitudes towards natural resource management were measured using an index of two items. Respondents were asked whether they were in support of wildlife conservation in the area, before and secondly after the establishment of ecotourism. To capture the local communities' attitudes towards ecotourism in the two study areas, a five-point Likert scale with several statements was developed. This scale was initially subjected to a 3-step pilot study in order to check its validity and reliability. This was done by first pre-testing the items using selected teachers (step 1), selected students (step 2) and selected respondents (step 3) outside the study area. The main issues tested in this case were grammar, layout and comprehension before it was administered to the final sample. In addition the scale adapted in this study had previously been used and tested for reliability in other research studies such as the one done by Cheeseman (2002) and Ross and Wall, (2003).
To ascertain the sustainability of ecotourism in both Il Ngwesi communal ranch and Sweetwaters Game Sanctuary, obstacles to ecotourism development were established. This was done by administering an attitudinal scale which was composed of approximately an equal number of favourable and unfavourable statements concerning the various factors that were thought to affect the success of ecotourism and natural resource management in the two study areas. Respondents were asked to respond to each statement according to their degree of agreement as follows: strongly agreed (SA), agreed (A), undecided (U), disagreed (D), or strongly disagreed (SD). Scale scores were computed by summing up the response scores of the component items with those given by the respondents. An average of their recommendations was drawn and an inventory of the local community participation in ecotourism activities was conducted to determine the types of eco-products in the study areas.

The benefits derived from ecotourism by the environment and natural resources were investigated mainly based on the role of the community members, ecotourism enterprises and stakeholders in encouraging wildlife conservation initiatives as well as minimizing human-wildlife conflicts in the area. Due to the limited time, scope of the study and financial constraints, issues like the role of ecotourism in energy, water and waste management conservation were not considered.

The key informants included chiefs, elders, and schoolteachers, members of the Natural Resources Management Committee (NRMC), Kenya Wildlife Service, and Laikipia Wildlife Forum officials. Focused group discussions with members of the stakeholder
groups, communal ranch management committees (CRMC), lodge, the cultural boma and other employees were made. According to Wagner (1997) the interview approach to data collection may create an accessibility bias. This was overcome by supplementing the data collected through interviews with the researcher’s own observations. In addition, the survey instruments used were standardised, structured and confidential. After each interview, informal discussions were also held to obtain qualitative data.

3.6 Data Analysis

Data analysis considered the study objectives and hypotheses. Responses from questionnaires, household surveys and checklists were analysed using the Statistical Package for Social Scientists (SPSS) and Microsoft Excel packages. Paired sample chi-square-tests comparing the two study areas was performed to see if there were any significant differences among them. Frequency analysis was used to further identify specific factors related to the sustainability of ecotourism in Il Ngwesi communal and Sweetwaters private Ranches.

In designing this study, efforts were made to minimise its limitations. However, only host community expectations and perceptions were investigated, but not those of the ecotourist. The sample distribution, budgetary and time constraints made it impossible to investigate the ecotourists. According to Carman (1990), expectations and perceptions of different parties cannot be administered at the same time.
CHAPTER 4: RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results of the study. Results pertaining to the community member’s participation in ecotourism activities; their attitudes towards ecotourism development and their support for ecotourism enterprises in the study areas are presented and discussed. The relationship among stakeholders and with the local communities in the development and management of ecotourism products and the natural resources in the two study areas is also examined.

4.2 Economic Benefits of Ecotourism

4.2.1 Household Income

Income earned from employment and participation in ecotourism activities is a direct benefit that communities can derive from ecotourism activities. The study identified three main sources of household income accruing to the local communities: livestock, agriculture, and ecotourism. Figure 4.1 below summarizes the sources of income for the communities in the two study areas.
The results of the survey highlight the differences in income sources in the two study areas. In Il Ngwesi, most households derive income from livestock production (45%) followed by ecotourism (32%), agriculture (18%) and others (5%). However, agriculture at 48% is the leading income source for Sweetwaters. The others are ecotourism (22%), livestock (18%) and others (12%). The households in Il Ngwesi therefore, derived more income from ecotourism activities than in Sweetwaters. \( \chi^2 \) results show this to be significant at (\( P<0.001; \chi^2 = 54.63; df =1 \)).

In general, the average household income per year varied among households depending on the economic activity they practiced. These average incomes were found to be significantly higher in households that had ecotourism as an economic activity. This is, therefore, a strong indicator that ecotourism is positively contributing towards local community livelihoods in the two study areas.
The study also revealed that willingness by community members in the study areas to have more ecotourists visiting the area was dependent on the percentage of household income derived from ecotourism which could be achieved through enhanced efforts towards its sustainability. The larger this percentage was, the more the community members were supportive of ecotourism activities. This was determined at 95% significant level (P<0.05) and it is an indication of how economic benefits can encourage the local communities to accept and support ecotourism development initiatives.

The respondents on Il Ngwesi communal ranch derived 85% benefits from the Il Ngwesi Lodge, and other ecotourism enterprises, such as cultural bomas (55%), curios (32%), and campsites (11%), while 90% of those from Sweetwaters game sanctuary derived theirs mainly from the ranch and commercial campsites in the area as shown in figure 4.2. The community members received less income from cultural bomas (25%) and curio sales (10%) than their counterparts from Il Ngwesi. This can be attributed to the presence of panoramic scenery suitable for the development of ecotourism facilities in Il Ngwesi and the existing traditional lifestyle in the area. The lifestyles of the inhabitants of Sweetwaters are more modernized and are dependent on agriculture. They have however taken advantage of the nearness to Mount Kenya to develop budget campsites for mountain climbers as an additional income source.
Respondents from the two study areas received revenue individually and/or communally from ecotourism activities, such as the lodges. These benefits were received in the form of a profit-sharing scheme, an annual concession fee, or a bed night levy. In Il Ngwesi, 94.4% of the income to the community from ecotourism activities was received in form of profit-sharing scheme, 92.8% from annual concession fee and 84.8% from bed night levy.

At Sweetwaters game sanctuary, income accruing to the community from ecotourism activities mainly came from concession fees. As noted earlier, the local communities in this area do not benefit much from ecotourism activities. Figure 4.3 shows the distribution of income from accommodation facilities in the two study areas.
From figure 4.3 above, it is evident that benefits from bed night levy, annual concession fee, and profit sharing scheme are more significant ($p < 0.001$, $\chi^2 = 724.2; \text{df} = 12$) in Il Ngwesi communal ranch compared to Sweetwaters Game Sanctuary. This is because Sweetwaters Game Sanctuary being a privately owned enterprise, the community members are not shareholders and therefore, do not share in the profits earned from ecotourism. However they are given a token contribution (concession fee) by the sanctuary management for utilizing the wildlife resources in the area.

The study revealed that the local communities were benefiting more from community owned ecotourism enterprises than from privately owned ones. This is a good indication that the local communities in Il Ngwesi are deriving significant benefits from ecotourism enterprises and were therefore willing to support it. The local communities in both study areas considered the presence of the accommodation facilities as having a positive impact.
on their economic livelihoods. This is a positive pointer towards acceptance and support for investment and eventually sustainable ecotourism development in Kenyan rangelands.

Results of the survey also revealed that a majority of the respondents in both areas were opposed to the closure of Il Ngwesi lodge and Sweetwaters tented Camp. It was further revealed that 98% of the respondents in Il Ngwesi were willing to support the establishment of additional lodges in their area. On the other hand 95.6% of the respondents in Sweetwaters game sanctuary did not support this idea, probably because they felt that they did not receive enough benefits from the current lodge. Appendix VII shows the community’s attitude towards establishment of ecotourism enterprises.

In general, ecotourism has changed the living standards of the members of the community in the study areas. For those who are not salaried employees of the lodges, it provides significant support through collective assets such as security, infrastructure, and education. There is a possibility of poverty reduction through ecotourism in the long-term, which is an aspect of sustainable livelihoods according to Agenda 21 (WTO, 2000) and (Petra, 2002).

4.2.2 Employment Opportunities

The two lodges in the study area (Il Ngwesi Lodge and Sweetwaters Tented Camp), each derive over 80% of their staff from among the members of the local community where they are located. Members of the Il Ngwesi community also own, are employed in, or participate in other ecotourism ventures such as camel safaris, cultural villages or selling souvenirs. In Sweetwaters, the community members mainly work in the game sanctuary and its related...
As indicated earlier, pastoralism, agriculture and ecotourism were found to be the major land use activities in the study areas. 53% of the members of Il Ngwesi community practiced pastoralism, while a few (4%) engaged in agriculture. An analysis of the household survey revealed that there were significantly ($\chi^2 = 54.74; \text{df } = 1; p<0.001$) more members of the Il Ngwesi community engaged in ecotourism related employment (15.4%) and other economic activities than in Sweetwaters (9.6%) as illustrated by Fig. 4.4. This is an indication that ecotourism has had a more positive impact on the local people's employment in Il Ngwesi than in Sweetwaters.

This could be attributed to the fact that Il Ngwesi community members, who live in a more ecologically marginalised area adapt easily to ecotourism activities than the more
agriculturally oriented Sweetwaters community. Thus, ecotourism is a better alternative land use option for the local community in Il Ngwesi communal ranch as compared to those in Sweetwaters game sanctuary. Ecotourism is, therefore, more sustainable for communities where land is owned jointly than in areas where land is privately owned.

4.2.3 Education Opportunities

The government is responsible for the physical development of schools in the two study areas. Non governmental Organizations, such as African Wildlife Foundation, African Conservation Center and Rhino Charge, and private entrepreneurs such as Lewa Downs and Safaricom among others, usually supplement this effort. However, expenditure on a child's education such as tuition, (at secondary and at university level) is the responsibility of the parents.

The results of the survey showed that 77.2% of the respondents in Il Ngwesi and 36.2% of those in Sweetwaters had no formal education background. Out of those with formal education, 11.4% in Il Ngwesi and 44.6% in Sweetwaters had attained primary education level, while 8.4% in Il Ngwesi and 12.2% in Sweetwaters had attained secondary school education. The remaining 3.0% in Il Ngwesi and 6.6% in Sweetwaters had attained tertiary level education. Figure 4.5 shows the distribution of respondents' level of education in Sweetwaters Game Sanctuary and Il Ngwesi Communal Ranch.
Funds from ecotourism activities in the study areas have benefited local communities in
education especially through contributions to bursary funds by ecotourism enterprises
such as the lodges. Households with members working in the ecotourism enterprises also
had more children in school. However, the positive impacts on education standards in Il
Ngwesi are not as significantly evident as those in Sweetwaters (χ²=4.82; df=1; p =0.05).

The more advanced level of education at Sweetwaters could be attributed to the support
given to the local community by the lodge, such as the construction of Sweetwaters
Primary School and the provision of educational material. Members of staff at the
Sweetwaters Lodge make contributions towards a bursary fund for the needy secondary
school students in the area. Development funds from the lodge income in Il Ngwesi have
also been used to reconstruct six primary schools and refurbish their education facilities.
However being a pastoralist community, school enrolment has been poor.
Waithaka *et al.* (2001) indicate that 15% of the annual profit generated by Il Ngwesi lodge through ecotourist activities such as the cultural “manyattas” visits and camel treks is returned to the community. Part of these proceeds are used as bursaries for needy secondary school and university students, thus, encouraging enrolment to schools. This indicates clearly that through ecotourism, communities can help meet the national goal of poverty eradication by enhancing literacy levels of its members.

The study findings also indicated that the level of education is significantly dependent on household size: \( \chi^2 = 11.26; \text{df}=1, P<0.05 \). Thus the larger the household size, the fewer the household members that receive education. This could be attributed to the fact that households with larger families cannot afford to send all their children to school due to the heavy expenses involved.

### 4.3 Indirect Benefits of Ecotourism

The most significant indirect benefit derived from the establishment of ecotourism in both study areas was seen as increased security, which is a very important aspect of any economic investment. Results from the survey indicate that 98% of the respondents in the two study areas cited increased security as a benefit derived from the establishments of ecotourism enterprises. Other benefits, ranked in order of importance, were wildlife conservation (93%), infrastructure development (79%), conservation of pastures (67%), provision of school bursaries (45%), improvement of health facilities (42%) development of cattle dips (37%) and recognition of the community internationally (32%). Figure 4.6 below shows the indirect benefits from ecotourism in both study areas.
Fig. 4.6 Indirect Benefits from Ecotourism in the study areas

4.3.1 Security

The respondents in the two study areas indicated that security in the area had improved significantly following the introduction of ecotourism activities. Youths in the two areas were actively involved in ensuring that the ecotourists and the attractions in the area were safe. Grazing of cattle had also been regulated, while sharing of pastureland with the neighbouring communities had also been put under control through the assistance of the armed community guards and joint security efforts with the government administration.

Using the Lickert scale, the study findings indicate improved security resulting from ecotourism activities (1.06) - an indication of the important role ecotourism plays in this respect. When asked whether the crime rate had increased in the community, the general response score was 4.89, an indication of a strong disagreement with the stated
proposition. Crime has, therefore, been drastically reduced in the area as a result of
ecotourism.

4.3.2 Infrastructure and Services

Figure 4.7 shows the percentage distribution of indirect benefits of wildlife related
ecotourism activities to the local communities in the two study areas, which include
improvement of infrastructure, security, development of cattle dips, and radio call
services for external communication. In Il Ngwesi, the members of the community have
obtained professional skills such as the use of hand set radios for security purposes and
emergency calls, basic monitoring skills and first aid techniques, while the older men
have learned better rangeland management skills. Such benefits were not observed in
Sweetwaters since the Ranch is privately owned and very little of the profits are
channelled to the community.
From figure 4.7, it is evident that community members at Il Ngwesi communal ranch received significantly ($P < 0.001 \ (\chi^2 = 45.66; \ df = 1)$) more indirect benefits from ecotourism as compared to Sweetwaters game sanctuary. This is an indication that communally owned ecotourism enterprises are likely to be more successful than privately owned ones due to the fact that communities received more benefit from their activities.

### 4.3.3 Health Facilities and Services

Although the respondents (58.4%) in Sweetwaters acknowledged the positive contributions of ecotourism to their well being, they saw minimal improvement in the provision of health services to the community in the area as a result of ecotourism. In contrast, 82.3% of the respondents in Il Ngwesi acknowledged that they benefited from the provision of health facilities and services, such as the establishment of health centres, as a result of ecotourism activities in the area. The respondents in Sweetwaters study area
live out of the conservancy and thus they miss the privileges of health services enjoyed by their contemporaries in II Ngwesi.

4.3.4 Interaction between Local Community and Visitors

The study established that there were interactions between the local community members and ecotourists. These interactions varied greatly in the two study areas. In II Ngwesi for example, the rate of interaction ranged from daily (8.8%), weekly (52.8%), monthly (16.0%) and quarterly (20.8%). Sweetwaters study site had a lower record of interactions compared to II Ngwesi. In this area, there were daily interactions of (1.2%), weekly (10.0%), monthly (20.2%), and quarterly (14.2 %). The remaining 62.1% reported that they had no interaction at all. Figure 4.8 shows the frequency of the respondents' interaction with ecotourists in the two study areas.

![Graph showing frequency of tourist-host interactions in ICR and SGS](image)

Fig 4.8 Frequency of Tourist – Host Interactions in ICR and SGS
These interactions were found to be significantly (P< 0.05; \chi^2= 41.02; df =1) more frequent in Il Ngwesi than in Sweetwaters. According to Maria (2002) interactions between the local community and ecotourists promote international understanding and peace through networking and partnerships, which is a pre-requisite for sustainable ecotourism. In addition, where visitors are in direct contact with community members, the chances for direct income to be injected into the community are higher, through increased visitor expenditure. It also has a major influence on communities' attitudes and understanding of ecotourism in general (Klein, 1994).

83% of the respondents in the study areas indicated that ecotourism had exposed their area to both local and international visitors. This benefits the communities by increasing foreign investment opportunities especially in ecotourism, thus injecting more income into the area. In addition, it encourages goodwill and assistance from donors. It also brings about better cultural understanding between the ecotourists and the host communities and gives the local community a sense of self-pride and ownership of the environment, wildlife, culture and traditions.

4.4 Perceptions of Ecotourism Development

The respondents identified a number of advantages and disadvantages of ecotourism as shown in table 4.1. According to the results, the perceived benefits outnumbered the costs, which reflects positive advocacy for ecotourism by the local community.
Table 1: Local Community Perceptions of Ecotourism

<table>
<thead>
<tr>
<th>Benefits of ecotourism</th>
<th>Disadvantages of ecotourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improved security</td>
<td>• Human wildlife conflict</td>
</tr>
<tr>
<td>• Higher household income</td>
<td>• Limited access to pasture</td>
</tr>
<tr>
<td>• Employment</td>
<td></td>
</tr>
<tr>
<td>• Improved communication</td>
<td></td>
</tr>
<tr>
<td>• Improved transport/ infrastructure</td>
<td></td>
</tr>
<tr>
<td>• Environmental/wildlife conservation</td>
<td></td>
</tr>
</tbody>
</table>

4.4.1 Participation in Ecotourism

In Il Ngwesi, 70.4% of the respondents of the household survey were group ranch members who were not holding any leadership position within the ranch. The remaining 12.3% were group ranch officials, while 10% were local development committee members, and 7.3%, elected leaders. Results of the study indicated that out of the 50 group ranch officials interviewed, 20 were males, 16 females and 14 were youths. All the respondents joined the group ranch through clan or family affiliation. Involvement of local community in ecotourism enterprise was found to be more in Il Ngwesi Communal Ranch ($\chi^2 = 54.02; \text{df} = 1; P < 0.05$) compared to Sweetwaters Game Sanctuary ($\chi^2 = 4.11; \text{df} = 1; P < 0.05$).

According to Mohammad (2002), community participation in ecotourism is one of the principles of sustainable ecotourism management. The communities share responsibilities for and participate in policy making, programme definition and all other measures aimed at sustainable development and management of their enterprise. Local people
involvement in decision-making process was found to be significantly \( (P< 0.05; \chi^2=201.3; \text{df}=362.1) \) higher in Il Ngwesi than in Sweetwaters. According to Hannah (1992), involving the locals in the decision making process gives them a sense of ownership, which can serve as an incentive towards natural resource management thus ensuring sustainable ecotourism. She further suggests that communities develop common objectives, the best alternative actions and establish guidelines for the creation of sustainable ecotourism projects.

Mburu (2004) suggests that the co-management approach, which is characterised by partnership arrangement between the government, the local community and other stakeholders, can positively contribute towards successful achievement of goals of natural resource management and socio-economic development. This is because it creates negotiated agreement between the protected area managers, other interested groups, including the local community and allows the local community to fully participate in management partnerships (Borrini-Feyerabend, et al. 2000).

### 4.4.2 Wildlife Conservation

In both study areas, 89% of the respondents were prepared to protect wildlife following the initiation of ecotourism activities. The community members also acknowledged that ecotourists visit their area partly to view wildlife and that it was because of them that their household income had improved significantly. Computed Lickert scale \((1.18)\) indicates that increased community’s efforts towards wildlife conservation were anticipated as a result of the extra income earning from wildlife. The local community in
Il Ngwesi has set aside a conservation area where cattle are prohibited except during severe drought. In this area, wildlife like elephants, zebras, bushbucks, greater and lesser kudu, as well as big cats can be seen. This area is protected from logging, overgrazing and poaching through the community’s collaring and monitoring programme. Though there are currently no records of animal census in this area, there is observable evidence of an increase in the diversity and number of wildlife.

Results from the attitudinal scale in both study areas also indicated that ecotourism through wildlife activities had contributed significantly to the well being of the local communities (2.17) in general as well as to specific individuals (3.91). In addition, there is community cohesion and willingness by members to support developments that were beneficial to the community as a whole. This is a positive indication that ecotourism can have a positive impact even though it does not provide direct benefits equally to all community members.

4.5 Obstacles to Ecotourism Development
The study established several concerns and obstacles that the respondents felt could hinder ecotourism development in the two study areas. Computed results from the Lickert scale indicate that problems like delays in distribution income, inequitable distribution of benefits and others which are summarised in appendix VIII and IX, existed in both study areas. Identification of these obstacles is important in strategic management because it is concerned with optimising the overall benefits of ecotourism and minimising any possible obstacles (Petra, 2002) which leads to sustainable ecotourism development. The
study identified several obstacles of ecotourism development in IL Ngwesi and Sweetwaters that are discussed below in order of the severity of the obstacle.

4.5.1 Human Wildlife Conflicts

Human-wildlife conflict is a problem, which is brought about by presence of wildlife in close proximity to human activities such as pastoralism found in the rangelands. Some of the consequences of these encounters include serious injury or death of humans, predation of domestic animals, competition for pasture between livestock and herbivores and spread of diseases to livestock. On Il Ngwesi communal ranch, 73% of the respondents reported having had fatal encounters with wildlife, often resulting in the loss of livestock, crops or even injury or death of humans. The remaining 27% of the respondents reported having had mild encounters, which resulted in injury of humans and their domestic animals. Crop damage was identified as the most frequent encounter between humans and wildlife (44% in Sweetwaters game sanctuary and 33% in Il Ngwesi communal ranch). The types and extent of human-wildlife conflicts found in Il Ngwesi are summarized in Fig. 4.9.
The hot spots for the human-wildlife conflicts in the study area are widespread. For instance, members of the Ngare Ndare community in Il Ngwesi experienced a lot of crop damage from wildlife and as a result, showed some resentment to ecotourism development. This community cultivates crops such as maize, beans, and sorghum for subsistence and are not members of the communal ranch. Nonetheless, they indicated an interest in ranch membership, an outcome that could help reduce existing resentment and encourage the incorporation of more of the local community into ecotourism enterprises hence its sustainability.

According to the survey results, 57.3% of the respondents anticipated some form of human wildlife conflict in future resulting from ecotourism activities. This was attributed
to unresponsive government legislation and outdated compensation policies as well as poor understanding of ecotourism and its benefits by the community. This calls for a review of wildlife policies on compensation and enhanced capacity building for the community. In Sweetwaters Game Sanctuary, however, less than 2% of the respondents anticipated future conflicts from ecotourism development. This is because the whole of Sweetwaters Game Sanctuary is surrounded by an electric fence that keeps wildlife within its confines and intruders out. Though not advocated for as far as wildlife conservation is concerned because of problems of inbreeding (Sinclair, 1990), this has served to help reduce human wildlife conflicts in the area.

The main measures taken by community members, to control human-wildlife conflicts in Il Ngwesi were:

- reporting to the Game Warden (80.8%),
- fencing-off the farmlands and bomas (18.2%), and
- scaring off the problem animals (1.0%).

However, these three measures are ineffective in reducing the levels of conflicts. The fact that 70% of the respondents who used these methods reported that they were not effective in controlling the problem animals supports similar observations made by Sinclair (1990) in areas around Amboseli National Park.
The findings indicate that 12% of the respondents received compensation for deaths caused by wildlife, while 28% were compensated for human injuries. However, compensation claims involved a lot of bureaucracy, such that the claims took a long time to process and involved costly personal expenditure, like traveling to Nairobi to execute the claim. This is a policy issue that needs to be addressed. Despite these conflicts, 98% of the respondents felt that the benefits received from wildlife far outweighed the losses caused by wildlife (1.89) and that these benefits had led them to appreciate wildlife better (1.46). Ecotourism can therefore, be an alternative solution to the co-existence of humans with wildlife.

4.5.2 Development Funds

Eighty percent of the respondents from Il Ngwesi Communal ranch and sixty five percent from Sweetwaters game sanctuary identified the lack of funds as a major obstacle to ecotourism development in the area. The respondents interviewed in Sweetwaters Game sanctuary reported this to be a very serious hindrance to ecotourism development in their area. They regarded ecotourism as a rich man's activity that could not be undertaken by the poor. In order to achieve sustainability of ecotourism-based enterprises, there is need for financial inputs and support for the local community. These inputs could be from outside donor agencies, through government funding and incentives or partnerships with private sector investors.

The stakeholders in the study area expressed concern over the high government taxation such as VAT and tourism taxes and fees which make investments in ecotourism
enterprises expensive. For example, a medium sized tourism enterprise is required to pay the following taxes as a minimum – Corporate tax (30%); Value Added Tax 16% of sales); and Catering Levy (2%). This does not include withholding tax and other hidden taxes that may be levied on non-resident entrepreneurs. In addition, the tourists are required to pay entry visa fees, entrance fees to various attractions, among others, thus making it expensive for both the investor and the visitor.

According to Petra (2002), taxation policies in a country should be evaluated in an integrated manner to ensure tourism-related taxes provide necessary revenues, but not so high that the countries competitive position is adversely affected and there is loss of tourist markets. He emphasises that a balance must be reached between level of taxation, reasonable profits, and adequate revenues to support investment in and maintenance of tourism sector, and maintenance of a country’s competitive position globally, while contributing towards the welfare of the local community in general. Taxation, while being a government policy issue, is an issue that needs careful consideration when it comes to tourism development.

4.5.3 Land Ownership and Utilization

Results of the study revealed that 70% of the respondents in the two study areas had poor understanding of law and their community rights in terms of land ownership and land use, as a vital ingredient in ecotourism development. Most members of the community had no knowledge of the existence of the Government Land Act, Cap. 280 and Trust Land Act, Cap. 288 (Republic of Kenya, 1962), which governs land utilisation in wildlife
dispersal areas. On the other hand, 93.4% of respondents in Sweetwaters game sanctuary and 98.2% in Il Ngwesi communal ranch felt that they were being exploited by foreign investors on their land. This lack of knowledge, a major obstacle in development, has resulted in very little investment in tourism by the locals.

Case studies done by World Tourism Organisation (1999) reveal that attempts to enlighten the local community of their land rights would pave way for better land use and natural resource management. It will also empower them by enabling them understand their constitutional rights, an important prerequisite of sustainable livelihood systems (Bonaventure, 2002).

### 4.5.4 Land Tenure System

Uncertainty in future ownership of land does not augur well for long term business commitments, thus obstructing ecotourism development in the study areas. The community members in Il Ngwesi (62%) expressed fear that if their land was to be subdivided into individual parcels, it could change the land-use patterns and therefore interfere with current communal ecotourism developments in the area. The insecurity in the land tenure system is therefore, a major obstacle to development. Community members are apprehensive of long-term business investments such as ecotourism under such circumstances. In Sweetwaters, squatting by some members of the community on private land is a further hindrance to ecotourism development. Mburu (2004) submits that a viable political framework and supportive government policies on land tenure are important pre-conditions, which determine the success of ecotourism.
4.5.5 Education and Management Skills

The study established that 70% of the respondents in both study areas lacked formal education and basic management skills. This can be attributed to the low enrolments in schools and lack of development of education facilities. This lack of education has contributed to poor managerial skills and has resulted in no active and profitable ecotourism development since most members of the community are unable to understand the available options for natural resource development such as ecotourism, and how to manage them successfully. There is, therefore, need for capacity enhancement among the local communities using comprehensive training packages and programmes. Areas that these training packages could cover include hotel and catering operations, basic accounting, tourism planning and management, marketing, facility and service standards, computerised information systems and other areas. Education and training is one of the principals of sustainable ecotourism development (WTO, 1999).

4.5.6 Communication Barrier

Due to the high illiteracy levels among members of the community, language barrier was noted as a further obstacle to sustainable ecotourism development in both study areas. The study disclosed that 85% of the community members, the majority who were elderly and who unfortunately are important decision-makers could not read or write in English. This, therefore, meant that they could not easily communicate with other stakeholders during the planning and development stage and with the visitors during service delivery. Ngwesi area, which had a higher illiteracy level (87%), evidently had this barrier as a major obstacle to ecotourism development.
During the official closing ceremony of the Pastoralists Week at Kenya Utalii College, Nairobi, in 2003, the Minister for Tourism and Information encouraged the local communities to learn the foreign languages so that they could communicate better with foreign investors and visitors. This, he said, would not only improve service delivery but also increase their understanding of ecotourism as a product while at the same time increasing investor confidence (Daily Nation, 2003).

4.5.7 Corruption

Greed and corruption among local leaders in Il Ngewsi study area was rated as very low (13.2%) by the respondents. Very few (4%) of the respondents in Il Ngwesi were dissatisfied with the distribution of income from ecotourism activities. This is an indication that the local people have confidence in the management of ecotourism activities by their leaders. Such confidence is proof that communal ecotourism enterprises are likely to be sustainable in rangelands. In Sweetwaters’ study area, 78.2% of respondents expressed that ecotourism had led to greed and corruption by community leaders. They (48.5%) cited that there was a lop-sided trend in the distribution of income from ecotourism activities. This is partly explained by the fact that since community members are not direct shareholders of the conservancy, they are not aware of how much revenue is collected and how the money is distributed to them through their leaders.

Despite the improvements in tourism in Il Ngewesi, it is still a conservation area.

The community members in Sweetwaters also complained that wildlife related activities had taken up a lot of their land, which they could otherwise be cultivating as an extra source of income. This is evident by the large number of land use conflict cases in the
area. There is, therefore, need for the community to be more involved in the management
of the ranch and an increase of the community’s share of the benefits from the ecotourism
enterprises.

4.5.8 Politics
Western (1994) in his studies on human values and conservation of savannah ecosystems
in Amboseli National Park noted that politics was a major threat to ecotourism
development. Politics can spark off political divisions and misunderstandings among
members of the community thereby disrupting ecotourism activities. It was observed that
in Il Ngwesi area during the 2002 election year, in an effort to win support and votes,
some parliamentary, civic candidates and their supporters claimed responsibility for
initiating or funding existing as well as proposed ecotourism projects. This brought about
political divisions and conflicts, with some members of the community and stakeholders
claiming responsibility. Some stakeholders even threatened to withdraw support for some
of the ecotourism projects due to political interference.

4.5.9 Other Constraints
Besides the obstacles considered above, several other challenges face the communities in
the development of ecotourism in both study areas, though on a smaller scale. However,
despite the improvement in security in Il Ngwesi, it is still a constraint in Laikipia district
in general. The computed attitudinal scale results reveal that insecurity is not as much a
problem in Sweetwaters game sanctuary compared to Il Ngwesi communal ranch (1.87).
This can be attributed to the fact that the government provides some limited security in Il
Ngwesi while, Sweetwaters game sanctuary, being privately owned, has contracted their security. Figure 4.10 below and appendix X summarize the other constraints investigated.

![Fig 4.10: Other Constraints to Ecotourism Development](image)

Roads are an important infrastructure for development. Good roads make it easy to move visitors and products within the area being developed. According to the study, 39% of the respondents reported that bad roads were a more serious problem in Il Ngwesi than in Sweetwaters. This is because several roads in Il Ngwesi are in poor condition and drivers, during the wet season, look for alternative paths. Roads in Sweetwaters game sanctuary are made and maintained by the ranch owners, unlike the case in Il Ngwesi area, which relies on the local authority, who are often short of funds and initiative to maintain the roads.
Most of the respondents did not consider land for agricultural expansion (5%), environmental decline (17%) and the need to increase livestock population (21%) as serious problems. This can be attributed to the fact that the community, which is mainly pastoral, did not see the need for agricultural expansion, nor did they consider that their activities affected the environment. They also saw no threat paused by increase in the numbers of their livestock.

4.6 Community Initiatives for Ecotourism Development

There are several opportunities available to the communities for improving ecotourism in the two study areas, which will result in increased benefits for individual households and to the community at large. This area has attractive features such as panoramic landscapes including caves, and valleys, interlocking spurs and small undulating mountain ranges, which form additional sites for ecotourism development. The local community in Il Ngwesi study area has initiated community scouting and surveillance programmes in order to improve and enhance security for the ecotourists visiting the area. The communities are also willing to participate in any joint efforts aimed at improving the road condition in the area. They have come up with routine training programmes aimed at improving their cultural products such as traditional dances, cultural village tours, traditional milking of cows, bead making and decorations, fire making and other cultural products based on the Masai culture. The elders are also encouraging traditional cultural education among the youths in individual homesteads, which is a positive effort towards cultural preservation and subsequently sustainable ecotourism.
On Il Ngwesi communal ranch, 94% of the respondents were willing to contribute financially towards the implementation of ecotourism projects because they benefited from them. Out of these, 13% were willing to contribute at least KShs. 1,000.00 annually, while 8% were willing to contribute up to KShs. 2,500.00 per year. Others, due to their financial handicap, were willing to pay in kind, e.g., labour, equity, sand, timber, thatch, etc. This willingness by the community to contribute, however little, towards the establishment of ecoproducts is a good indicator of their strong support for ecotourism development.

In addition, results of the study indicate that over 98% of the respondents showed willingness to support any venture geared towards encouraging ecotourism. This is a positive reinforcement to the local community initiatives and capabilities as they endeavor to embrace ecotourism development. According to Wood (2002) encouraging such initiatives among the local community members stimulates proactive and democratic culture for local development.

Results of the study also showed that the youths in Il Ngwesi area were more willing to contribute towards conservation than their older counterparts ($\chi^2=32.12; df=1; p< 0.05$). This represents a significant change in attitude among the community, possibly instilled into the younger generation through enhanced knowledge in schools and through conservation initiatives. The youth in this area have benefited more from ecotourism in form of improved education facilities and bursary schemes.
4.6.1 Natural Resource Management

The study established that only 48% of the respondents in Il Ngwesi study area and 40% in Sweetwaters game Sanctuary were initially not in favour of ecotourism development and natural resource management. This was mainly because, in the beginning, they did not see any tangible benefits that they would derive from wildlife or other ecotourism ventures. The remaining 62% in Il Ngwesi and 60% in Sweetwaters were in favor of current ecotourism developments and attributed this to the direct and indirect benefits derived from ecotourism.

The study established further that the negative attitude towards ecotourism development in Il Ngwesi has drastically changed over the years with over 98% of the respondents currently in favour of land being set-aside for conservation. The main reason for this support can be pegged to the continuous inflow of both direct and indirect benefits from the ecotourism enterprise. The local elders also emphasised the fact that traditionally, the Maasai who are the main inhabitants of Il Ngwesi conserve wildlife and the natural resources as a form of existence value to them. The support of ecotourism development and natural resource management in Il Ngwesi Communal ranch relative to Sweetwaters Game Sanctuary was found to be significant at ($\chi^2 = 65.14; df = 1; P<0.05$). This means that ecotourism is more likely to be sustainable in communally owned ecotourism enterprises than those are that are privately owned.
4.6.2 Expenditure Preferences for Ecotourism Revenue

The study established that the local communities in both study areas had identified certain projects they would wish to develop using revenue generated from the ecotourism enterprises as shown in figure 4.11 below. In the study areas, 97% of the respondents expressed preference for these funds going towards education bursaries for their children. However, the study established that only 7.4% of the respondents in Sweetwater's Game Sanctuary reported to have benefited from such bursaries. An almost equal number of respondents (96%) within the two study areas recognised the need to improve basic health services. In addition, 93% of respondents saw the need for infrastructure development, while the need for increased funding for HIV and AIDS awareness campaigns was recorded by 79% of the respondents.

![Preferred Usage of Ecotourism Revenue](image)

Fig. 4.11: Preferred Usage of Ecotourism Revenue
The community members indicated that infrastructure development would not only open up the area for further development but would also help enhance the sustainability of ecotourism within the area. This was cited more in Il Ngwesi where the infrastructure was regarded to be very poor. This is a direct indication that the local community believe that they can improve their standard of living through use of funds collected from ecotourism. This also shows that the local people recognise the role ecotourism can play in solving a number of their existing social-economic problems, a positive indication of their support for ecotourism development.

4.7 Stakeholder Analysis

In order for ecotourism to be successful, stakeholders and stakeholder institutions should share responsibilities and actively participate in the implementation of policies. The following stakeholders were identified and their inputs towards sustainable ecotourism development in the study area analysed:

- Central Government
- Local Government
- Communal Ranch Members
- Kenya Wildlife Services (KWS)
- The Lewa Downs Conservancy
- Laikipia Wildlife Forum (LWF)
- Serena Group of Hotels
The main stakeholders in Il Ngwesi are Lewa Downs Conservancy and Kenya Wildlife Services, while in Sweetwaters Game Sanctuary, it is the Serena Group, a hotel management company, which owns and manages the enterprise. However the Central government, the Local Government, the Communal Ranch Members, Laikipia Wildlife Forum all share responsibility in the management of tourism enterprises in the two study areas.

4.7.1 Central Government

The central government ensures the implementation of sectoral development strategies, simulation and promotion of private investment activities. Its participation is confined to policy formulation and the provision of services that cannot be provided by the private sector, e.g., providing infrastructure and security (Republic of Kenya, 2004). The most significant role the government can play in the study area apart from its traditional roles is the establishment of mechanisms for co-ordination and consultation, marketing and promotion of the products through the Kenya Tourist Board. It can also settle disputes on matters related to land and the environment. However, due to the limitation of government funds, security, infrastructure development and maintenance are still poor in the area.

4.7.2 Local Government

Ideally, the local government should be responsible for undertaking land-use planning and allocation as well as the protection of natural and cultural resources in the study area. They are also responsible for overall infrastructure development and maintenance as well
as the administration of school bursary funds in the area using government allocated funds and from park entrance fees. However, due to financial limitations, they have not been very effective in this regard. It also registers and licences tourism enterprises. The Laikipia county council has been successful in initiating collaborative initiatives such as monthly local stakeholder forums. However, they are not actively involved in the development and management of ecotourism and other related activities.

4.7.3 Communal Ranch Members

There are four specific categories of ranch members involved in the ecotourism enterprise in Il Ngwesi. These are:

- Workers at the lodge
- Self-help group members at the cultural boma
- Members of the Board of Directors of Il Ngwesi company limited
- Members of the Group Ranch Management Committee (GRMC)

Communal ranch members are the main beneficiaries of the project. Their main role is the provision of labour, which is critical in improving the quality, productivity and competitiveness of ecotourism. They are also the first and often the most frequent point of contact for visitors. However, the need to upgrade community members' skills, provide equitable terms and conditions of service and support measures and the eliminate child labour was identified. Their role as decision-makers in respect to ecotourism planning and implementation was found inadequate. This category of stakeholders was not identified in Sweetwaters Game Sanctuary as it is privately owned.
4.7.4 Kenya Wildlife Service

The Kenya Wildlife Service (KWS) is the main stakeholder at the national level. It is the mandated "owner" and manager of all Kenya's wildlife resources. KWS has the authority to assign and protect property rights in wildlife and to implement management of wildlife nationally on behalf of the Kenyan government.

Kenya Wildlife Service has always been fully supportive of activities in Il Ngwesi Group Ranch. Through KWS, the first Participatory Rural Appraisal (PRA) was conducted for the purpose of determining the participatory role of the community in wildlife conservation and management. The appraisal revealed dissatisfaction among the local communities on human-wildlife conflict resolutions, which it attributed to limited community participation and lack of information flow. As a result, KWS increased local community participation in its decision-making processes. It also granted the Il Ngwesi community user rights, which helped to decentralise conservation management in the area. This helped reduce Kenya Wildlife Service's costs such as anti-poaching patrols.

The KWS, which participated in the construction of Il Ngwesi lodge, uses this venture as a demonstration site for encouraging local communities to invest in communal wildlife enterprises in other parts of the country.

This study revealed that KWS is involved in various activities in the study area. These include the provision of security, human wildlife conflicts, perimeter fencing and maintenance, animal censuses. KWS has also been involved in community mobilisation and awareness campaigns on wildlife conservation and management. KWS and LWF also
collaborate in wildlife related issues in Laikipia District such as security and problem animal control using an elaborate radio network link.

### 4.7.5 Lewa Downs Conservancy

The Lewa Downs Conservancy, Il Ngwesi Communal Ranch and Borana Ranch, form a wildlife conservation triangle. They all form a critical wildlife corridor in Laikipia District, particularly for migrating elephants, whose population on these three ranches is about 300 (Mwololo, 2000). Il Ngwesi is in the centre of the migratory route linking Lewa with Samburu Game Reserve to the North. There is therefore, an ecological interdependence among the three ranches, which necessitates collaboration for socio-economic reasons.

The neighbouring communities in Borana Ranch and Lewa Downs Conservancy gain significant benefits from Il Ngwesi Group Ranch. For example, the initiation of a joint security surveillance system has helped reduce poaching and banditry in the area. In addition joint efforts in attracting (donor) funding for ecotourism-based enterprises has helped build a secure and sustainable livelihood asset base for the communities living in the triangle, which has enhanced natural resources conservation and management in the area.
4.7.6 Laikipia Wildlife Forum

The Laikipia Wildlife Forum (LWF) is a broad-based non-profit making organisation mandated to co-ordinate wildlife conservation and management initiatives outside protected areas in Laikipia district, which, according to Sikoyo et al. (2001), brings together all stakeholders in the district, who are committed to wildlife management. These stakeholders include large-scale wildlife ranches, communal ranches, and small scale farming communities, KWS, relevant government departments, wildlife conservation agencies, the tourism businesses and other interested parties. It aims at conserving the wider Laikipia ecosystem through sustainable management practices in order to improve the livelihood of the local people and to generate profits for the investors in ecotourism enterprises. It also enhances environmental management awareness of the local communities through community liaison officers.

Communities in wildlife areas lack the necessary skills in enterprise as well as market access. Private and public sector stakeholders on the other hand are endowed with technical expertise, capital resources and experience in enterprise management. Partnerships that combine natural resource management as well as manpower availability of the community and management capabilities of stakeholders can be mutually beneficial to all parties. However linkages need to be nurtured carefully and communities and stakeholders need to give each other concessions for sustainable ecotourism management to prevail (EU 2000).
Laikipia Wildlife Forum in collaboration with KWS and the government security machinery has enhanced security operations in the region through VHF radio communication networks. It has also created partnership with Mpala Research Centre for the purposes of conducting wildlife censuses, to optimise information generation, technical expertise and implementation capacities. The forum has introduced environmental education to primary schools in the area giving the pupils an opportunity to acquire knowledge and develop values, attitudes, commitments and skills necessary to manage the dynamics of environment at an early age. The collaborative efforts of all stakeholders in Laikipia, each with their own expectations – business opportunities and marketing (LWF), natural resource management (KWS), peace and security (government) and improved livelihoods (local community) are the reason for the successful ecotourism sustainability efforts in the region.

4.8 Ecoproducts

The study revealed that the main reason for tourists' visit to the area was in search of accommodation in Sweetwaters tented camp and Il Ngwesi lodge. These two lodges also attract ecotourists, who engage in various activities. On Il Ngwesi communal ranch, the respondents were involved in the following ecotourism activities: traditional dances (84%), camel rides (83.2%), cultural manyatta (82.4%), game drives (80.2%), photography (78.4%) and walking safaris (77.8%) among others as shown in figure 4.12.

The fact that the local community is involved in these activities in Il Ngwesi is encouraging, since it ensures community support for ecotourism, hence its sustainability.

These results also form an inventory of the ecoproducts in Il Ngwesi study area.
In contrast, the community in Sweetwaters Game Sanctuary was not involved in any noteworthy ecotourism activities in their area, as it is privately owned. This is proof that communal based ecotourism enterprises significantly at ($\chi^2 = 51.74$; df =1; p<0.001) encourage local community participation in ecotourism businesses as opposed to privately owned ones and are therefore more sustainable.

### 4.9 Towards Sustainable Ecotourism Development

From computed respondents’ attitudinal scale, the study established that the following measures need to be undertaken in order to realise sustainable ecotourism development.

Several respondents in Il Ngwesi noted that the absence of a group ranch constitution and enforceable rules and regulations was likely to lead to ecotourism resource mismanagement. This was because the current rules used in managing the resources were
inadequate as exemplified by the attitudinal scale of 1.23. The respondents from Sweetwaters had no comment on this because they do not actively participate in the management of the sanctuary.

Majority of the respondents, as exemplified by a 1.29 score on the attitudinal scale, recommended the introduction of several ecotourism activities by the local community in the area. This they said was important in order for the community members to improve their skills in management of their own resources. In addition, this would instil a sense of ownership and hence sustainability. The respondents also said that it was important to consider initiatives that increase capacity building and their empowerment as one of the priorities in the area. With proper training and support from the government, local communities can organise and manage their own ecotourism enterprises and be able to derive maximum benefits.

In Il Ngwesi, 96.2% of the respondents as compared to 30.2% in Sweetwaters' Game Sanctuary viewed cultural villages and centres as significant contributors towards their household income. This was felt more in Il Ngwesi study area as shown by an attitudinal scale of 1.44. The members in this area were of the opinion that their area was culturally rich and with the improvement of existing cultural products and or the introduction of new ones, the area was likely to attract more visitors, hence more revenue and improved living standards for community members.
There was a general feeling among respondents from both Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary that more youths should be trained in basic ecological and socio-economic monitoring systems as attested by the attitudinal scale of 1.28. This is seen as a move towards youth empowerment, a positive contribution towards the future of ecotourism development. Because of the unique but scattered cultural sites, especially in Il Ngwesi, it was suggested that zoning be introduced in order to enhance the protection of these sites. Computed attitudinal scale of 1.3 shows an indication of this. The zoning would help regulate and equally distribute the visitors in the area.

The results of the other weighted responses used to determine the extent of the people's perceptions towards ecotourism in the study area are detailed in Appendix X. The respondents suggested that the initiation and promotion of community programs like game scout training, tour guiding will enhance monitoring strategies and security for the tourists as indicated by the attitudinal scale of 1.25. Such programmes would also enhance community member’s knowledge of wildlife and ecotourism, thereby helping to bring a sense of ownership hence sustainability.

The study findings indicate that the key factors influencing the scale of impacts of ecotourism are:-

- profitability of ecotourism enterprises
- growth in the Kenyan tourism industry
- employment creation relative to profitability
- equitable distribution of economic benefits
- accountability and transparency in the Kenyan economy
- stakeholder participation and partnership
- enhanced natural resource management

With all the factors indicated above in place, the development and sustainability of ecotourism can be assured at Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary or any other ecotourism destinations.
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The main objective of this study was to determine the economic benefits of ecotourism to the local communities and to find out if these benefits elicit activities for sustainable natural resource management in Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary. In addition, the study sought to find out if sustainable ecotourism is better achieved in privately owned or community based enterprises. In order to understand the forces shaping the future of ecotourism in Kenyan rangelands, the main obstacles that hinder its development were also investigated. This chapter draws the following conclusions based on the research analysis and the author’s observations.

The study revealed that benefit-based approach form the guiding principle for many ecotourism-based enterprises for enhanced conservation of natural resources in Il Ngwesi Communal Ranch and Sweetwaters Game Sanctuary. Most of the activities aim at redistributing the revenues to local communities as a broad development objective. These direct benefits include the improvement of education facilities such as the construction of schools, classrooms, provision of stationary, bursary schemes, scholarship and sponsorship programmes. These have in turn increased literacy levels and as a result enhanced standards of living in the study areas. Additional income has accrued to the communities from bed night levy, profit sharing scheme and annual concession fees, which are derived from the ecotourism activities. Direct income has also been generated from tourists’ visits to cultural bomas, sale of curios and souvenirs.
The indirect benefits include improvement of infrastructure; communication and acquisition of professional skills such as the use of handset radios, basic monitoring skills and first aid techniques. However, findings of the study revealed that these benefits were more evident in Ill Ngwesi communal ranch compared to Sweetwaters game sanctuary. From the community perspective, natural resource management is linked to economic benefits such as cash dividends, bursary provisions, improved security, and the availability of development funds in general. These benefits are currently being derived from ecotourism in the area. These benefits were not received before ecotourism was introduced in the study areas and they outweigh the costs, such as livestock loss and crop damage due to wildlife destruction.

Despite the benefits derived from ecotourism to the communities, the study also revealed that sustainability of ecotourism in the study area is vulnerable. This is because of non-responsive land and natural resource management policies in Kenya. In addition, there are other obstacles such as scarcity of development funds, poor understanding of law and community rights, lack of education and management skills, an insecure land tenure system and disruptive political dispensation. From the results of the study, it can be concluded that communities stand to benefit from ecotourism investments. This enhances their support for natural resource management thus making community based ecotourism enterprises more sustainable than those that are privately owned. Findings of this study support the view that ecotourism-based enterprises should be challenged to increase economic benefits towards the communities and at the same time support environmental
management aiming at sustainable ecotourism. The study concludes that, ecotourism enterprises are more sustainable when the local community owns them.

This study established that there are limited opportunities for income generation within Il Ngwesi communal ranch and Sweetwaters game sanctuary accruing from the traditional economic activities such as pastoralism, agriculture and bee-keeping, which have potential but are currently practised only to meet subsistence needs. However, ecotourism could prove to be a better alternative livelihood option as it has significantly contributed towards employment creation, increased household income, infrastructure development and enhanced security in the study areas. In addition, ecotourism activities attract external investments and donor funding, which accelerates growth in the local economy. This economic empowerment instills a positive response towards natural resource management.

5.2 Policy Implications and Recommendations

Based on the results and conclusions stated above, it is recommended that:

a) An ecotourism policy and its implementation mechanisms should be developed in Kenya in order to increase ecotourism enterprise, profitability, employment spin-off, business potential and investment. This will ensure ecotourism sustainability and natural resource conservation gains as community approaches to ecotourism enterprises have been known to be sustainable when they, not only generate benefits, but also when these benefits are of sufficient value, and accrue in appropriate form to offset the costs that natural resources incur. Providing communities with economic
incentives through ecotourism will result in better natural resource management, at
the same time overcoming the root economic factors, which cause them to threaten
natural resources. This therefore, makes ecotourism an economically and
environmentally viable option countrywide compared to other alternative land uses.

b) Security, capacity enhancement and infrastructure should be developed and
maintained as they are a prerequisite to sustainable ecotourism development. This is
because these parameters are directly linked to product development, destination
marketing, and service delivery.

c) Where possible, destinations should develop and support communal based ecotourism
enterprises as they have proved to be economically and environmentally more
sustainable than privately owned ones.

In an effort to reduce negative environmental impacts by ecotourism, it is also
recommended that the community be encouraged to use solar power system for heating
and electricity instead of firewood. This is a principle of sustainability as outlined in
article IV of Agenda 21 on sustainable tourism development (WCED, 1987).

5.3 Areas for Further Research

A comparative study based on ecotourists’ expectations and perceptions could
compliment the results of this study. Research on other constructs like destination
preferences, image variables and activity preferences using multivariate analysis, should
further help in understanding this growing ecotourism market and therefore, enhance its
sustainability and narrow the gap relating to this literature.
REFERENCES


Mulindi, P. M. (1997) Estimating and Forecasting the Economic Impact of International


Appendix I: Agro-ecological Zones of Laikipia District.

Appendix II: Selected Photographs of Il Ngwesi Lodge.

Plate 1: A Panoramic view of Il Ngwesi Lodge.

Plate 2:
Accommodation bandas blend with the environment

Plate 3:
A wall-less bedroom, bringing nature closer.
Plate 6:
Maasai cultural performance

Plate 4:
Maasai cultural market.

Plate 5:
Visitors on a guided Nature Trail
Plate 7:
Opportunities for employment: Maasai Guest Room Attendants.

Plate 8:
Local products used for construction and interior decor
Appendix III: Selected Photographs of Sweetwaters Tented Camp.

Plate 9: Panoramic view of Sweetwaters Tented Camp

Plate 10: Visitor Activities: A Camel Ride.

Plate 11: A view inside a tent.

Plate 12: Accommodation tent blending with the environment.
Appendix IV: HOUSEHOLD SURVEY

(To be completed by Head or senior member of Household)

Serial Number: IGR/SGS________

This survey is being conducted by the author as part of her Master of Environmental Studies programme at Kenyatta University, Nairobi. It is meant to help her assess the effectiveness of eco-tourism enterprises and the benefits accruing to local communities. The information given to the author will be used only for academic research and analysis. Kindly participate in the study by completing this questionnaire accurately and exhaustively. Your cooperation is highly appreciated.

Answer the following questions by ticking the box that corresponds to the correct answer or, where required, filling in the correct answer.

1. Are you a communal ranch member?  Yes  No

2. If yes, what is your role in the group ranch?

<table>
<thead>
<tr>
<th>Ordinary member</th>
<th>Elected leader</th>
<th>Appointed official</th>
<th>Worker</th>
</tr>
</thead>
</table>

3. Do you spot wildlife on your farm or in the ranch?  Yes  No

   Which are the most commonly seen?

<table>
<thead>
<tr>
<th>Herbivores</th>
<th>Carnivores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
<td>5.</td>
</tr>
</tbody>
</table>

4. Do you keep any domestic animals? Yes  No

5. Were any of your domestic animals injured / killed by wildlife?  Yes  No

   If yes, how many? ____________________________

   Did you report to any wildlife official? Yes  No

   If yes, were you compensated? Yes  No
Indicate the source of compensation and amount in the table below.

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (KShs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kenya Wildlife Service</td>
<td></td>
</tr>
<tr>
<td>2. Il Ngwesi Group Ranch/ Sweetwaters Game Sanctuary</td>
<td></td>
</tr>
<tr>
<td>3. Other</td>
<td></td>
</tr>
</tbody>
</table>

6. Do you cultivate any crops? Yes [ ] No [ ]

7. Has any of your crop been destroyed by wildlife? Yes [ ] No [ ]
   If yes did you report to any wildlife official? Yes [ ] No [ ]
   If Yes, Were you compensated? Yes [ ] No [ ]

Indicate the source of compensation and amount in the table below.

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (KShs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kenya Wildlife Service</td>
<td></td>
</tr>
<tr>
<td>2. Il Ngwesi Group Ranch / Sweetwaters Game Sanctuary</td>
<td></td>
</tr>
<tr>
<td>3. Other</td>
<td></td>
</tr>
</tbody>
</table>

8. Have you fenced your farmland? Yes [ ] No [ ]

9. Have you fenced your Boma? Yes [ ] No [ ]

10. Do you regularly sell any of your products to the following?

   If yes, indicate what you sell in the space provided.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>Type of product sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tourists (direct)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Lodge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lodge employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. Are you permanently employed by Il Ngwesi communal ranch/Sweetwaters Game Sanctuary/you? Yes ☐ No ☐

If yes, what is your occupation? ______________________

12. Has Sweetwaters Game Sanctuary/ Il Ngwesi communal ranch permanently employed any member of your family?
Yes ☐ No ☐

If yes, specify:

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

13. Do you or any member of your family participate in any of the following activities in Sweetwaters game Sanctuary / Il Ngwesi communal ranch for a fee?

<table>
<thead>
<tr>
<th>Activity</th>
<th>YES</th>
<th>NO</th>
<th>Who?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cultural dances (in lodge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Guiding / nature walks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sale of souvenirs to tourists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other (Specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. In your opinion, do you think tourist should come to your area?
Yes ☐ No ☐

15. In your opinion, is ecotourism beneficial to you and your family?
Yes ☐ No ☐

If Yes, How have you benefited from ecotourism?

_________________________________________________________________________

If No, do you think you can be able to benefit from ecotourism?

_________________________________________________________________________
16. Do you think you can support any venture geared towards encouraging ecotourism in your area?

Yes ☐  ☐

17. Do you think we should increase the tourist numbers coming to your area?

Yes ☐  No ☐

If yes how? ______________________________________________________________________

18. Do you think Il Ngwesi lodge / Sweetwaters tented camp should be closed?

Yes ☐  No ☐

19. What do you think is the major obstacle towards ecotourism development in your area?

Tick in the table below

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>Serious</th>
<th>Very Serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scarcity of development funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor understanding of law and communal members’ rights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of education and management skills among leaders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of harmony between traditional and modern leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insecurity about land tenure and squatters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political divisions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low participation of women in leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffectiveness of group ranch systems and committees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private sector operators’ failure to spend time with the community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited land for expansion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair and exploitative lease arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting aspirations (objectives) among landowners</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
20. Do you think wildlife should be protected in your area?

Yes [ ] No [ ]

Give two major reasons for your answer:

a). _______________________________________________________________________

b). _______________________________________________________________________

21. Do you think you can contribute financially towards the implementation of any ecotourism-based enterprises that may generate revenue in your area?

Yes [ ] No [ ]

If yes why?

________________________________________________________________________

22. Do you think you can contribute financially towards environmental conservation in your area?

Yes [ ] No [ ]

23. If yes indicate which areas________________________________________________________________________

and how much per year ___________________________________________________________________________

24. Do you participate in natural resource management activities?

[ ] Yes No [ ]

25. What has made you interested in managing these natural resources?

• __________________________________________________________________________

• __________________________________________________________________________

• __________________________________________________________________________
DEMOGRAPHIC DATA

26. Respondents Sex: Male [ ] Female [ ]

27. Marital Status:

- Single [ ] Married [ ]
- Widowed [ ] Divorced [ ]

28. Respondents Age:

<table>
<thead>
<tr>
<th>Age Range</th>
<th>15-20 years</th>
<th>20-25 years</th>
<th>26-30 years</th>
<th>31-35 years</th>
<th>36-40 years</th>
<th>41-45 years</th>
<th>46-50 years</th>
<th>51-55 years</th>
<th>56-60 years</th>
<th>61-70 years</th>
<th>71-75 years</th>
<th>76-80 years</th>
</tr>
</thead>
</table>

29. Educational background:

What is the highest level of education your or your children education?

- None
- Primary School
- Secondary School
- College
- University
- Other (specify)

30. Family Size: Indicate the number of members in your family in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Non-School Going</th>
<th>School Going</th>
<th>Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wife (yes) / Husband (s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other dependants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. Do you receive any bursaries for your children’s fees?

Yes [ ] No [ ]
32. If yes, specify source and approximate amount received annually per child:

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (KSh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya Wildlife Service</td>
<td></td>
</tr>
<tr>
<td>Il Ngwesi communal Ranch/Sweetwaters game sanctuary</td>
<td></td>
</tr>
<tr>
<td>Lewa Downs conservation</td>
<td></td>
</tr>
<tr>
<td>Borana ranch</td>
<td></td>
</tr>
<tr>
<td>Laikipia Wildlife forum</td>
<td></td>
</tr>
<tr>
<td>Others(specific)</td>
<td></td>
</tr>
</tbody>
</table>

33. What are your family’s major sources of income? Indicate the order as follows:- 1 most important source to 7 the least important source.

1. Livestock production (Pastoralists)
2. Subsistence farming
3. Both livestock production & subsistence farming
4. Cash crops
5. Civil work
6. Lodge worker
7. Eco tourism
8. Other (specify)

34. Which of the following activities are most beneficial to you?

Indicate the order as follows:- 1 most beneficial to 5 the least beneficial

<table>
<thead>
<tr>
<th>Activity</th>
<th>Order of merit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash crop farming</td>
<td></td>
</tr>
<tr>
<td>Ranching</td>
<td></td>
</tr>
<tr>
<td>Tourism</td>
<td></td>
</tr>
<tr>
<td>Subsistence farming</td>
<td></td>
</tr>
<tr>
<td>Other (specify)</td>
<td></td>
</tr>
</tbody>
</table>
35. What do you consider as the most important activities to be addressed with the help of revenues collected from ecotourism? Indicate the order as follows: 1 most beneficial to 9 the least beneficial

<table>
<thead>
<tr>
<th>Activity</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement of Health services (e.g.) clinic</td>
<td></td>
</tr>
<tr>
<td>Improvement of education facilities (e.g.) schools</td>
<td></td>
</tr>
<tr>
<td>School fees bursary for child / children</td>
<td></td>
</tr>
<tr>
<td>Market for agricultural products</td>
<td></td>
</tr>
<tr>
<td>Market for other products</td>
<td></td>
</tr>
<tr>
<td>Improved water &amp; Sanitation</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
</tr>
<tr>
<td>Infrastructure development</td>
<td></td>
</tr>
<tr>
<td>Others indicate here below</td>
<td></td>
</tr>
</tbody>
</table>

36. How often do you interact with tourists? Tick below

- Daily
- Weekly
- Monthly
- Quarterly
- No interactions
- Continuously

37. Do you want more tourists to visit your area?

- Yes [ ]
- No [ ]

Give a reason why. ___________________________________________________________
38. Do you think the following factors give the area a poor image?

Complete table appropriately.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcrowding in the area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased human population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental decline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased livestock population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative publicity and marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of sewage for lodges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor road condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor conduct of tour drivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off road driving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harassment of wildlife</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insecurity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land sub division</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion of agricultural land</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEY:

(SA) - Strongly agree
(A) - Agreed
(UN) - Undecided
(D) - Disagree
(SD) - Strongly disagree

39. What do you think can be done for ecotourism development in your area so as to provide more benefits to you?

- 
- 
- 
- 

40. Were you in favour of the presence of natural resource conservation and ecotourism development in your area during its initial stages development?

Yes [ ] No [ ]

41. Are you currently in favour of the presence of natural resource conservation and ecotourism development in your area during its development?

Yes [ ] No [ ]
42. Do you agree that the following attributes will encourage Ecotourism development?

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Attitudinal scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved security</td>
<td>SA  A  UN  D  SD</td>
</tr>
<tr>
<td>Conservation of wildlife</td>
<td></td>
</tr>
<tr>
<td>Improved household income</td>
<td></td>
</tr>
<tr>
<td>Initiatives like community scouts program</td>
<td></td>
</tr>
<tr>
<td>Increased community recognition</td>
<td></td>
</tr>
<tr>
<td>Opening more nature trails</td>
<td></td>
</tr>
<tr>
<td>Opening more cultural villages/centres</td>
<td></td>
</tr>
<tr>
<td>Reducing livestock numbers</td>
<td></td>
</tr>
<tr>
<td>Antiquities protection and not being replicated/sold as replicas</td>
<td></td>
</tr>
<tr>
<td>Discouraging environmentally destructive activities</td>
<td></td>
</tr>
<tr>
<td>Encouraging co-operation among community members</td>
<td></td>
</tr>
<tr>
<td>Awareness creation on natural resources use</td>
<td></td>
</tr>
<tr>
<td>Zoning to regulate visitors activities</td>
<td></td>
</tr>
<tr>
<td>Promoting tourist activities such guided walk, photography, etc in the area</td>
<td></td>
</tr>
<tr>
<td>Encouraging cultural pride</td>
<td></td>
</tr>
<tr>
<td>Controlled livestock grazing</td>
<td></td>
</tr>
<tr>
<td>More employment in ecotourism enterprises</td>
<td></td>
</tr>
<tr>
<td>Privatisation of ecotourism enterprises</td>
<td></td>
</tr>
<tr>
<td>Increased benefits accrual to locals</td>
<td></td>
</tr>
<tr>
<td>Restrictions of traditional land use practices</td>
<td></td>
</tr>
<tr>
<td>Retention of rudimentary manyatta instead of modern houses</td>
<td></td>
</tr>
<tr>
<td>Improved conflict resolution strategies</td>
<td></td>
</tr>
<tr>
<td>Water pollution and disease spread from wildlife</td>
<td></td>
</tr>
<tr>
<td>Improved health and sanitation</td>
<td></td>
</tr>
<tr>
<td>Corruption</td>
<td></td>
</tr>
<tr>
<td>Reduction of cultivation lands</td>
<td></td>
</tr>
<tr>
<td>Equitable income distribution</td>
<td></td>
</tr>
<tr>
<td>Reduced crime</td>
<td></td>
</tr>
</tbody>
</table>

(SA) - Strongly agree
(A)  - Agreed
(UN) - Undecided
(D)  - Disagree
(SD) - Strongly disagree

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Margaret Mwakima
Kenyatta University
Appendix V: GROUP RANCH QUESTIONNAIRE

Serial Number: ICR/SGS

This survey is being conducted by the author as part of her Master of Environmental Studies programme at Kenyatta University, Nairobi. It is meant to help her assess the effectiveness of eco-tourism enterprises and the benefits accruing to local populations. The information given to the author will be used only for academic research and analysis. Kindly participate in the study by completing this questionnaire accurately and exhaustively. Your co-operation is highly appreciated.

Environmental Rating of Il Ngwesi/ Sweetwaters game ranches

1. Which year did your company begin its operations? __________

2. What is the size of your ranch / sanctuary? _______________ Km sq.

3. Indicate the type of land tenure for your establishment:

   Tick where appropriate.

   a) Sole Owner
   b) Leased
   c) Third party
   d) Community partnership
   e) Other (Specify)

4. What are your objectives in relation to:

   a) Natural Resource Management

   • 
   • 
   • 

   b) Ecotourism development?

   • 
   • 
   • 

5. What do you think is the role of eco-tourism in the development of rangelands like Laikipia? 

   __________________________________________________________
   __________________________________________________________
ECORATING CHECKLIST

6. Bio-physical Environmental Issues

The following questions are designed to assess your establishment's policies and implementation methods of natural resource management.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have a specific ecotourism policy for your property?</td>
<td><em>Briefly describe it</em></td>
</tr>
<tr>
<td>2. Do you promote the visitation of neighbouring natural areas to your clients?</td>
<td><em>How?</em></td>
</tr>
<tr>
<td>3. Do you have a code of conduct to regulate ecotourism activities in natural areas?</td>
<td><em>List the major issues covered.</em></td>
</tr>
<tr>
<td>4. What initiatives have you taken to encourage the local community to conserve the environment?</td>
<td><em>List initiatives taken below:</em></td>
</tr>
<tr>
<td>5. What initiatives have you taken to encourage your staff to conserve the environment?</td>
<td><em>List initiatives taken below:</em></td>
</tr>
<tr>
<td>6. What ecotourism products are available on your property and in the surrounding areas?</td>
<td><em>List down ecotourism products below:</em></td>
</tr>
<tr>
<td>7. Does your establishment implement practical actions to guarantee the safety of wildlife within and outside your property?</td>
<td><em>What kind of support do you get from the community (if any)?</em></td>
</tr>
</tbody>
</table>
### Economic Issues

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
</table>
| 1. Do you have any employees working on your property drawn from the local community? | Indicate percentage:  
- Senior Management  
- Middle Management  
- Junior staff  
- Casuals |
| 2. Does your establishment participate in supporting the development of ecotourism activities by the local community? | List down ecotourism projects/activities supported?  
- |
| 3. Does your establishment participate in supporting the development of other activities by the local community? | List down ecotourism projects/activities supported?  
- |
| 4. Is your establishment involved with local community associations to improve their living standards? | List down the associations  
-  
- |
| 5. Does your establishment implement practical actions to guarantee the security of your clients and employees? | What kind of support do you get from the community (if any)?  
- |
| 6. Do the tours and related activities offered by your establishment promote a constructive interaction between guests & nature & community? | Briefly explain:  
- |
| 7. Does your establishment have an income sharing policy with the community? | Briefly explain:  
- |

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Margaret Mwakima  
Kenyatta University
This survey is being conducted by the author as part of her Master of Environmental Studies programme at Kenyatta University, Nairobi. It is meant to help her assess the effectiveness of eco-tourism enterprises and the benefits accruing to local populations. The information given to the author will be used only for academic research and analysis. Kindly participate in the study by completing this questionnaire accurately and exhaustively. Your co-operation is highly appreciated.

1. Which year did Laikipia wildlife Forum begin its operations in Laikipia? ______________________

2. What are your primary objectives?

3. Which areas does Laikipia Wildlife Forum cover in Laikipia district?

4. What are your objectives in relation to:
   a). Natural Resource Management
      ______________________
      ______________________
      ______________________
   b). Ecotourism development?
      ______________________
      ______________________
      ______________________

5. What do you think is the role of eco-tourism in the development of rangelands like Laikipia?

   ______________________
   ______________________
   ______________________

The following questions are designed to assess your establishment’s policies and implementation methods of natural resource management.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is Laikipia Wildlife Forum associated with a regional or local organization involved in solving environmental problems?</td>
<td>Which one(s)</td>
</tr>
<tr>
<td>2. Do you have a specific ecotourism policy for Laikipia District?</td>
<td>Briefly describe it</td>
</tr>
<tr>
<td>3. What initiatives have you taken to encourage the local community to conserve the environment?</td>
<td>List initiatives taken below:</td>
</tr>
<tr>
<td>4. Are there frequent cases of human-wildlife conflict within your area of jurisdiction</td>
<td>List examples of the most common cases:</td>
</tr>
<tr>
<td>5. Is compensation available to affected community members?</td>
<td>What type of compensation is given?</td>
</tr>
<tr>
<td>6. What types of ecotourism products are available in Laikipia District?</td>
<td>List down ecotourism products below:</td>
</tr>
<tr>
<td>7. Does Laikipia Wildlife Forum implement practical actions to guarantee the safety of wildlife within and outside the area?</td>
<td>If yes, what are these actions?</td>
</tr>
</tbody>
</table>
| 8. What are the constraints and opportunities of eco-tourism development in Laikipia district | a) Constraints?  
b) Opportunities? |
| 9. What should be done by the Kenya government to promote ecotourism development in Laikipia district |                            |
7. Economic Issues

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
</table>
| 1. Do you have any employees working in Laikipia Wildlife Forum drawn from the local community? | Indicate number:  
- Senior Management  
- Middle Management  
- Junior staff  
- Casuals  
- Total |
| 2. Does Laikipia Wildlife Forum participate in supporting the development of tourism activities by the local community? | List down tourism projects/activities supported? |
| 3. Does Laikipia Wildlife Forum participate in supporting the development of other activities by the local community? | List other activities supported by LWF? |
| 4. Is Laikipia Wildlife Forum involved with local community associations to improve their living standards? | List down the associations |
| 5. Do the tours and related activities offered by operators in your area of jurisdiction promote a constructive interaction between guests & nature & community? | Briefly explain: |
| 6. Does Laikipia Wildlife Forum have an income sharing policy with the communities in Laikipia District? | Briefly explain: |

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Margaret Mwakima  
Kenyatta University
STAKEHOLDER QUESTIONNAIRE
KENYA WILDLIFE SERVICE

Serial Number: KWS________

This survey is being conducted by the author as part of her Master of Environmental Studies programme at Kenyatta University, Nairobi. It is meant to help her assess the effectiveness of eco-tourism enterprises and the benefits accruing to local populations. The information given to the author will be used only for academic research and analysis. Kindly participate in the study by completing this questionnaire accurately and exhaustively. Your co-operation is highly appreciated.

1. Which year did Kenya Wildlife Service begin its operations in Laikipia? _______

2. What are the primary objectives of Kenya Wildlife Service?

3. Which areas do you cover?

4. What are your objectives in relation to:
   e) Natural Resource Management.
      •
      •
      •
   f) Ecotourism development?
      •
      •
      •

5. What do you think is the role of eco-tourism in the development of rangelands like Laikipia?
ECORATING CHECKLIST

6. Bio-physical Environmental Issues

The following questions are designed to assess your establishment’s policies and implementation methods of natural resource management.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is your organisation associated with a regional or local organization involved in solving environmental problems?</td>
<td>Which one(s)</td>
</tr>
<tr>
<td>2. Do you have a specific ecotourism policy for Laikipia District?</td>
<td>Briefly describe it</td>
</tr>
<tr>
<td>3. Do you promote the visitation of neighbouring natural areas to your tourists in general?</td>
<td>How?</td>
</tr>
<tr>
<td>4. Is there legislation to regulate tourism activities in natural areas in Laikipia District?</td>
<td>List the major issues covered.</td>
</tr>
<tr>
<td>5. What initiatives have you taken to encourage the local community to conserve the environment</td>
<td>List initiatives taken below:</td>
</tr>
<tr>
<td>6. Are there frequent cases of human-wildlife conflict within your area of jurisdiction</td>
<td>List examples of the most common cases:</td>
</tr>
<tr>
<td>7. Is compensation available to affected community members?</td>
<td>What type of compensation is given?</td>
</tr>
<tr>
<td>8. What types of ecotourism products are available in Laikipia District?</td>
<td>List down ecotourism products below:</td>
</tr>
<tr>
<td>9. Does Kenya wildlife service implement practical actions to guarantee the safety of wildlife within and outside your property?</td>
<td>If yes, what are these practical solutions?</td>
</tr>
</tbody>
</table>
7. Economic Issues

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
</table>
| 1. Do you have any employees working in KWS drawn from the local community? | Indicate number:  
- Senior Management  
- Middle Management  
- Junior staff  
- Casuals  
Total |
| 2. Does Kenya Wildlife Service participate in supporting the development of tourism activities by the local community? | List down ecotourism projects / activities supported? |
| 3. Does Kenya wildlife Service participate in supporting the development of other activities by the local community? | List down ecotourism projects / activities supported? |
| 4. Is Kenya wildlife Service involved with local community associations to improve their living standards? | List down the associations |
| 5. Do the tours and related activities offered by operators in your area of jurisdiction promote a constructive interaction between guests & nature & community? | Briefly explain: |
| 6. Does Kenya Wildlife Service have an income sharing policy with the communities in Laikipia District? | Briefly explain: |

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Margaret Mwakima  
Kenyatta University
STAKEHOLDER QUESTIONNAIRE

IL NGWESI COMMUNAL RANCH / SWEETWATERS GAME SANCTUARY

(To be completed by Ranch / Sanctuary Owners)

Serial Number: ________________

This survey is being conducted by the author as part of her Master of Environmental Studies programme at Kenyatta University, Nairobi. It is meant to help her assess the effectiveness of eco-tourism enterprises and the benefits accruing to local populations. The information given to the author will be used only for academic research and analysis. Kindly participate in the study by completing this questionnaire accurately and exhaustively. Your co-operation is highly appreciated.

Environmental Rating of Il Ngwesi / Sweetwaters/Lewa Downs conservancy/ Borana group ranch organization officials

1. What is the name of your organization? ________________________________

2. Which year did your company begin its operations? ________________________________

3. What is the size of your ranch / sanctuary? ___________ Km sq.

4. Indicate the type of land tenure for your establishment:

   Tick where appropriate

   a) Sole Owner
   b) Leased
   c) Third party
   d) Community partnership
   e) Other (Specify)

5. What are your objectives in relation to:
   (a) Natural resource Management.
       • ____________________________________________
       • ____________________________________________
       • ____________________________________________
   (b) Ecotourism development?
       • ____________________________________________
       • ____________________________________________
       • ____________________________________________
6. What do you think is the role of eco-tourism in the development of rangelands like Laikipia?

ECORATING CHECKLIST

7. Bio-physical Environmental Issues

The following questions are designed to assess your establishment’s policies and implementation methods of natural resource management.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is your establishment a member of a regional or local organization involved in solving environmental problems?</td>
<td>Which one(s)</td>
</tr>
<tr>
<td>2. Do you have a specific ecotourism policy for your property?</td>
<td>Briefly describe it</td>
</tr>
<tr>
<td>3. Do you promote the visitation of neighbouring natural areas to your clients?</td>
<td>How?</td>
</tr>
<tr>
<td>4. Do you have a code of conduct to regulate tourism activities in natural areas?</td>
<td>List the major issues covered.</td>
</tr>
<tr>
<td>5. What initiatives have you taken to encourage the local community to conserve the environment?</td>
<td>List initiatives taken below:</td>
</tr>
<tr>
<td>6. What initiatives have you taken to encourage your staff to conserve the environment?</td>
<td>List initiatives taken below:</td>
</tr>
<tr>
<td>7. What ecotourism products are available on your property and in the surrounding areas?</td>
<td>List down ecotourism products below:</td>
</tr>
<tr>
<td>8. Does your establishment implement practical actions to guarantee the safety of wildlife within and outside your property?</td>
<td>What kind of support do you get from the community (if any)?</td>
</tr>
</tbody>
</table>
8. Economic Issues

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have any employees working on your property drawn from the</td>
<td>Indicate percentage:</td>
</tr>
<tr>
<td>local community?</td>
<td>- Senior Management</td>
</tr>
<tr>
<td></td>
<td>- Middle Management</td>
</tr>
<tr>
<td></td>
<td>- Junior staff</td>
</tr>
<tr>
<td></td>
<td>- Casuals</td>
</tr>
<tr>
<td>2. Does your establishment participate in supporting the development</td>
<td>List down ecotourism projects/ activities supported?</td>
</tr>
<tr>
<td>of ecotourism activities by the local community?</td>
<td></td>
</tr>
<tr>
<td>3. Does your establishment participate in supporting the development</td>
<td>List down ecotourism projects/ activities supported?</td>
</tr>
<tr>
<td>of other activities by the local community?</td>
<td></td>
</tr>
<tr>
<td>4. Is your establishment involved with local community associations</td>
<td>List down the associations</td>
</tr>
<tr>
<td>to improve their living standards?</td>
<td></td>
</tr>
<tr>
<td>5. Does your establishment implement practical actions to guarantee</td>
<td>What kind of support do you get from the community (if any)?</td>
</tr>
<tr>
<td>the security of your clients and employees?</td>
<td></td>
</tr>
<tr>
<td>6. Do the ecotourism and other related activities offered by your</td>
<td>Briefly explain:</td>
</tr>
<tr>
<td>establishment promote a constructive interaction between guests &amp;</td>
<td></td>
</tr>
<tr>
<td>nature &amp; community</td>
<td></td>
</tr>
<tr>
<td>7. Does your establishment have an income sharing policy with the</td>
<td>Briefly explain:</td>
</tr>
<tr>
<td>community?</td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Margaret Mwakima
Kenyatta University
Appendix VII: Benefits of Ecotourism in the Study Areas

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased security</td>
<td>Very significant</td>
</tr>
<tr>
<td>Conservation of wildlife</td>
<td>Very significant</td>
</tr>
<tr>
<td>Infrastructure development (roads and communication)</td>
<td>Significant</td>
</tr>
<tr>
<td>Provides wages for employees</td>
<td>Significant</td>
</tr>
<tr>
<td>Income replaces Harambees</td>
<td>Significant</td>
</tr>
<tr>
<td>Boosts community spirit</td>
<td>Significant</td>
</tr>
<tr>
<td>Prevents other people from grazing at Il Ngwesi</td>
<td>Significant</td>
</tr>
<tr>
<td>Prevents Il Ngwesi members from grazing in the area</td>
<td>Significant</td>
</tr>
<tr>
<td>Provides community cash income</td>
<td>Significant</td>
</tr>
</tbody>
</table>
Appendix VIII: Constraints to Ecotourism Development in the Study Areas

![Bar chart showing various constraints to ecotourism development.](image)

- **Collective income not yet distributed**
- **People disagree**
- **Only a few people benefit from employment**
- **Insecurity increases**
- **Some neighbourhoods benefit more than others**
- **Increased wildlife damage**
- **Loss of grazing area**
- **Wildlife and tourists gain, not local people**

Legend:
- Not significant
- Little significant
- Significant
- Very significant
Appendix IX: Obstacles to Ecotourism Development in the Study Areas

- Scarcity of development funds
- Poor understanding of law and group members' rights
- Lack of education and management skills among leaders
- Lack of harmony between traditional and modern leadership
- Insecurity about land tenure and squatters
- Language barriers
- Political divisions
- Sub-division of group ranches
- Poor leadership by some chiefs
- Proliferation (mushrooming/increase) of lodges
- Low participation of women in leadership
- Ineffectiveness of group ranch systems and committees
- Private sector operators' failure to spend time with the community
- Limited land expansion
- Unfair and exploitative lease arrangements
- Individual versus group management in livestock
- Conflicting aspirations (objectives) among landowners
Appendix X: Attitudes towards Ecotourism Development

- Tourism helps villagers to have a better appreciation of their community
- Local leaders to be involved revenue use
- Tourism makes local people feel inferior about their culture
- Controlled livestock grazing
- Wildlife conservation contributes to the well being of the CBOs
- Wildlife conservation contributes to the well being of the local society
- More people of this community should get into full time tourism business
- GR privatisation dangerous for future survival of tourism
- Lack of tangible benefits accrual to locals
- Restrictions of former livestock grazing ground
- Retention of rudimentary manyatta instead of modern houses
- Improved conflict resolution strategies
- Demeaning photos taken by tourists
- Current revenue collection and distribution needs immediate change
- Water pollution and disease spread from wildlife
- Improved health and sanitation
- Greed and corruption among local leaders
- These tourists activities should be recognised by outside Agencies
- The current rules used in managing the resources are accurate
- Corruption of peoples lifestyle and tradition
- Reduced or forgone cultivation lands
- Lop – sided income distribution
- Loss of grazing area
- There is no more Crime in the community as a result of tourism
## Appendix XI: Obstacles Towards Ecotourism Development in the Area

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>% Reporting this obstacle serious</th>
<th>% Reporting this obstacle as very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scarcity of development funds</td>
<td>88.2</td>
<td>79.7</td>
</tr>
<tr>
<td>Poor understanding of law and group members' rights</td>
<td>70.6</td>
<td>61.4</td>
</tr>
<tr>
<td>Lack of education and management skills among leaders</td>
<td>70.3</td>
<td>44</td>
</tr>
<tr>
<td>Lack of harmony between traditional and modern leadership</td>
<td>66.5</td>
<td>56.1</td>
</tr>
<tr>
<td>Insecurity about land tenure and squatters</td>
<td>59.8</td>
<td>48.1</td>
</tr>
<tr>
<td>Language barriers</td>
<td>57.4</td>
<td>47.3</td>
</tr>
<tr>
<td>Political divisions</td>
<td>54.5</td>
<td>50.2</td>
</tr>
<tr>
<td>Sub-division of group ranches</td>
<td>51.3</td>
<td>45.6</td>
</tr>
<tr>
<td>Poor leadership by some chiefs</td>
<td>43.4</td>
<td>39.2</td>
</tr>
<tr>
<td>Proliferation (mushrooming/increase) of lodges</td>
<td>42.5</td>
<td>35.4</td>
</tr>
<tr>
<td>Low participation of women in leadership</td>
<td>41.2</td>
<td>34.2</td>
</tr>
<tr>
<td>Ineffectiveness of group ranch systems and committees</td>
<td>39.3</td>
<td>33.8</td>
</tr>
<tr>
<td>Private sector operators' failure to spend time with the community</td>
<td>35.2</td>
<td>28.1</td>
</tr>
<tr>
<td>Limited land expansion</td>
<td>28.1</td>
<td>24.9</td>
</tr>
<tr>
<td>Unfair and exploitative lease arrangements</td>
<td>25.5</td>
<td>24</td>
</tr>
<tr>
<td>Individual versus group management in livestock</td>
<td>21.4</td>
<td>20.4</td>
</tr>
<tr>
<td>Conflicting aspirations (objectives) among landowners</td>
<td>8.7</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Source: Household Survey
## Appendix XII: Obstacles of Ecotourism Development Based on Lickert Scale

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>ATTITUDINAL SCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
</tr>
<tr>
<td>Overcrowding in the area</td>
<td>96.1</td>
</tr>
<tr>
<td>Increase human population</td>
<td>90.1</td>
</tr>
<tr>
<td>Environmental decline</td>
<td>84.2</td>
</tr>
<tr>
<td>Increased livestock population</td>
<td>87.1</td>
</tr>
<tr>
<td>Negative publicity and marketing</td>
<td>88.1</td>
</tr>
<tr>
<td>Management of sewage for lodges</td>
<td>84.1</td>
</tr>
<tr>
<td>Poor road condition</td>
<td>86.3</td>
</tr>
<tr>
<td>Poor conduct of tour drivers</td>
<td>85.1</td>
</tr>
<tr>
<td>Off road driving</td>
<td>84.3</td>
</tr>
<tr>
<td>Harassment of wildlife</td>
<td>78.1</td>
</tr>
<tr>
<td>Insecurity</td>
<td>70.2</td>
</tr>
<tr>
<td>Land sub division</td>
<td>63.1</td>
</tr>
<tr>
<td>Expansion of agricultural land</td>
<td>65.2</td>
</tr>
</tbody>
</table>

Source: Household Survey
### Appendix XIII: Attitude Towards Ecotourism Development Based On Lickert Scale

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>ATTITUDINAL SCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
</tr>
<tr>
<td>Improved security</td>
<td>94.4</td>
</tr>
<tr>
<td>Conservation of wildlife</td>
<td>89.6</td>
</tr>
<tr>
<td>Income earnings household</td>
<td>85.6</td>
</tr>
<tr>
<td>Initiatives like community Scout program to be set in motion</td>
<td>83.2</td>
</tr>
<tr>
<td>Increased community recognition</td>
<td>82.4</td>
</tr>
<tr>
<td>Nature trails should be opened up and monitored by local people</td>
<td>81.6</td>
</tr>
<tr>
<td>New cultural villages/centres to be set up in the area</td>
<td>76.0</td>
</tr>
<tr>
<td>Reduced influx of outside livestock owners</td>
<td>73.6</td>
</tr>
<tr>
<td>Antiquities should be protected and replicated, not sold but replicas sold</td>
<td>68.8</td>
</tr>
<tr>
<td>Environmentally destructive socio-economic activities should be discouraged</td>
<td>64.8</td>
</tr>
<tr>
<td>Co-operation in the community development</td>
<td>64.0</td>
</tr>
<tr>
<td>Awareness creation on natural resource use</td>
<td>64.0</td>
</tr>
<tr>
<td>The benefits of having wildlife in the area outweigh the losses incurred</td>
<td>63.2</td>
</tr>
<tr>
<td>Zoning necessary to regulate visitor activities</td>
<td>63.2</td>
</tr>
<tr>
<td>Promote tourist activities such as guided walk, photography etc in the area</td>
<td>62.4</td>
</tr>
<tr>
<td>Controlled livestock grazing</td>
<td>50.4</td>
</tr>
<tr>
<td>Wildlife conservation contributes to the well being of the local communities</td>
<td>48.0</td>
</tr>
<tr>
<td>More people of this community should get into full time econtourism enterprises</td>
<td>38.4</td>
</tr>
<tr>
<td>Privatization dangerous for future survival of tourism</td>
<td>36.8</td>
</tr>
<tr>
<td>Restrictions of former livestock grazing ground</td>
<td>36.8</td>
</tr>
<tr>
<td>Public Benefit/Problem</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Improvement in conflict resolution strategies</td>
<td>45.1</td>
</tr>
<tr>
<td>Current revenue collection and distribution needs immediate change</td>
<td>20.1</td>
</tr>
<tr>
<td>Water pollution and disease spread from wildlife</td>
<td>23.1</td>
</tr>
<tr>
<td>Improved health and sanitation</td>
<td>16.1</td>
</tr>
<tr>
<td>Greed and corruption among local leaders</td>
<td>13.2</td>
</tr>
<tr>
<td>Reduced or forgone cultivation lands</td>
<td>14.1</td>
</tr>
<tr>
<td>Lop-sided income distribution</td>
<td>16.1</td>
</tr>
<tr>
<td>Wildlife conservation contributes to the well being of the individuals</td>
<td>9.7</td>
</tr>
<tr>
<td>Loss of grazing area</td>
<td>8.4</td>
</tr>
<tr>
<td>There is no more Crime in the community as a result of tourism</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Source: Household Survey
### Appendix XIV: Attributes That Encourage Ecotourism in the Area

Based on Lickert Scale

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>ATTITUDINAL SCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
</tr>
<tr>
<td>Tourism helps villagers to have a better appreciation of their community</td>
<td>91.1</td>
</tr>
<tr>
<td>Local leaders to be involved revenue use</td>
<td>80.2</td>
</tr>
<tr>
<td>Tourism makes local people feel inferior about their culture</td>
<td>86.1</td>
</tr>
<tr>
<td>Controlled livestock grazing</td>
<td>81.1</td>
</tr>
<tr>
<td>Wildlife conservation contributes to the well being of the CBOs</td>
<td>87.1</td>
</tr>
<tr>
<td>Wildlife conservation contributes to the well being of the local society</td>
<td>83.1</td>
</tr>
<tr>
<td>More people of this community should be into full time tourism business</td>
<td>84.1</td>
</tr>
<tr>
<td>GR privatisation dangerous for future survival of tourism</td>
<td>81.1</td>
</tr>
<tr>
<td>Lack of tangible benefits accrual to locals</td>
<td>81.6</td>
</tr>
<tr>
<td>Restrictions of former livestock grazing ground</td>
<td>76.1</td>
</tr>
<tr>
<td>Retention of rudimentary manyatta instead of modern houses</td>
<td>71.6</td>
</tr>
<tr>
<td>Improved conflict resolution strategies</td>
<td>61.2</td>
</tr>
<tr>
<td>Demeaning photos taken by tourists</td>
<td>41.3</td>
</tr>
<tr>
<td>Current revenue collection and distribution needs immediate change</td>
<td>56.1</td>
</tr>
<tr>
<td>Water pollution and disease spread from wildlife</td>
<td>61.2</td>
</tr>
<tr>
<td>Improved health and sanitation</td>
<td>61.1</td>
</tr>
<tr>
<td>Greed and corruption among local leaders</td>
<td>67.1</td>
</tr>
<tr>
<td>These tourists activities should be recognized by outside Agencies</td>
<td>63.4</td>
</tr>
<tr>
<td>The current rules used in managing the resources are accurate</td>
<td>61</td>
</tr>
<tr>
<td>Corruption of peoples lifestyle and tradition</td>
<td>59.2</td>
</tr>
<tr>
<td>Reduced or forgone cultivation lands</td>
<td>42.9</td>
</tr>
<tr>
<td>Reduced or foregone cultivation lands</td>
<td>56.1</td>
</tr>
<tr>
<td>Lop-sided income distribution</td>
<td>47.2</td>
</tr>
<tr>
<td>Wildlife conservation contributes to the individuals</td>
<td>39.4</td>
</tr>
<tr>
<td>Loss of grazing area</td>
<td>35.2</td>
</tr>
</tbody>
</table>

Source: Household Survey
Appendix XV: Attributes That Discourage Ecotourism in the Area

Based on Lickert Scale

<table>
<thead>
<tr>
<th></th>
<th>Not significant</th>
<th>Little significant</th>
<th>Significant</th>
<th>Very significant</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective income not yet distributed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People disagree</td>
<td>4</td>
<td>4</td>
<td>90</td>
<td></td>
<td>383</td>
</tr>
<tr>
<td>Only a few people benefit from employment</td>
<td>20</td>
<td>80</td>
<td></td>
<td></td>
<td>379</td>
</tr>
<tr>
<td>Insecurity increases</td>
<td>5</td>
<td>23</td>
<td>16</td>
<td>56</td>
<td>322</td>
</tr>
<tr>
<td>Some neighbourhoods benefit more than others</td>
<td>8</td>
<td>16</td>
<td>26</td>
<td>50</td>
<td>312</td>
</tr>
<tr>
<td>Increased wildlife damage</td>
<td>24</td>
<td>4</td>
<td>2</td>
<td>70</td>
<td>310</td>
</tr>
<tr>
<td>Loss of grazing area</td>
<td>6</td>
<td>38</td>
<td>6</td>
<td>50</td>
<td>298</td>
</tr>
<tr>
<td>Wildlife and tourists gain, not local people</td>
<td>32</td>
<td>6</td>
<td>17</td>
<td>45</td>
<td>267</td>
</tr>
</tbody>
</table>

Source: Household survey
Appendix XVI: Advantages and Disadvantages of Il Ngwesi and Sweetwaters To Local Communities Based on Lickert Scale

<table>
<thead>
<tr>
<th></th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not significant</td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td></td>
</tr>
<tr>
<td>Increased security</td>
<td></td>
</tr>
<tr>
<td>Conservation of wildlife</td>
<td>5</td>
</tr>
<tr>
<td>Infrastructure development (roads and communication)</td>
<td>28</td>
</tr>
<tr>
<td>Provides wages for employees</td>
<td>19</td>
</tr>
<tr>
<td>Income replaces Harambees</td>
<td>5</td>
</tr>
<tr>
<td>Boosts community spirit</td>
<td>10</td>
</tr>
<tr>
<td>Prevents other people from grazing at Il Ngwesi</td>
<td>7</td>
</tr>
<tr>
<td>Prevents Il Ngwesi members from grazing in the area</td>
<td>35</td>
</tr>
<tr>
<td>Provides community cash income</td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td></td>
</tr>
<tr>
<td>Collective income not yet distributed</td>
<td>21</td>
</tr>
<tr>
<td>People disagree</td>
<td>12</td>
</tr>
<tr>
<td>Only a few people benefit from employment</td>
<td>15</td>
</tr>
<tr>
<td>Insecurity increases</td>
<td>15</td>
</tr>
<tr>
<td>Some neighbourhoods benefit more than others</td>
<td>14</td>
</tr>
<tr>
<td>Increased wildlife damage</td>
<td>24</td>
</tr>
<tr>
<td>Loss of grazing area</td>
<td>38</td>
</tr>
<tr>
<td>Wildlife and tourists gain, not local people</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Household survey
Appendix XVII: Distribution of Benefits in Il Ngwesi Study Area

Within the Local Communities

<table>
<thead>
<tr>
<th>Source of benefit</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed night levy</td>
<td>84%</td>
<td>86%</td>
<td>82%</td>
<td>87%</td>
</tr>
<tr>
<td>Concession fee</td>
<td>90%</td>
<td>97%</td>
<td>93%</td>
<td>96%</td>
</tr>
<tr>
<td>Profit sharing</td>
<td>92%</td>
<td>95%</td>
<td>94%</td>
<td>94%</td>
</tr>
</tbody>
</table>

Source: Household survey

Appendix XVIII: Frequency of Respondents Interaction with Tourists in Sweetwaters Study Site

<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>% OF INTERACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>3</td>
</tr>
<tr>
<td>Weekly</td>
<td>20</td>
</tr>
<tr>
<td>Monthly</td>
<td>12</td>
</tr>
<tr>
<td>Quarterly</td>
<td>13</td>
</tr>
<tr>
<td>No interaction at all</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Household survey
### Appendix XIX: Frequency of Respondents Interaction with Tourists in II Ngwesi Study Site

<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>% OF INTERACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>8</td>
</tr>
<tr>
<td>Weekly</td>
<td>52</td>
</tr>
<tr>
<td>Monthly</td>
<td>14</td>
</tr>
<tr>
<td>Quarterly</td>
<td>22</td>
</tr>
<tr>
<td>No interaction at all</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Household survey

### Appendix XX: Extent of Human - Wildlife Conflict in II Ngwesi Study Site

<table>
<thead>
<tr>
<th>NATURE OF CONFLICT</th>
<th>% IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock deaths</td>
<td>18.2</td>
</tr>
<tr>
<td>Livestock injury</td>
<td>20.1</td>
</tr>
<tr>
<td>Crop damage</td>
<td>32.1</td>
</tr>
<tr>
<td>Loss of grazing land</td>
<td>12.5</td>
</tr>
<tr>
<td>Predation</td>
<td>8</td>
</tr>
<tr>
<td>Human Deaths</td>
<td>1.5</td>
</tr>
<tr>
<td>Human Injury</td>
<td>3.5</td>
</tr>
<tr>
<td>Spread of disease to livestock</td>
<td>4.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
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</tbody>
</table>

Source: Household survey
Appendix XII: Wildlife Population in Kenya's Rangelands:  
1998 - 2002 (Thousands)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elephants</td>
<td>17.1</td>
<td>16.4</td>
<td>11.1</td>
<td>13.2</td>
<td>13.4</td>
</tr>
<tr>
<td>Buffalo</td>
<td>28.8</td>
<td>27.5</td>
<td>18.5</td>
<td>18.4</td>
<td>18.7</td>
</tr>
<tr>
<td>Giraffe</td>
<td>38.6</td>
<td>36.6</td>
<td>21.6</td>
<td>21.3</td>
<td>21.6</td>
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<tr>
<td>Burchelle's Zebra</td>
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<td>170</td>
<td>138.8</td>
<td>138.5</td>
<td>138.7</td>
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<tr>
<td>Grevy's Zebra</td>
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<td>7.2</td>
<td>14.4</td>
<td>14.6</td>
<td>15</td>
</tr>
<tr>
<td>Topi</td>
<td>57.6</td>
<td>57.4</td>
<td>46.6</td>
<td>46.9</td>
<td>47.1</td>
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<tr>
<td>Kongoni</td>
<td>12.9</td>
<td>12.2</td>
<td>8.5</td>
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<td>11.1</td>
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<tr>
<td>Wildebeest</td>
<td>311</td>
<td>301</td>
<td>324.9</td>
<td>341.1</td>
<td>351.1</td>
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<td>17.7</td>
<td>15.1</td>
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<tr>
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<td>6.4</td>
<td>9.3</td>
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<td>4.2</td>
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<td>75.1</td>
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<tr>
<td>Grant's Gazelle</td>
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<td>127.1</td>
<td>220.1</td>
<td>225.1</td>
<td>228.1</td>
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<tr>
<td>Thompson's Gazelle</td>
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<tr>
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<td>14.1</td>
<td>21.3</td>
<td>23.1</td>
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<tr>
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<td>27</td>
<td>27.6</td>
<td>28.7</td>
<td>29.1</td>
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