GOVERNMENT OF ZIMBABWE
MINISTRY OF ENVIRONMENT, WATER AND CLIMATE

HWANGE SANYATI BIODIVERSITY CORRIDOR (HSBC) PROJECT

ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK

DECEMBER 2013

Waterkings Environment Consultancy: wmuti@mweb.co.zw

PREFACE

The Government of Zimbabwe is implementing the Hwange Sanyati Biodiversity Corridor (HSBC) Project with the assistance of the GEF through the World Bank. In consistency with the World Bank Environment and Social Safeguards Policy, this ESMF was formulated. Waterkings Environment Consultancy formulated this ESMF on behalf of the Ministry of Environment, Water and Climate. Great appreciation is made to the various stakeholders (WWF, EMA, PWMA, Forestry Commission, CAMPFIRE, Consulted Government Departments, Local Leaders and Community Members) who made the formulation of this ESMF a success.

ACRONYMS AND ABBREVIATIONS

ACRONYMS	MEANING
CAP	Chapter
EMA	Environmental Management Agency
EMMP	Environment Management and Monitoring Plan
EMP	Environment Management Plan
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
FC	Forestry Commission
GEF	Global Environment Fund
GoZ	Government of Zimbabwe
HNP	Hwange National Park
HSBC	Hwange Sanyati Biodiversity Corridor
ICA	Intensive Conservation Area
IP	Indigenous Peoples
IPP	Indigenous Peoples plan
IPPF	Indigenous Peoples Planning Framework
KAZA	Kavango Zambezi
MEWC	Ministry of Environment, Water and Climate
MOF	Ministry of Finance
NRM	Natural Resources Management
PA	Protection Areas
PWMA	Parks and Wildlife Management Authority
RAP	Resettlement Action Plan
RDC	Rural District Council
REDD	Reduced Emissions from Deforestation and Forest Degradation
RSPF	Resettlement Policy Framework
S.I	Statutory Instrument
SADC	Southern African development Community
TFCA	Trans Frontier Conservancy Area

USD	United States Dollar
WHO	World Health Organization
WWF	Worldwide Wildlife Fund

DEFINITIONS

Environment : (a) the natural and manmade resources, physical resources, both biotic and abiotic, occurring in the lithosphere and atmosphere, water, soil, mineral and living organism, whether indigenous or exotic and the interaction between them.

(b) Ecosystems, habitats, spatial surroundings and their constituent parts, whether natural or modified or constructed by people and communities, including urbanized areas, agricultural areas, rural landscapes and places of cultural significance.

© The economic, social, cultural or aesthetic condition and qualities that contribute to the value of the matters set out in paragraphs (a) and (b).

Environment and Social Impact Assessment: An instrument to identify and assess the potential environmental impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures.

Environmental and Social Management Plan: An instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental impacts, or to reduce them to acceptable levels and (b) the actions needed to implement these measures.

EXECUTIVE SUMMARY

The Ministry of Environment, Water and Climate, through funding from the Global Environment Facility (GEF) that is administered through the World Bank, is implementing the Hwange Sanyati Biodiversity Corridor Project. The project has four focal areas namely Livelihoods, Land Degradation, Climate Change and Biodiversity. The HSBC project is being implemented through CAMPFIRE (Livelihoods), Forestry Commission (Climate Change), Parks and Wildlife Management Authority (Biodiversity) and EMA (Land Degradation). The project will be coordinated by the WWF. The project is still at the appraisal stage. This ESMF is part of the key preparatory work for the project appraisal by the World Bank.

In coming up with this ESMF, a number of related activities and methods were used. A desk review of the project information, World Bank Environment and Social Safeguards, relevant local legislation and EIA guidelines was conducted. The desk review generated a deep insight into the project facets before going out for field appraisal. An overview field visit to the key parts of the project area was conducted. This saw the ESMF consultancy team traversing through Gokwe North District, Binga District, Hwange District and Tsholotsho District. The main purpose of the field visit was to familiarize with the project area, reconcile the project information with what is on the ground and also meet the various stakeholders for consultation and impact identification. A checklist, stakeholder consultation, field assessments and experience from other related projects were used for impact identification. Impact analysis was done through an impact matrix that looked at the various potential impacts from different dimensions which included aspects like magnitude, reversibility, timing, probability of occurrence and nature. Meetings with the project team were also held to seek clarification on key project facets. All this analysis ended up with the development of an ESMP for each subproject.

This ESMF was necessitated by the fact that the intricate details of the above four subprojects are not yet known and to comply with the World Bank standards for Bank funded project, an ESMF had to be developed. It should be noted that the HSBC project was screened at the Bank level and categorized B project. This category is characteristic of projects that have limited potential negative environmental and social impacts that can be managed using locally available interventions, but would still need limited environment and social assessment work. With this classification and the ESMF, the project will proceed

to appraisal. When the specific project details of the subprojects are developed and more site specific information is available, a screening process will be conducted for every subproject. This will culminate into the development of the appropriate environment and social management tools, whether the subprojects will be exempt from further ESIA or will require an ESIA it will be resolved from the screening process. As part of this ESMF, the screening process and social safeguards tools have been developed.

The overview project descriptions for the HSBC subproject are as follows;

- The HSBC corridor covers an approximate area of 5 697 137 ha / **56 971.37 Km^2** spanning through six administrative districts namely Nyaminyami (*Kariba*), Gokwe North, Kusile (*Lupane*), Hwange, Tsholotsho and Binga.
- **EMA subproject.** The project on Sustainable Land Management and rehabilitation of degraded land will initially focus on the Ume micro catchment of the Sanyati catchment and will cover Chireya ward.
- **CAMPFIRE subproject.** The overall objective of the focal area is to implement community based natural resource management initiatives for livelihood improvement and sustainable natural resource use in selected wards of Binga, Hwange and Tsholotsho districts. It will be achieved through three pilot projects, one in each district. The projects were identified through a stakeholder consultation process in the districts.
- **PWMA subproject.** The overall objective of the focal area is to assist HNP to become a thriving and self sustaining wildlife estate. Its specific outputs are:
    - ✓ The functioning of the park's ecosystem better understood.
    - ✓ Game water supply improved.
    - ✓ Extent of wildlife poaching reduced.
    - ✓ Incidence of veld fires curtailed.
    - ✓ Pilot REDD+ project developed and piloted.
- **Forestry Commission.** The overall objective of this focal area is to promote improved land and forest management practices in Sikumi and Ngamo forests. Its outputs are:
    - ✓ Pilot REDD+ project developed and implemented.
    - ✓ Incidence of forest fires curtailed;
    - ✓ Extent of commercial timber and wildlife poaching reduced;

- ✓ Game water supply improved.

In view of the above project description, the following World Bank safeguards policies were triggered and the full details on why they are triggered and the required actions are in chapter 3 of the ESMF;

- O.P 4.01 – Environmental Assessment Policy
- O.P 4.04 – Natural habitat
- O.P 4.36 – Forests Protection
- O.P 4.11- Physical Cultural Resource
- O.P 4.12 – Involuntary Resettlement
- O.P 4.10 – Indigenous Peoples

The HSBC project area spans through six districts and an overview stakeholder consultation was conducted. The consultation targeted the key government departments, NGOs, Safaris, local community and local leadership. Key issues that arose from the stakeholders were aimed at how the project would reduce human wildlife conflict, maximization of project benefits to local communities and close involvement of stakeholders throughout the project lifecycle.

Key potential negative impacts were segmented into the various subprojects and appropriate mitigation measures were suggested. A more detailed impact identification, analysis and management will be conducted following the screening process when more project information is available. The following highlights are being made;

- EMA component. The major issues include the degradation of land, occupational safety and health related impacts. River bank protection, occupational safety and health management are key in the mitigation process.
- CAMPFIRE Association. The CAMPFIRE component has intra-community relations to manage. Close liaison with the local community and its leadership is one of the important mitigation measures that will ensure sustainable implementation of the component.
- Forestry Commission and PWMA. The components have potential for depletion of ground water resources. The implementation of the Park and Forest management plans are essential. Liaison with ZINWA for ground water management is also essential.

It is the consultant's conviction that the implementing and coordinating agencies for this project have capacity to effectively implement the project. Training of the project team on the various World Bank Social Safeguards and the associated management tools is recommended for the smooth implementation of the project.

TABLE OF CONTENTS

ITEM **Page**

LIST OF TABLES

LIST OF FIGURES

APPENDICES

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The Government of Zimbabwe, with the assistance from the Global Environment Fund (GEF) and the World Bank is implementing the HSBC Project. The project has four broad components namely; Improving Protected Areas (PA) management effectiveness and provide alternative livelihood to communities living in sensitive areas, Pilot subprojects that will address land degradation, Institutional, policy and legal framework aimed to identify gaps and weaknesses that should be addressed to facilitate sustainable management of the NR of Zimbabwe and project coordination.

i. **Component 1: Improving PA management effectiveness and provide alternative livelihood to communities living in sensitive areas (USD 2.5 million).**

The aim of this component is to improve biodiversity management and improve the income of community involved in stewardship of the natural resource. The component will be executed in two phases namely project scoping (phase 1) and project implementation (phase 2). Phase I will be carried out over 12 months followed by a three year implementation period (phase 2). Major activities to be financed by this component include:

- The establishment of biodiversity and livelihood baselines (including management effectiveness) and monitoring systems for Hwange National Park and neighboring communal areas;
- Preparation and implementation of Management Plan for the same;
- Market study on the socio-economic impacts of various livelihood options. They include wildlife breeding, joint marketing and management of hunting safaris; joint ecotourism operations; value addition and marketing of non timber forest products; and forest carbon trading;
- Development of a business plan. This will include biodiversity inventories, management and monitoring; and designing viable livelihood options for the project; and development of communication and awareness strategy.

Phase II will focus on the implementation of a joint PA community conservancy plan that is informed by outcomes of Phase I.

ii. **Component 2: Pilot subprojects that will address land degradation (USD 2.0 million):**

The aim of this component is to reverse land degradation in Sanyati catchment, UME Microcatchment as the pilot study area by implementing integrated catchment management approaches (in sustainable land management) with community participation. The following activities will be financed under this component:

- Mapping of degraded areas and those facing a risk of accelerated degradation within the catchment to establish environmental databases for monitoring purposes.
- Implement demonstration projects in sustainable land management in selected areas within Sanyati catchment area.
- Training communities in sustainable land management practices, in environmental rehabilitation and mechanical conservation works in all the wards in the catchment.
- Rehabilitation of selected degraded forest areas.
- Development of technological tool kits for replication in other degraded landscapes. It is expected that this component will benefit from partnering with other donors in financing the activities under this focal area.

iii. **Component 3: Support to institutional, policy and legal framework (USD 1.5 million)**

The aim of this component is to help the government address institutional, policy and legal framework (including capacity constraints) to improve capacity in sustainable management of the Natural Resources of Zimbabwe. This Component will have two major subcomponents: (a) support to improve national and regional institutional capacity in climate change and natural resource use analysis, capacity building, awareness creation and establishment of environmental information system; and (b) overall institutional, policy and legal framework analysis of the environment sector including support to the government in crafting environmental strategy. Also, the component will finance training to address the capacity

constraints facing institutions involved in environmental-cum-natural NRM, national awareness building, outreach activities and a comprehensive communication strategy.

iv. **Component 4: Project Coordination (USD 1.0 million)**

The Ministry of Environment will be the overall coordinator of the Project. A steering committee composed of MEWC, EMA, Parks & Wildlife Management Authority, WWF and other agencies as will be defined later, will be established to oversee the approval of annual plans and budget, review progress reports, and coordinate donors activities. WWF will act as a Secretariat for the Steering Group.

1.2 BACKGROUND OF THE IMPLEMENTING ORGANIZATION

While the MEWC will sign the grant facility with the World Bank, the implementation will be done by the various organizations under the jurisdiction of the ministry. WWF will coordinate the implementation of the project. The implementing partners for WWF are EMA, Parks and Wildlife Management Authority, Forestry Commission and Campfire.

1.2.1CAMPFIRE

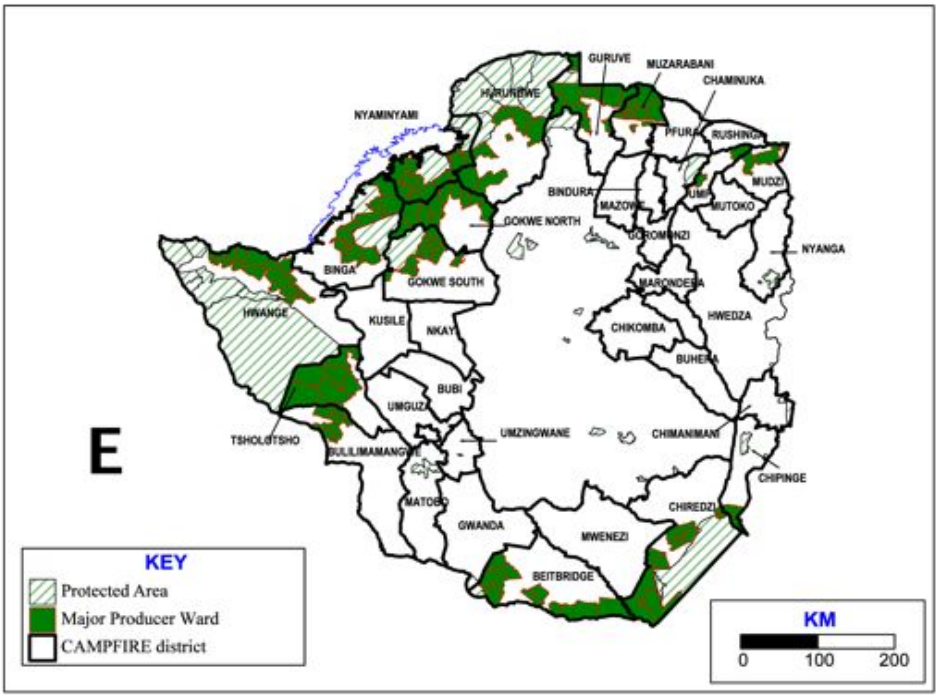
CAMPFIRE Association is the lead agency for the Community Areas Management Programme For Indigenous Resources (CAMPFIRE) and is a registered Welfare Organization (W.O/15/94). This organization will lead the implementation of the Livelihoods focal area of the HSBC project. Its mandate is to promote the interests of rural communities in the sustainable management of their natural resources in partnership with government, civil society organizations and the private sector. It has a compliment of eight staff centrally located in Harare and technically supported by CAMPFIRE departments within participating districts. The Association's main funding source is a levy on CAMPFIRE activities carried out in the CAMPFIRE districts. In 2011, its recurrent budget was $150 000 that went to staff commitments and administrative costs. Capital expenditure is funded from targeted donor support.

1.2.1.1 CAMPFIRE AND RDCS

Zimbabwe has a total of 60 RDCs (the lowest level of government in rural areas). Sixty-five per cent of the country's population (12.974 million) lives in rural areas. Most of the latter areas receive low and

erratic rainfall and are on infertile soils. Consequently, the bulk of the communities realize low dry land crop yields and are food insecure. Wildlife management is therefore an important livelihood option in some districts with 57 of them being part of the CAMPFIRE programme that covers about 5 million ha. Figure 2.1 shows the geographical location of the CAMPFIRE districts.

Figure 1.1: Geographical location of CAMPFIRE districts



1.2.1.2CURRENT CAMPFIRE PROJECTS IN THE HSBC

The Hwange-Sanyati Biological Corridor covers six districts namely: Binga, Gokwe North, Hwange, Kusile, Nyaminyami, and Tsholotsho. The districts are involved in CAMPFIRE largely through sport hunting that also creates employment for the local population. In addition, commercial timber logging and fishing are important income sources in Tsholotsho and Hwange respectively. Table 1.1 shows population statistics of CAMPFIRE wards in the six districts.

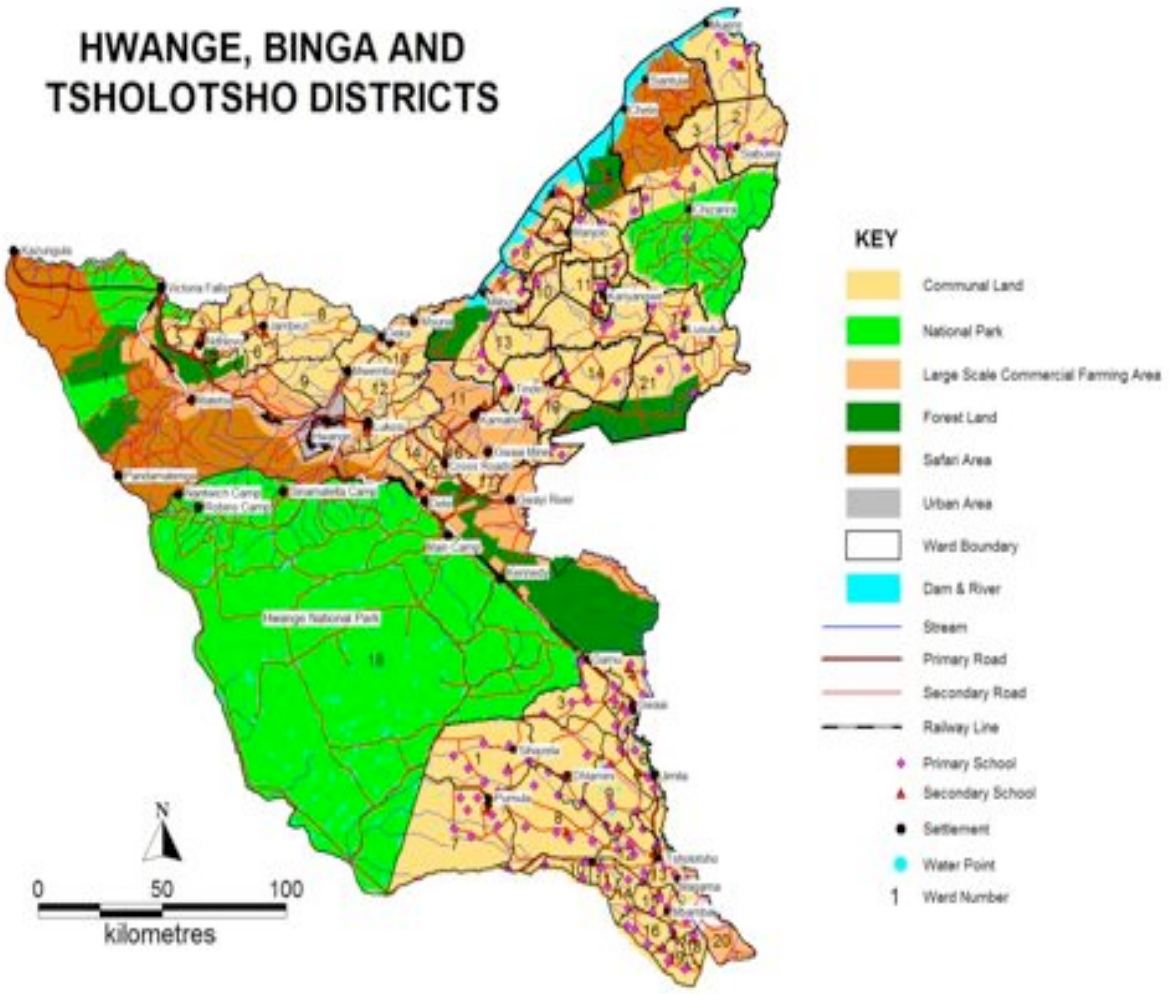
Table 1.1: Population statistics of CAMPFIRE wards in HSBC

District	District size (ha)	No. of wards in district	Wards in CAMPFIRE	Population of district	Population of Campfire wards
Binga	1 305 800	25	21	138 074	118 824
Gokwe North	1 824 600	36	14	244 976	98 009
Hwange	376 963	20	19	62 649	58 240
Kusile	773 500	26	23	164 469	87 936
Nyaminyami	794 300	12	11	43 654	33 342
Tsholotsho	784 400	22	11	113 895	59 602

The Campfire component of the project will focus on Binga, Hwange and Tsholotsho districts. The districts were preferred because of the following realities:

- Hwange and Tsholostho are the only districts in the HSBC that share boundaries with Hwange National Park (HNP), the wildlife reservoir for the project.
- Binga district is exposed to human wildlife conflict as it borders protected areas such as Chizarira National Park, Sijarira forest and Chete safari area. In fact the district forms a natural link between Hwange National Park and other protected areas found within the corridor; and,
- All three districts suffer from competition for space between people and wildlife.

Figure 1.2: Geographical location of the focal districts



1.2.2 ENVIRONMENTAL MANAGEMENT AGENCY

The Environmental Management Agency (EMA) is a parastatal under the Ministry of Environment, Water and Climate. Its mandate is derived from the Environmental Management Act CAP 20:27 that provides for the sustainable management of natural resources and protection of the environment; prevention of pollution and environmental degradation; and preparation of national environmental management plans across the country's land use systems. The Agency has a staff compliment of 260 people strategically located throughout the country. Its funding comes from two sources namely; own revenue generation efforts and government grants. In 2010, the Agency generated $8.2 million and received $0.8 million in government grants for recurrent expenditure.

Of the total amount $2.7 million went towards staff costs. Capital expenditure totaled $1.1 million that year. EMA has its Head Office in Harare, but is well represented at every local area. The organization has offices in the 10 provincial capitals and also in the two major cities namely Harare and Bulawayo. EMA also has an office in each of the 60 districts in the country and has active environmental committees in each ward. The representation goes further down from the ward to village level where volunteers are engaged in various environment management responsibilities. EMA is responsible for the land degradation focal area of the HSBC project.

1.2.2.1 EMA COMMUNITY ENGAGEMENT PROGRAMES

EMA routinely undertakes capacity building training for key stakeholders to instil a culture of environmental stewardship. The stakeholders include traditional leaders, local authorities such as rural district councils (RDCs), environmental sub-committees and local resource monitors as demonstrated by the following:

i. The country has 359 environmental sub-committees of which one is in Chireya ward. Sub-committees are constituted by elected representatives of local communities and receive grants to facilitate their operations. In 2012 these grants totalled $60 000 and were channelled through RDCs and;
ii. There are 324 resource monitors (volunteer environmental watch dogs at local level) throughout the country and one of them is in Chireya. The Agency assists the monitors with bicycles to improve mobility, regalia for ease of identification and funding for text messages to relevant authorities that deal with environmental issues (e.g. EMA, Forestry Commission and Zimbabwe Republic Police).

The local representation of EMA at all levels configures the organization for effective implementation of any such environment related projects.

1.2.3 FORESTRY COMMISSION

The Forestry Commission (FC) is a parastatal organization under the Ministry of Environment and Natural Resources Management. Its mandate is derived from the Forestry Act (CAP 19:05 as amended in 1999) and is to provide for regulation, management and capacity enhancement within Zimbabwe's forestry sector. The Act regulates forest use on state land, commercial farming areas, and gazetted

forests. The Commission has a staff compliment of 673 people strategically located throughout the country. Its main funding sources are Government of Zimbabwe (GoZ) grants and revenue from own resources. The organization's plan is to progressively increase own revenue receipts and reduce on government grants in future. In 2012 it had a recurrent budget of $4.8 million from GoZ and $2.8 million from own resources. Of this amount, $4.4 million went to staff salaries. A total of $0.8 million was allocated to capital expenditure. Forestry Commission is represented in each of the 60 districts in Zimbabwe and also in every Gazetted Forest Area. The Forestry Commision is responsible for the Climate Change focal area of the HSBC project.

1.2.3.1 FORESTRY COMMISSION ACTIVITIES IN GAZETTED FOREST AREAS

Zimbabwe has 24 gazetted indigenous forests that cover about 800 000 ha. Their size ranges from 567 ha (Ungwe) to 144 000 ha (Gwaai). The forests were gazetted between 1926 and 1960 to control the wanton harvesting of commercial indigenous timber species used to produce mine props, railway sleepers, flooring parquets and furniture. According to Zimbabwe's land use classification, gazetted indigenous forests are located in natural regions IV and V, which are characterized by low and erratic rainfall and are on the fragile Kalahari Sand ecosystem. The forests are important for watershed and soil protection (catchment area protection), biodiversity conservation, wildlife habitats and as a source of commercial timber and non-timber forest products such as honey, mushrooms, edible insects and indigenous fruits. The forests are generally critical for the management and protection of the fragile Kalahari sand ecosystem. Gazetted forests contribute to Zimbabwe's Gross Domestic Product through the forestry and tourism sectors. Substantial quantities of indigenous timber products are exported as furniture, flooring and wood carvings. In addition, the forests generate revenue from photographic safaris and sport hunting.

Furthermore, gazetted indigenous forests provide employment in the areas of commercial timber harvesting, safari operations, forest management and wood carving. About four timber concessions are operational in the forests at any one time. The concessions employ some 300 people in forest management and sawmilling. Each concession is allowed to harvest a maximum of 4 800 cubic metres under bark of timber of various species per year. The average stumpage royalty for the various timber species is about $30, with chargeable fees ranging from $25 to $52.

With respect to hunting, there can be as many as 160 hunts lasting 14 to 20 days each per hunting season (May to October). Sport hunting and photographic safari operations employ substantial numbers of people. Depending on the size of the safari outfit, there could be up to 25 people employed in catering, grounds maintenance, game tracking, skinning and tour guiding. The approximately 44 curio stalls operating along the Bulawayo-Victoria Falls road and in Victoria Falls derive their timber from gazette forests. Each stall employs on average 20 people engaged in various activities in the production and vending of the curios.

The Hwange –Sanyati Biological Corridor Project area hosts five of the country's 24 gazetted indigenous forest areas. They are; Sikumi, Ngamo, Mzola, Kavira and Sijarira. However, the project will focus on Sikumi and Ngamo forests. This is in recognition of the fact they neighbor Hwange National Park- the reservoir of wildlife in the project corridor. Consequently they provide continuity for wildlife movement within the corridor. There is also no commercial timber logging and human settlements in the two forests. Furthermore the forests interface with communities who derive their livelihoods from them by accessing grazing, thatch grass, firewood and other non-wood forest products.

The management of the two gazetted forests is based on forest management plans that embrace the following activities; fire management, game water supply, wildlife management, community engagement and forest zoning. However, the management plans are outdated. In addition, the inadequacy of financial and human resources has compromised the management of the forests. The two forests measure 157 300ha and are only patrolled by a contingent of 12 guards at any given time. This translates to one guard per 13 000 ha. Furthermore, the two forests share one vehicle for guard deployment and forest monitoring.

The Forestry Commission used to support research on indigenous tree establishment, management and the effects of fire on natural regeneration but such activities have since been scaled down in the two forests. It is also facilitating the establishment and nurturing of community fire management brigades. In 2000 the Commission established a Social Fund whose objective was to support local schools and neighboring communities as part of its corporate social responsibility. However, the Fund is not

operational due to financial challenges faced by the organization. The Forestry Commission has an organizational system and structures to fully participate in its component of the HSBC project.

1.2.4 PARKS AND WILDLIFE MANAGEMENT

The Parks and Wildlife Management Authority (PWMA) is a parastatal organization under the Ministry of Environment and Natural Resources Management. It derives its mandate from the Parks and Wildlife Act (Chapter 20:14) of 1996 and its subsequent amendments. The Act empowers the Authority to effectively and profitably manage Zimbabwe's wildlife resources for the benefit of present & future generations especially within the Parks estate.

The Authority has a staff compliment of at least 3 225 people strategically located throughout the country provincial offices and specific wildlife management areas. The organization does not receive government grants but manages its estates by commercializing its operations within the context of "natural resources paying for their own conservation". However, the Authority is experiencing severe under capitalization and cash flow problems that continue to erode its capacity to sustainably manage the Park's estate under the current depressed macro-economic environment. Currently, its law enforcement is weak and severely under-resourced at a time of heightened wildlife poaching activities. Funding for the protection and development of the Park estate has declined from $200 per square km in 1980 to the current (2013) $10 per square km. A comparative figure for Kruger National Park in South Africa is $2 000 per square km (Cumming, 2009). In 2011 the PWMA had a recurrent budget of $ 19.8 million of which $11.4 million went to staff salaries. A total of $0.9 million was allocated to capital expenditure.

Zimbabwe has 26 wildlife areas that consist of 11 national parks, 6 safari areas, 10 recreational parks, 2 botanical gardens and 2 botanical reserves that cover 5.2 million ha. The 26 areas constitute the Parks Estate. The Hwange –Sanyati Biological Corridor Project area hosts three National Parks (Hwange, Chizarira and Matusadonha) and two safari areas (Chete and Chirisa). The Parks estate neighbors with some communal land, gazetted forest areas and privately owned conservancies. The estate also hosts migration wildlife routes across the different neighbouring land use systems. However, the routes are not well understood and require further research as they impact on the sustainable management of wildlife in the corridor.

The project will focus on Hwange National Park (HNP). The park was preferred because of the following realities:

i. It is a reservoir of most of the wildlife found in the corridor. For example, it has about 50 000 elephants; more than 5 000 buffalo; and 400 lion and is the largest national park in the country.
ii. It is part of the Kavango-Zambezi (KAZA) Trans-frontier Conservation Area (TFCA) initiative. The KAZA is the largest TFCA in the world.
iii. It is the source of animals that are sport hunted in the other land use systems e.g. Gwai Intensive Conservation Area (ICA); and Tsholotsho, Hwange and Binga communal lands.
iv. Its wildlife is a major source of human wildlife conflicts with neighboring communal lands.

This is the background from which the organization proposes to implement the biodiversity focal area of the HSBC project.

1.2.4 WWF

WWF is an International Development Agency whose vision is a safe and sustainable future for people, places and species, in an equitable low-carbon society that is resilient to climate change. WWF's mission is to stop the degradation of the planet's natural environment, and build a future in which humans live in harmony with nature. In order to achieve this mission, WWF focuses its efforts on two broad areas of biodiversity and footprints. The first focal area ensures that the earth's web of life - **biodiversity** - stays healthy and vibrant for generations to come. The organization strategically focuses on conserving **critical places** and **critical species** that are particularly important for the conservation of the earth's rich biodiversity.

The second focal area aims to reduce the negative impacts of human activity (**ecological footprint)**. The organization is working to ensure that the natural resources required for life -land, water, air are managed sustainably and equitably. WWF achieves its mission through innovative partnerships that combine on-the-ground conservation, high-level policy and advocacy, and work to make business & industry more sustainable. Focus is on conserving **critical places** and **critical species** that are particularly important for their habitat or for people. WWF also works to reduce humanity's **ecological footprint**, the amount of

land and natural resources needed to supply our food, water, fiber and timber, and to absorb CO_2 emissions. WWF wishes to find practical solutions for a healthy planet, a planet where people and nature can thrive together, in a stable environment, now, and for generations to come.

WWF will be the executing agency for the project. WWF has a country office (which also houses regional programmes) in Zimbabwe and a Regional Office for eastern and southern Africa in Kenya. The organization is well situated to provide critical specialized support in capacity improvement. The presence of WWF on the ground will provide a back-stop required in specific areas by providing technical assistance (TA) on timely basis to ensure project execution is done as planned. WWF also will play a critical role in the preparation of projects for financing by donors that support the overall environmental management effort of the government of Zimbabwe, specifically the Ministry of Environment and Natural Resources Management, thereby ensuring harmonization and complementarity.

1.3 JUSTIFICATION OF THE EMSF

The Environmental Management Act (CAP 20:26), First schedule provides a list of activities that require compulsory ESIA before implementation. This listing is applicable to project whose specific activities and locations are fully known such that the accompanying environment and social impacts can be identified, identified and mitigated. However; the full details of the HSBC sub projects are not yet fully known and the environmental and social impacts of the project cannot be identified, assessed and mitigated in the context of the conventional ESIA process. The HSBC spans through six districts that include Tsholotsho, Hwange, Binga and Gokwe North. The project has four sub projects implemented by four different implementing agencies. EMA's land degradation component of the HSBC project will be targeting the Ume micro catchment in the Gokwe North District while the Forestry Commision's Climate Change component will be implemented in the Ngamo and Sikume Forests in the Hwange District. The Parks and Wildlife Management's biodiversity component targets the Hwange National Park in Hwange District while the Campfire livelihoods component is implemented in the Tsholotsho, Hwange and Binga Districts. In the absence of the exact location and exact project activities, the ESMF is an appropriate planning tool.

The HSBC project is categorized as a B project according to the World Bank's Operational Policy OP4.01 (Environmental Assessment). This means appropriate environmental work will have to be carried out. Since the locations of the investments and their potential negative localized impacts cannot be determined prior to appraisal, the programme requires the preparation of an ESMF to ensure appropriate mitigation of potential negative environmental and social impacts are taken into account in the implementation of projects. This framework therefore, is designed to guide the establishment of appropriate level of environmental and social management measures for implementation, in all the stages of the project activities, from the planning to implementation and decommissioning.

1.4 OBJECTIVES OF THE ESMF

The objective of this ESMF is to ensure that the implementation of the HSBC Project is carried out in an environmentally and socially sustainable manner. The ESMF will provide the project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social impacts of their sub projects in the respective implementation locations. The screening results would indicate whether additional environmental and/or social work will be required or not. Thus, the ESMF is designed to ensure that the appropriate level of environmental management, which could range from the application of simple mitigation measures (assessed through the environmental checklists), to the preparation of a comprehensive ESIA Report (according to Zimbabwe's ESIA Guidelines), is applied. It is important to note that while the HSBC project has been classified a category B project, exemption from the full ESIA requirement for the sub projects would have to be processed through the screening, review, approval and endorsement by the Ministry of Environment , Water and Climate.

The ESMF will outline the:

a) Steps of the screening process from identification to approval of the respective sub projects.

b) General environmental and social mitigation measures that can be applied and adopted.

c) Summary of the Bank's safeguards policies to ensure the latter are observed during project implementation.

d) Accompanying safeguards instruments for the triggered safeguard policies.

This ESMF has therefore been prepared to provide project implementers with the screening process that will enable them to identify, assess and mitigate potential negative environmental and social impacts; and to ensure proper mitigation and possibly the preparation of a comprehensive, ESMPs, Process Framework and IPP where applicable.

1.5 POTENTIAL USERS OF THE ESMF

This framework has been prepared as a reference manual for use by key stakeholders to be involved in the planning, implementation, management and operation of the proposed HSBC project. The framework would be useful to the key stakeholders in the persuasions of their varied interests in the project. Some stakeholders will use the framework for appraisal of the project while others will use it to implement the respective sub projects. Regulatory authorities will use the framework to assess compliance with the various legal requirements. The local communities and their leadership will use the framework for monitoring implementation of the various mitigation measures for the identified impacts. Local NGOs will use the framework to pressure the implementing agencies to adhere to the given mitigation measures. The following organizations are part of the key users of the framework;

- World Bank.
- WWF.
- EMA.
- Parks and Wildlife Management Authority.
- Forestry Commission.
- CAMPFIRE.
- Provincial Officers.
- Local Rural District Councils.
- Local Government Extension Offices.
- Local Communities.
- Local Traditional leaders.
- Local NGOs (Painted Dogs, E Africa).
- Interested Parties (Politicians, Researchers).

1.6 METHODOLOGY USED TO PREPARE THE ESMF

The preparation of the ESMF was done with special emphasis for impact identification, impact analysis and evaluation, and stakeholder consultation. A clear methodology for the screening process for the various subprojects was also adopted. The screening methodology with be participatory. More information on screening is given in chapter three of the ESMF. Impact identification was carried out after thoroughly conducting a literature review. The literature review targeted the various project documents so as to have a clear understanding of the project activities, location and the environmental receptors that are likely to be impacted. The literature review also targeted the World Bank Environment and Social Safeguards standards and procedures so that the whole ESMF is compliant to the Bank Environment and Social Standards. Local environmental legislation was also reviewed to establish the gaps between the local legislation and the Bank's environment and social safeguards. Reference to checklists in the local environmental guidelines for related projects was also made so that the general impacts associated with the proposed project can identified. A ground truthing exercise was carried out to the HSBC where discussions with the relevant government extension officers, local implementing agencies personnel, local traditional leadership and potentially affected persons and beneficiaries was carried out. The ground truthing exercise was also a valuable source of impact identification and mitigation options. The experience from other projects was also used to forecast potential negative and positive environment and social impacts.

Impact analysis and evaluation used the impact matrix methodology. In this process the identified impacts were interrogated in various dimensions that included;

- Direct or indirect impact.
- Immediate or long term impact.
- Local or distant impact range.
- Permanent or temporal duration.
- reversible or irreversible
- positive or negative
- Magnitude of impacts.
- Probability of occurrence.
- Impact significance.

- Cumulativeness of impacts.

The above analysis culminated into the formulation of appropriate mitigation or enhancement measures depending on whether the impacts are positive or negative. Where possible, the consultant also forecasted the residual impact that will remain even after the implementation of mitigation measures.

The stakeholder consultation process was multifaceted. The stakeholder listing was done by the with the participation of the local rural district officials, the local implementing officials and the consultant. The stakeholders were segmented into technical, government departments, local NGOs, local traditional leaders and project affected people and beneficiaries. The consultation process was assisted by the administration of a questionnaire to government departments and all who are able to read, understand and complete. The same questionnaire was administered to the local leadership with interpretation. Individual beneficiaries were interviewed during the field visit especially in the Land rehabilitation project at Chireya. Discussions were held with the hospital staff and the local business persons whose structures are under threat from the gullies. A public notice was also placed in the local daily in both English and the local languages (Tonga and Ndebele). In all the consultations, stakeholder submissions were analysed and used in the formulation of appropriate mitigation measures.

1.7 INSTITUTIONAL ARRANGEMENT FOR ESMF IMPLEMENTATION

The implementation of the HSBC project will be done with the closely knit cooperation of various partners. Since the World Bank issues the grant to the Government of Zimbabwe, the MOF will sign grant on behalf of government. The Ministry of Environment will be the overall coordinator of the Project. A steering committee composed of MEWC, EMA, Parks & Wildlife Management Authority, Ministry of Agriculture, WWF and other agencies as will be defined later, will be established to oversee the approval of annual plans and budget, review progress reports, and coordinate donors activities. WWF will act as a Secretariat for the Steering Committee. The Bank and WWF will enter a Project Agreement that clearly specifies the role and modality of project execution.

1.7.1 RESPONSIBILITIES OF VARIOUS KEY USERS OF THE ESMF

A. MINISTRY OF FINANCE

The role of the MoF among others, is to coordinate the financing of projects by donors and external financers. The MoF will sign the Grant Agreement on behalf of the Government of Zimbabwe.

B. MEWC

MEWC is responsible for policy formulation, strategy development and executing programmes in the environment sector. The Ministry will be responsible for lobbying other government ministries to support the achievement of the ESMF wherever such support is required.

C. WWF

The main responsibilities of the WWF will be:

i. Responsible for all fiduciary aspects of the project including overseeing financial management and procurement including contracting of independent auditors and project reviewer.
ii. Provide targeted TA and training as needed for the effective implementation of the ESMF.
iii. Manage and coordinate the monitoring and evaluation system.
iv. Prepare periodic reports as will be agreed in the Project Agreement.
v. Prepare bankable projects for financing by other donors and multilateral financers
vi. Coordinate communication strategy and undertake outreach and awareness building on the requirements of the ESMF.
vii. Coordinating and consulting with relevant stakeholders sited in the ESMF.

D. EMA

EMA will be responsible for the following aspects of the HSBC project;

i. Implementation of the land degradation focal area of the HSBC project.
ii. Spearhead the establishment and operation of Environmental Sub-committees.
iii. Implementation of the pilot sub projects in selected catchments.

iv. Mobilize the associated key stakeholders for the effective implementation of the focal area activities.

v. Formulation of the required environmental and social safeguards instruments like the EMP and RAPs applicable to its subprojects as outlined in the ESMF.

vi. Reviewing, clearing and certification of the various applicable screening outcomes from the other subprojects in accordance with the ESMF.

vii. Statutory monitoring of compliance to legal requirements of other participating implementing agencies.

E. PWMA

The organization is responsible for the effective implementation of the Biodiversity focal area of the HSBC project. In this endeavor, some of the key responsibilities include the following;

i. Represent government interests in wildlife conservation & sustainable use in the project.

ii. Train & monitor game scouts in anti poaching activities.

iii. Train Environmental Subcommittees on their obligations under the Parks & Wildlife Management Act, including Problem Animal Control.

iv. Implement Park management operations & intensify sustainable revenue generation activities.

v. Provide oversight & representation in the KAZA TFCA as the National coordination Agency for TFCAs.

vi. Preparation and implementation of the EMPs and RAPs required as follow up instruments to the ESMF.

F. FORESTRY COMMISSION

The Forestry Commission will be spearheading the Climate Change component of this project. Some key responsibilities include;

i. The overall objective of this focal area is to promote improved land and forest management practices in Sikumi and Ngamo forests.

G. CAMPFIRE ASSOCIATION

The CAMPFIRE association will be responsible for the implementation of the livelihoods focal area of the HSBC project. In this effort, the following responsibilities will be applicable;

i. Represent community interests at various levels.
ii. Build capacity of targeted partners on participatory natural resources management approaches.
iii. Coordinate CAMPFIRE activities at the Environmental Sub-committee level.
iv. Establish & manage a database on Local Environmental Action Plans.
v. Preparation and implementation of the EMPs applicable to its subproject as follow up to the ESMF.

H. LOCAL COMMUNITIES

The sustainability of the HSBC largely anchors on the effective participation of the targeted local communities. The local communities are essential in the identification, mitigation and monitoring of the project impacts, whether positive or negative. The local communities will be participating in the following areas of joint responsibility with the respective subproject implementing agencies;

i. Ensure proper and sustainable management of natural resources at a local level.
ii. Discourage poaching activities from host communities.
iii. Participate in CAMPFIRE type livelihood enhancement initiatives through public private community partnerships (PPCPs).
iv. Participate in the formulation of local level subproject implementation structures like environmental subcommittee at ward and village levels.
v. Volunteer as environmental monitors in respective subprojects project areas.
vi. Participation of community representatives in participatory screening for subprojects activities.
vii. Participate in the monitoring of the implementation of the EMPs and RAPs prepared as follow up to the ESMF.

I. RDCs

The RDCs are the custodian of all the communal land in the country and are essential for the smooth implementation of the ESMF. Though the RDCs do not have jurisdiction in Gazetted

Forest areas and National Parks, they still host the various communities that are adjacent to the gazetted forest and National parks areas. For sustainable formulation and implementation of the associated RAPs that may arise from some subprojects, the RDCs should be closely involved. Some of the responsibilities of the RDCs include;

i. Coordinating land use planning in CAMPFIRE districts.
ii. Creating a conducive business environment in CAMPFIRE districts.

J. NGOs

The ESMF sites some local NGOs as part of the key stakeholders in the implementation of the HSBC project together with the implementation of this ESMF. The NGOs play an important role in community mobilization against any negative impacts that may arise from the implementation of the HSBC project. In view of their important role, the local NGOs will be afforded a chance to be part of the monitoring mechanism in the implementation of this ESMF and its associated EMPs and RAPs.

K. WORLD BANK

The World Bank has the following roles in this project;

i. Review and ensure that the project is prepared and implemented in conformity with all the Bank operational policies and in line with the legal agreement and associated documents, such as safeguard documents.
ii. During supervision the Bank will work with the various implementing agencies and stakeholders to review implementation and to provide advice or technical assistance when appropriate.
iii. The Bank in this role must also take into account its fiduciary responsibilities to the Global Environment Facility, the project funder.

1.8 ORGANIZATION OF THE ESMF

The ESMF has the following segments for easy review and utilization by the various users;

i. **Chapter 1 (Introduction).** The chapter gave an overview of the HSBC project, background of the project implementers, justification of the ESMF, objectives of the ESMF and the strategies used in the formulation of the ESMF. The chapter will also highlight the institutional arrangement for the implementation of the ESMF.

ii. **Chapter 2 (Project Description).** The chapter will give a detailed presentation of what is currently known about the various components of the HSBC project. The detailed presentation is given to lay a clear basis for impact identification and analysis, impact mitigation, impact management and monitoring. The chapter also lays a solid foundation for the reflection on the World Bank environment and social safeguards that are triggered and those that are not.

iii. **Chapter 3 (Legal and Policy Review).** The chapter establishes the gaps that exist between the local environmental laws with the World Bank environment and social safeguards. Screening guidelines for the project activities that are not yet clearly spelt out will also be presented.

iv. **Chapter 4 (Environmental and Social Baseline).** The chapter presents the environmental and social scan of the proposed project area so as to be able to correctly superimpose the anticipated environmental and social impacts on the proposed project area. This will however be limited to the extent to which the facets projects are known. More site specific environmental and social baseline analysis will be left to the respective sub projects environmental management plans and resettlement action plans where applicable.

v. **Chapter 5 (Stakeholder Consultation).** This chapter will analyse the submissions of the stakeholders that were consulted as a means of impact identification, mitigation and monitoring input. Overally where applicable some recommendations for project design will be made from the submissions of key stakeholders.

vi. **Chapter 6 (Impact Analysis and Evaluation).** The chapter presents the various impacts predicted, their analysis and evaluation. The chapter aims to draw the attention of the project proponents to the major impacts that may accompany the proposed project.

vii. **Chapter 7 (Environment Management Plan).** The chapter presents a synthesis of the earlier chapter in a format that outlines the environmental and social objectives that will ensure the project complies with the requirements of the local environment legislation and the World Bank environment and social safeguards. An array of required financial resources, networks and performance indicators will be presented.

viii. **Chapter 8 Institutional Arrangement and Capacity.** The chapter interrogates the various institutions involved in the implementation of the project together with their respective key stakeholders.

ix. **Chapter 9** Subprojects **Screening Process.** The consultant presents the screening tools and process for the subprojects. .

x. References.

xi. Appendices.

CHAPTER 2

PROJECT DESCRIPTION

2.1 INTRODUCTION

In this chapter the key facets of the project namely project location and project activities will be presented. It's important to note that while it is not yet clear to specifically pin point the exact location of the subprojects and give the respective intricate details, it is adequate to discuss the general location and general project details for the purpose of the ESMF. The objective of this discussion is to be able to give some form of appreciation of the physical footprints that the project has and also determine the other general components of the ESMF that include the key stakeholder analysis, environment and social baseline assessment, impact identification and mitigation. The project description will also give a basis for the identification of the various environment and social safeguards that will be triggered.

2.1 LOCATION OF THE PROJECT

The project location is given in two configurations namely the political and administrative boundaries and also the water resources catchment boundaries. The two configurations are important during the actual implementation of the subprojects. The other three subprojects (PWMA, Forestry and CAMPFIRE) inter-relations on the ground will follow the political and administrative boundary while the EMA subproject ground interactions will follow the hydrological configurations that ultimately form a catchment boundary. The EMA component will also follow the political and administrative boundaries for management purpose but the project impacts follow the catchment boundaries. It is important to note that the exact subproject locations are not yet known, but the general outline below is adequate for the ESMF.

2.1.1 AREA COVERAGE

The HSBC corridor covers an approximate area of 5 697 137 ha / **56 971.37 Km^2** spanning through **six**administrative districts namely Nyaminyami (Kariba), Gokwe North, Gokwe South, Kusile (*Lupane*), Hwange, Tsholotsho and Binga (*See map1 below).*

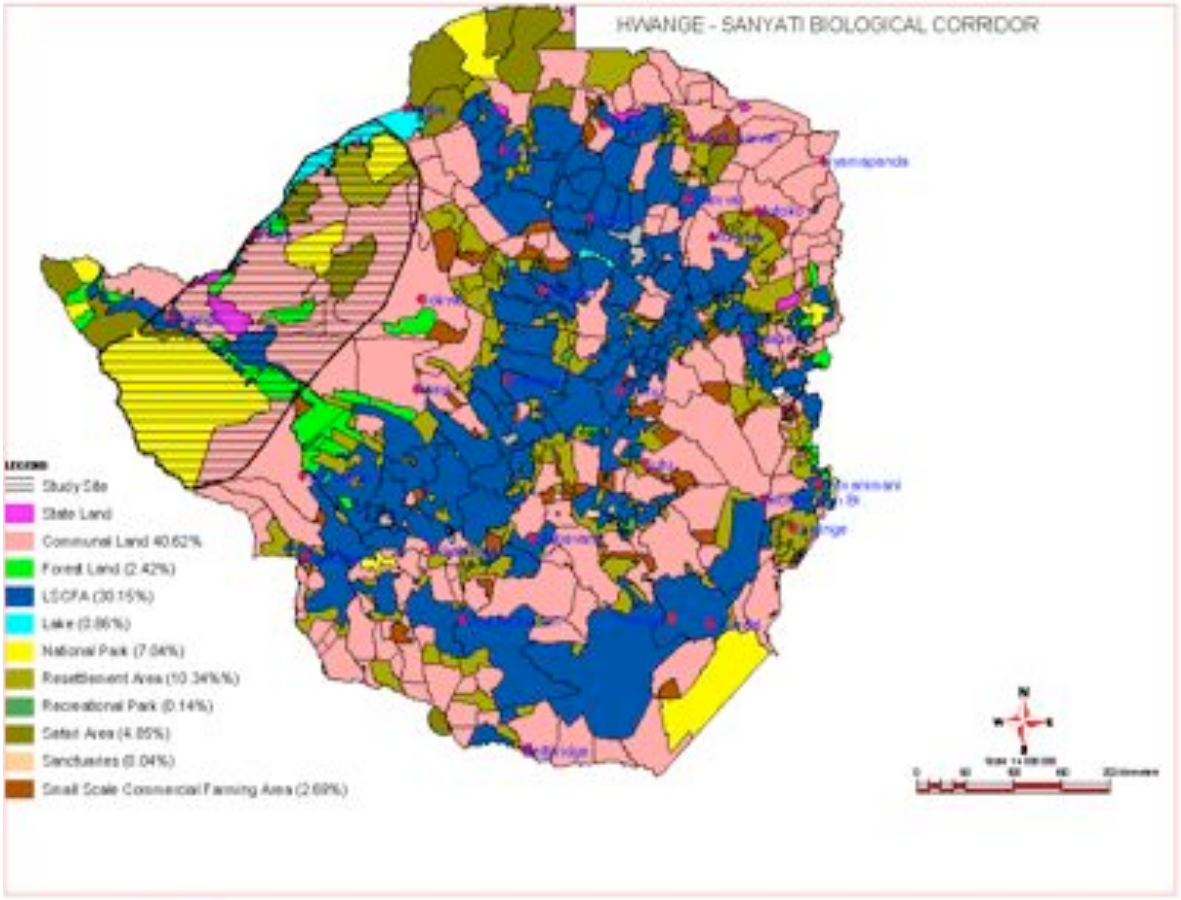


Fig 2.1 HSBC located northwest of Zimbabwe and indicated as Study Site

A REFELECTION ON THE ENVIRONMENT AND SOCIAL SAFEGUARDS

A reconciliation of the spatial extent of the HSBC shows that the corridor coincides with the location of the San Peoples in the Tsholotsho district adjacent to the Hwange National Park. **With this in mind the project triggers O.P 4.10 – Indigenous Peoples policy.** The interaction of the Hwange National Park with the San location requires a process framework. Reference to the landuse within the corridor shows that the operations of the Hwange National Park and the gazetted forests constitute a restriction of access to legally designated parks and protected areas. Though there is no physical placement of people**, the project triggers O.P 4.12 - Involuntary Resettlement policy** because the Bank assisted project is

directly and significantly related to the existing restriction and necessary for the achievements of the project objectives.

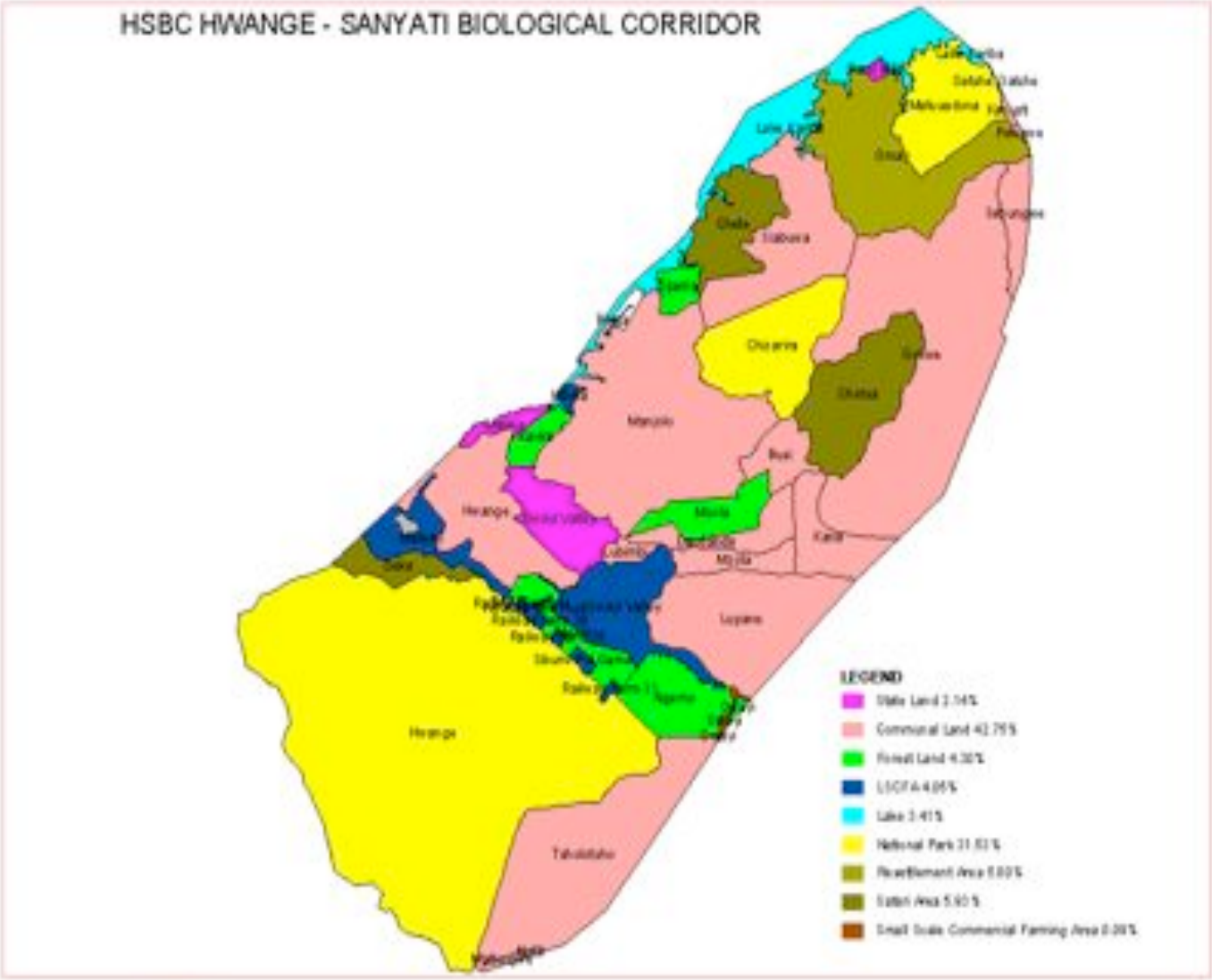


Fig 2.2 HSBC boundaries

2.1.2 LAND USE PATTERNS

The corridor is home to 9 different land use patterns as defined in the Zimbabwe 1992 land-use map. The corridor is made up of **3 National Parks** (Hwange, Chizarira and Matusadonha) **3 Safari Areas** (Chirisa, Chete and Deka) **6 Gazetted forest areas** (Ngamo, Sikumi,Gwayi, Mzola, Kavira and Sijarira) **16 Communal Areas** (Hwange, Manjolo, Siyabuwa, Kanyati, Ringwe, Sebungwe, Gokwe, Busi, Kana, Mzola, Nata, Dandanda, Lubimbi, Tsholotsho, Lupane and Maitengwe) **4 Large Scale Commercial**

Farming Areas (Kavira, Matetsi, Railway farms and Gwayi Valley) **3 State lands** (Gwayi Valley, Msuna and Bumi Hills) **2 Resettlement areas** (Deka and Omay) **1Small scale commercial farming area** (Gwayi) and **1 Water body** (Lake Kariba).

Table 2.1 Landuse categories

Land use category	Names of areas under each category	Total area of each category (Ha)	% of each category to total corridor area
State land	• Gwayi Valley, Msuna and Bumi Hills	121 643.01	2,14
National parks	• Matusadonha, Chizarira and Hwange	1 791 545.56	31,53
Safari areas	• Chirisa and Chete	337 073.46	5,93
Communal lands	• Hwange, Manjolo, Siabuwa, Kanyati, • Ringwe, Sebungwe, Gokwe, Busi, Kana, • Mzola, Dandanda, Lubimbi, Lupane • Tsholotsho, Nata, Maitengwe	2 428 809.21	42,75
Resettlement areas	• Deka • Omay	329 639.37	5,80
Large scale commercial farming areas	• Kavira • Matetsi • Railway farms • Gwayi Valley	230 102.34	4,05
Small scale commercial farming area	• Gwayi	5 097.05	0,09
Forest land (gazetted)	• Sijarira, Kavira, Mzola, Gwayi • Ngamo, Sikumi	244 081.92	4,30
Water body	• Kariba	193 908.77	3,41

2.1.3 WATER CATCHMENTS

The corridor stretches into two water catchments in Zimbabwe. These catchments are Gwayi and Sanyati. Below is a table which shows areas under each catchment and total catchment coverage. The EMA, Ume Micro Catchment is located in the Gokwe North District in Sanyati Catchment.

Table 2.1 Land use within catchments

Land use pattern / Catchment	Sanyati Catchment	Gwayi Catchment
State land	• Bumi Hills	• Gwayi Valley • Msuna
National parks	• Matusadonha • Chizarira	• Chizarira • Hwange
Safari areas	• Chirisa	• Chete
Communal lands	• Kanyati, Kana, • Rengwe, Sebungwe, • Gokwe, Busi, • Dandanda,	• Hwange, Manjolo, Siabuwa • Mzola Dandanda Lubimbi, • Lupane Tsholotsho, • Nata, Maitengwe
Resettlement areas	• Omay	• Omay • Deka
Large scale commercial farming areas		• Kavira, Matetsi • Railway farms, Gwayi Valley
Small scale commercial farming area		• Gwayi
Forest land (gazetted)	• Mzola	• Mzola, Sijarira, • Kavira, Gwayi • Ngamo, Sikumi

2.2 PROJECT DESCRIPTION

The overview project description of the HSBC project was given in chapter 1 (introduction). In this segment focus is given to the focal areas in a way that will assist the identification of specific environmental and social safeguards that will be triggered and the applicable environment and social impact accompanying implementation of the focal areas.

2.3 EMA FOCAL AREA (LAND DEGRADATION- REHABILITATION)

The project on rehabilitation of degraded land will initially focus on the Ume micro catchment of the Sanyati catchment and will cover Chireya ward. It was selected for the following reasons:

- It sits on sodic soils with poor crumb structure and very prone to chemical erosion. The management of such soils for conservation and agricultural production is not well understood; and,
- It is experiencing severe land degradation challenges. Consequently, it provides an appropriate "test bed" or "experimental site" for addressing land degradation issues in the corridor.

Chireya ward covers 21 000ha of land. The area around Chireya business centre (especially the mission hospital) is experiencing widespread land degradation characterized by gully erosion that is threatening the integrity of infrastructure and the ecosystem around the centre. For example, a gully head has encroached onto the hospital fence and is within 30 metres of the nearest building. The hospital serves a population of 25 860 people and the community cannot afford to have the hospital closed.

A. FOCAL AREA OUTPUTS

The overall objective of the focal area is to promote sustainable land protection and management practices that reduce land degradation. Its specific outputs are:

- Environmental baseline for micro-catchment protection and management established;
- Land rehabilitation and protection initiatives that are based on sustainable models implemented; and,
- Enabling conditions for environmental protection and management put in place.

B. SPECIFIC ACTIVITIES BY OUTPUT

Output 1: Environmental baseline for micro-catchment protection and management established

The following activities will be carried out:

i. Establish key drivers of land degradation in the micro-catchment.
ii. Conduct woody and other vegetation inventories in key landscapes.
iii. Assess silt and river discharge levels at strategic points in the micro-catchment.
iv. Collate available information on sodic soil and fill in any information gaps.
v. Develop sustainable land protection and management models for the micro-catchment.

Output 2: Land rehabilitation and protection initiatives that are based on sustainable models implemented.

The following activities will be conducted:

i. Provide appropriate soil ameliorants that improve the structure and condition of sodic soils.
ii. Implement mechanical land rehabilitation measures.
iii. Re-vegetate the micro-catchment with appropriate plant species.
iv. Develop and promote sustainable and high productivity rain-fed crop production practices on stream banks/wetlands.
v. Develop and support the implementation of local level environmental management plans that embrace sections i-iv above.

Output 3: Enabling conditions for environmental management and protection put in place.

The following activities will be carried out:

i. Conduct targeted capacity building initiatives on environmental stewardship at various stakeholder levels.
ii. Strengthen and nurture environmental sub-committees.
iii. Develop and nurture collaborative coordination mechanisms for institutions involved in environmental management and protection.

C. REFLECTION OF THE ENVIRONMENT AND SOCIAL SAFEGUARDS

It is important to note that much of the activities above are software activities and the only physical footprints will come from output 2, activities ii-iv. **From the above activities, the project triggers O.P 4.01- Environmental Assessment.** This means EMA will have to follow the screening guidelines given in this framework and the corresponding environment management tools will need to be developed. The applicable environment and social impacts are discussed in chapter 6 (impact analysis and evaluation).

2.4 CAMPFIRE ASSOCIATION LIVELIHOODS FOCAL AREA

The overall objective of the focal area is to implement community based natural resource management initiatives for livelihood improvement and sustainable natural resource use in selected wards of Binga, Hwange and Tsholotsho districts. It will be achieved through three pilot projects, one in each district. The projects were identified through a stakeholder consultation process in the districts.

A. FOCAL AREA OUTPUTS

Specific project outputs are:

i. Enhanced community incomes and welfare through revamped hunting safari operations in Sidinda ward of Hwange district (Project 1);
ii. Improved human and wildlife conflict management in selected wards of Tsholotsho district (Project 2); and,
iii. Enhanced household income and nutrition security through market development strategies and business plans for domestic guinea fowl, crafts, ecotourism, fishing and honey products..

B. ACTIVITIES TO THE OUTPUTS

Output 1: Enhanced community incomes and welfare through revamped hunting safari operations in Sidinda ward of Hwange (Project 1)

The following activities will be undertaken:

i. Establish the ecological condition and carrying capacity of Sidinda ward.
ii. Introduce wildlife species in line with the assessment in 1.1 above.
iii. Establish and nurture beneficial community and private sector partnerships that enhance safari hunting revenue streams.
iv. Strengthen Environment Sub-Committees.

v. Enhance the capacity of communities to monitor wildlife and to effectively participate in the safari hunting operations in their area.

Output 2: Improved human and wildlife conflict management in selected wards of Tsholotsho district (Project 2).

The following activities will be carried out:

i. Assess the current magnitude and impact of and response to human and wildlife conflict in selected wards.
ii. Design and implement a HWC surveillance mechanism that ensures timely communication to and response by communities and other key stakeholders.
iii. Facilitate the identification and implementation of appropriate mitigation measures (e.g. chilli fence, chilli bomb and livestock biomass).
iv. Raise awareness and build community level capacity in the HWC mitigation.
v. Promote chilli cultivation (as a HWC mitigation ingredient and source of income).
vi. Monitor changes in HWC and wildlife damage.

Output 3: Enhanced household income and nutrition security through marketing strategies and business plans in guinea fowl production.

The following activities will be undertaken:

i. Establish the current management, production and marketing situation of guinea fowls in target wards.
ii. Facilitate development of Local Environmental Action Plans in the target wards.
iii. Facilitate the improved management of fowls (including housing, feed and health).
iv. Build local capacity in modern guinea fowl rearing.
v. Facilitate the establishment of reliable guinea fowl external markets through community-private partnerships.

REFLECTION OF THE ENVIRONMENT AND SOCIAL SAFEGUARDS

The revamping of safari hunting operation and the introduction of some certain wildlife species in an already existing natural habitat has some ecological implications. It is not known to what extent the caring capacity of the targeted natural habitat will be sustainably achieved. The proposed project therefore impacts negatively or positively on the natural habitat depending on the results of the carrying capacity assessments, the introduction of selected wildlife spices and the behavior of the hunters on the ground. The project triggers O.P 4.01 – Environmental Assessment and **O.P 4.04 – Natural Habitat.** The Environmental Management Plan that will be formulated after screening will need to focus on conservation of the natural habitat among other things.

The success of the proposed hunting component of the HSBC is contingent on the sustainable management of the host forest. Sustainable conservation and management of the host forest cannot be overemphasized. The project triggers **O.P 4.36 – Forest Protection.** The Environmental Management Plan that will be formulated after screening will need to focus on sustainable forests conservation and management among other things.

Discussions on whether this component would have any land acquisition or change of landuse to create space for any subproject was carried out at length and it was vehemently stated that there will be no landuse conflict or any change of landuse in the project that would warrant triggering 4.12 – Involuntary Resettlement Policy. The institutional arrangement for implementation shows that the CAMPFIRE subprojects will be hosted in the existing RDC landholding. There is no relocation of any person or disturbance of anyone's landuse practice arising from such associated RDC landuse. **It was therefore concluded that the project does not trigger 4.12 – Involuntary Resettlement Policy.**

2.5 PARKS AND WILDLIFE MANAGEMENT AUTHORITY- BIODIVERSITY FOCAL AREA

The Hwange –Sanyati Biological Corridor Project area hosts three national Parks (Hwange, Chizarira and Matusadonha) and two safari areas (Chete and Chirisa). Figure 2.2 shows the distribution of the Parks estate in relation to communal land, gazette forest areas and privately owned conservancies. It also highlights preliminary migration wildlife routes across the different land use systems. However, the routes are not well understood and require further research as they impact on the sustainable management of wildlife in the corridor. The project will focus on Hwange National Park (HNP). The park was preferred because of the following realities:

- It is a reservoir of most of the wildlife found in the corridor. For example, it has about 50 000 elephants; more than 5 000 buffalo; and 400 lion and is the largest national park in the country;
- It is part of the Kavango-Zambezi (KAZA) Trans-frontier Conservation Area (TFCA) initiative. The KAZA is the largest TFCA in the world;
- It is the source of animals that are sport hunted in the other land use systems e.g. Gwai Intensive Conservation Area (ICA); and Tsholotsho, Hwange and Binga communal lands.
- Its wildlife is a major source of human wildlife conflicts with neighboring communal lands.

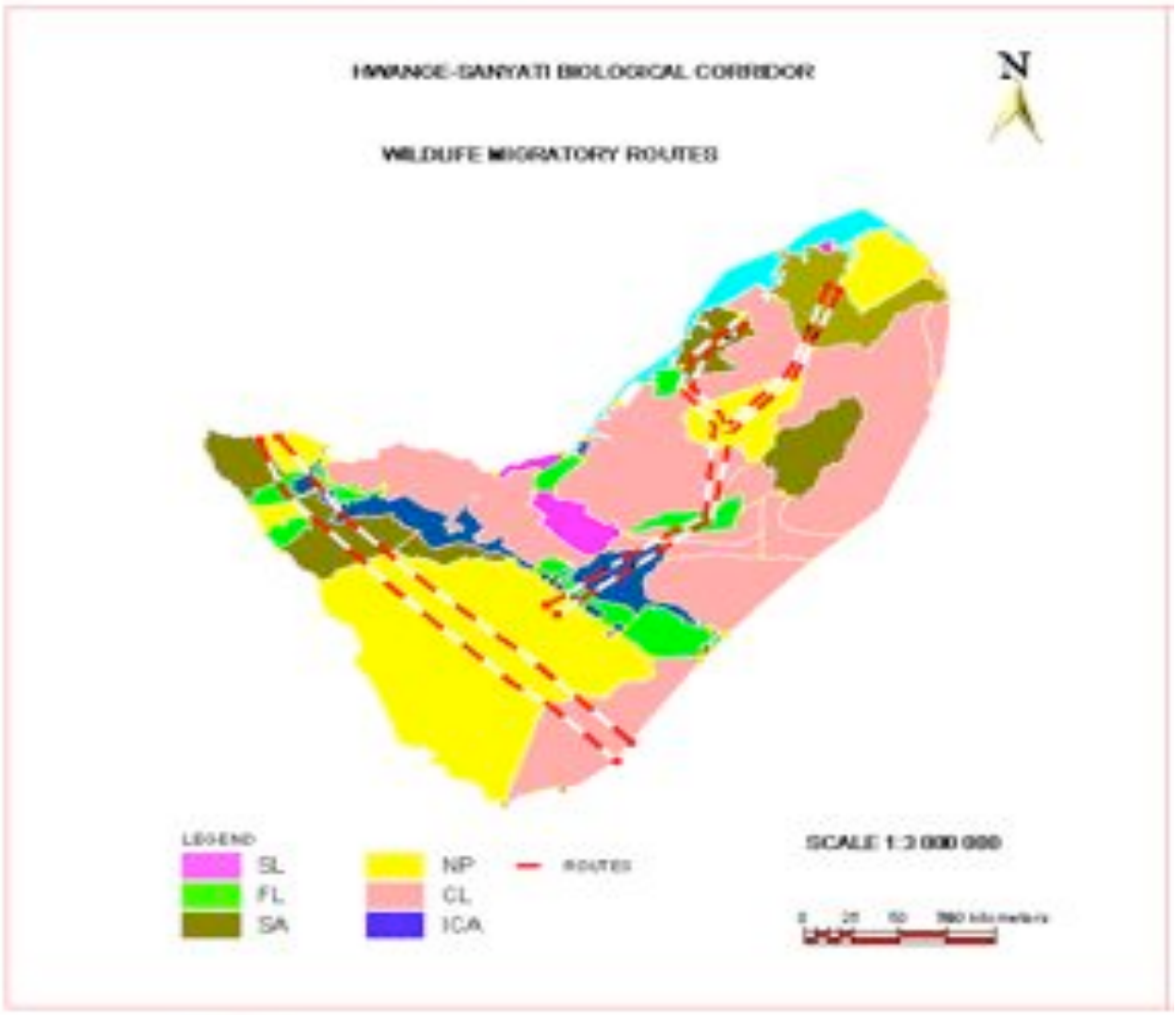


Fig 2.3 Wildlife migratory routes

A. FOCAL AREA OUTPUTS

The overall objective of the focal area is to assist HNP to become a thriving and self sustaining wildlife estate. Its specific outputs are:

- The functioning of the park's ecosystem better understood.
- Game water supply improved.
- Extent of wildlife poaching reduced.
- Incidence of veld fires curtailed.
- Pilot REDD+ project developed and piloted.

B. SPECIFIC ACTIVITIES BY OUTPUT

Output 1: The functioning of the park's ecosystem better understood

The following activities will be carried out:

i. Study wildlife migratory routes throughout the corridor.
ii. Carryout a comprehensive groundwater assessment of the corridor.
iii. Conduct wildlife aerial surveys for indicator species every three years.
iv. Update the park management plan.

Output 2: Game water supply improved

The following activity will be undertaken:

- Establish and maintain game water points as per HNP management plan.

Output 3: Extent of wildlife poaching reduced

The following activities will be conducted:

i. Enhance anti-poaching activities in the park.
ii. Mount joint/coordinated operations with relevant institutions (e.g. Forestry Commission, Painted dog project and Rural District Councils-RDCs).

Output 4: Incidence of veld fires curtailed

The following activities will be carried out:

i. Establish and maintain fire guards.
ii. Undertake fire fighting operations.
iii. Mount community conservation awareness campaigns.

Output 5: Pilot REDD+ project developed and implemented

The following activities will be conducted:

i. Establish the underlying causes of deforestation in HNP.
ii. Assess and map out the forest cover of HNP.
iii. Establish the amount of carbon sequestrated by HNP forests; Assess REDD+ readiness of the forests.

iv. Design and implement a pilot REDD+ project.

C. REFLECTION OF THE ENVIRONMENT AND SOCIAL SAFEGUARDS

The physical footprints of the watering points construction makes the project trigger **O.P 4.01 – Environmental Assessment Policy**. A screening process and an appropriate EMP will be required in the implementation stage. As discussed in the project location and landuse sections above, the Hwange National Parks activities makes the project triggers O.P 4.12 – Involuntary Resettlement. A process framework is therefore required.

The REDD+ component is based on the sustainable management and conversion of the host forestry areas and its habitat. The project therefore triggers **O.P 4.04 – Natural habitat and O.P 4.36 – Forests.** In order to mitigate these triggered policies, the Environmental Assessment needs to focus on forest management and conservation of biodiversity through park management plan.

The project triggers O.P 4.12- Involuntary Resettlement. Though there is no land acquisition in the project, the policy is triggered because of the following reasons;

i. The existing restriction is directly and significantly related to the Bank –assisted project.
ii. The existing restriction is necessary to achieve the objectives of a Bank-assisted project.

Following the triggering of the above policy, a Process Framework was prepared.

2.6 FORESTRY COMMISSION- CLIMATE CHANGE FOCAL AREA

The Hwange –Sanyati Biological Corridor Project area hosts five of the country's 24 gazetted indigenous forest areas. They are: Sikumi, Ngamo, Mzola, Kavira and Sijarira. However, the project will focus on Sikumi and Ngamo forests. This is in recognition of the fact they neighbor Hwange National Park- the reservoir of wildlife in the project corridor. Consequently they provide continuity for wildlife movement within the corridor. There is also no commercial timber logging and human settlements in the two forests. Furthermore the forests interface with communities who derive their livelihoods from them by accessing grazing, thatch grass, firewood and other non-wood forest products.

A. OUTPUTS OF THE FOCAL AREA

The overall objective of this focal area is to promote improved land and forest management practices in Sikumi and Ngamo forests. Its outputs are:

- Pilot REDD+ project developed and implemented.
- Incidence of forest fires curtailed.
- Extent of commercial timber and wildlife poaching reduced;
- Game water supply improved.

B. ACTIVITIES TO THE OUTPUTS

Specific activities by output

Output 1: Pilot REDD+ project developed and implemented.

The following activities will be carried out under this output:

i. Establish the underlying causes of deforestation in Sikumi and Ngamo forests.
ii. Assess and map out forest cover of the forests.
iii. Assess the amount of carbon sequestrated by the forests.
iv. Assess REDD+ readiness of the forests.
v. Design and implement a pilot REDD+ project.

Output 2: Incidence of forest fires curtailed

The following activities will be conducted:

i. Establish and maintain fire guards.
ii. Undertake fire fighting operations.

iii. Strengthen the work of community fire brigades.

Output 3: Extent of commercial timber and wildlife poaching reduced

The following activities will be done:

i. Enhance anti-poaching capacity in the forests.
ii. Facilitate operations of community resource sharing committees.
iii. Mount joint anti-poaching operations with relevant institutions (e.g. Parks & Wildlife Management Authority, Rural district Councils and the Painted Dog project).

Output 4: Game water supply improved

The following activities will be carried out:

i. Carry out a comprehensive game water assessment exercise throughout the corridor.
ii. Facilitate the provision of adequate water through the establishment of new and maintenance of existing water points.

C. REFLECTION OF THE ENVIRONMENT AND SOCIAL SAFEGUARDS

The physical footprints of the watering points construction make the project trigger **O.P 4.01 – Environmental Assessment Policy**. A screening process and an appropriate EMP will be required before implementation stage.

The REDD+ component is based on the sustainable management and conversion of the host forestry areas and its habitat. The project triggers **O.P 4.04 – Natural habitat and O.P 4.36 – Forests.** In order to mitigate these triggered policies, the screening process should lead to the appropriate environmental assessment and a forest management plan.

The project triggers O.P 4.12- Involuntary Resettlement. Though there is no land acquisition in the project and the surrounding community are allowed to access some parts of the forest for non-timber products, the community is not allowed to hunt in the forest. The policy is triggered because of the following reasons;

i. The existing restriction is directly and significantly related to the Bank –assisted project.
ii. The existing restriction is necessary to achieve the objectives of a Bank-assisted project.

Following the triggering of the above policy, a Process Framework was prepared.

CHAPTER 3

LEGAL AND POLICY REVIEW

3.1 INTRODUCTION

In this chapter the review and analysis of the various applicable local legislation and World Bank Environment and Social Safeguards Policies is made. The objective of this chapter is to ensure that the HSBC project is implemented in consistency with both the local applicable legislation and World Bank safeguards policies. As a result a clear environmental object of complying with local legislation and World Bank safeguards policies is included in the EMMP of the ESMF. At the same time, a gap between the local environmental legislation and the World Bank Safeguards Policy is established and mechanisms to bridge the gap for the sustainable implementation of the project are suggested. In this analysis, reference will be made to the following legislation and policies;

- National Environmental Policy
- Environmental Management Act (CAP 20:27) of 2002.
    - Statutory .Instrument 6 of 2007.
    - Statutory .Instrument 7 of 2007.
- Water Act (CAP 20:24) of 1998.
- Public Health Act (CAP 15:09) of 1996.
    - Public Health Regulations.
- Regional, Town and Country Planning Act
- World Bank Operational Policy
    - 4.01 Environmental Assessment
    - 4.04 Natural Habitat
    - 4.36 Forests
    - 4.11 Physical Cultural Resources
    - 4.12 Involuntary resettlement
    - 4.37 Dam Safety
    - 4.10 Indigenous People

- 7.50 International Waters
- 7.56 Projects in Disputed Areas

3.2 ENVIRONMENTAL IMPACT ASSESSMENT POLICY (1997)

This is the policy framework guiding the undertaking of EIA studies in Zimbabwe. It is premised on the following key issues:

- Encouraging environmentally responsible investment and development in Zimbabwe.
- Maintaining the long-term ability of natural resources to support human, plant and animal life.
- Avoiding irreversible environmental damage and minimizing such environmental damage where it cannot be avoided.
- Conserving a broad diversity of plants, animals and ecosystems and the natural processes that they depend upon.
- Conserving the social, historical and cultural values of people and their communities.
- Meeting the basic needs of people affected or likely to be affected by a development proposal, including food, water, shelter; health and sanitation.

This ESMF was formulated with these goals in mind hence it addressed the biophysical and socio-economic issues associated with the project. Main principles emphasized in this policy are sustainable development through stakeholder consultation and implementation of an effective environmental management plan. The local stakeholders were consulted and their views were important in guiding the manner in which the study was conducted.

3.3ENVIRONMENT MANAGEMENT ACT (CAP 20:27) OF 2002

The Act has the following Statutory Instruments (S.I) subsidiary to it;

- S.I 6 of 2007.
- S.I 7 0f 2007.

The Act spells out the guiding environmental management principles in Zimbabwe. Some of the key principles of the Act include consideration of people and their needs at the fore front of environmental management. The Act established the Environmental Management Agency as the responsible agency for the implementation of the Act with the participation of all stakeholders. **Sections 56- 86** sets out the

various environmental standards that should be complied with. Amongst the environmental standards are water pollution control, air pollution control, waste management and hazardous substances management.

3.4 ENVIRONMENTAL SCREENING

The first schedule of the Act stipulates the projects that are prescribed for full EIA. Though the aspects HSBC is clearly stipulated, the following sections of the listed projects indirectly implicate some subprojects for EIA. Reference is made to the following sections of the First Schedule of the Environmental Management Act;

- *Item 2. Drainage and irrigation—*

  (a) Drainage of wetland or wild life habitat;

- *Item 3. Forestry—*

  (a) Conversion of forest land to other use;

  (b) Conversion of natural woodland to other use within the catchment area of reservoirs used for water supply, irrigation or hydropower generation or in areas adjacent to the Parks and Wild Life Estate.

- *Item 10. Tourist, resorts and recreational developments—*

  (a) Resort facilities and hotels;

  (c) Safari operations.

- *Item 12. Water supply—*

  (e) Water withdrawals from rivers or reservoirs.

From an ESMF point of view, it is concludes that the proposed HSBC project is compliant with the above requirements of the Environment Management Act because the ESMF provides a screening procedure that will be followed by the various implementers of the subproject. The Environmental Management Agency has will be closely involved in the screening process and in the event that the scope of any subproject requires an EIA, the implementing entity will be advised according. EMA can also exempt any subproject from carrying out a full EIA, in such a situation an EMP will be prepared. The screening forms will have to be packaged into a prospectus and submitted to EMA for review and determination for either EIA or Exemption. The prospectus is required so that the resultant outcome of the screening process is configured consistent with the vocabulary and procedures of the Environmental Management Act.

The World Bank screening process categorized the HSBC in category B. This means that the project is considered to have moderate environmental impacts that do not warrant a compulsory full EIA before appraisal. At the same time, category B projects require some level of environmental assessment. Where the full details of the proposed subprojects are not known at the time of appraisal, an ESMF is adequate. Within the ESMF is the screening procedure that will either result in an EMP or implementation with nominal environmental planning warranting exemption.

The Environmental Management Agency and the World Bank procedures converge in the screening process. The screening outcome from EMA will not necessarily warrant a change in category B awarded by the World Bank screening process unless a realization of major environmental and social impacts consistent with category A is latter unearthed or evident. The harmony here is that whatever screening outcome is awarded following project appraisal will be consistent of informed environmental and social assessment on the ground and in line with the detailed project activities and footprint known at that time.

3.5 STATUTORY INSTRUMENT 6 OF 2007

The Statutory Instrument expounds on the water pollution control and waste management aspirations of the Environmental Management Act. The implementation of the polluter pays principle for water pollution and waste management is laid down in greater detail than what is in the Act. In line with this legislation, the effluent discharges arising from the proposed guinea fowl production and marketing project should be licensed, and the quality and quantity of the effluent should be monitored.

3.6 STATUTORY INSTRUMENT 7 OF 2007

The S.I puts into effect the EIA and Ecosystems protection aspirations of the Environmental Management Act (Part XI of the ACT). It compels all EIA Consultants to be corporate, multi-skilled and registered with EMA. The quality of work expected of the Consultant is also specified in the regulation. There is cohesion with the World Banks guidelines on the multi-disciplinary nature of the EIA team. Proposed project is consistent with the regulations following the engagement of a corporate EIA consultant whose work will be reviewed by both the World Bank and the local EIA review process. The monitoring requirements of the regulation will be articulated in the monitoring and evaluation chapter of the ESMF. The regulations also protect the sensitive ecosystems which include wetlands, riverbanks and riverbeds.

3.7 PUBLIC HEALTH ACT (CAP 15:09) OF 1996

3.7.1 S.I 639 of 1972.

The Act recognizes the role played by Local Authorities in provision of water and sanitation services. It however compels the local authority to adhere to some specified standards on drinking water and sanitation services. The country uses WHO standards on drinking water and are enforced by the Ministry of Health and Child welfare. This act is applicable to the subprojects that will involve the setting up of contractor camps in the implementation of the project. The act requires that the contractors' camps be established with water supply and sanitation for the employees. This can also be achieved by setting up contractors' camps within already developed areas to avoid the need for own water supply and sanitation requirements.

3.8 FACTORIES AND WORKS ACT (CAP 14:08) OF 1996

3.8.1S.I 168 of 2004

The Act with its regulations aims at reducing occupational accidents. A comprehensive safety and health management system is required at all work places. In the implementation of the proposed project, focus has to be made for the creation of a safe working environment, provision of safe work procedures and also provision of personal protective equipment. This requirement is applicable to the construction of the watering points since there will be heavy equipment and manual labor engaged. The mechanized land rehabilitation component also needs to adhere to the national occupational safety and health requirements.

3.9 REGIONAL, TOWN AND COUNTRY PLANNING ACT (CAP: 29; 12)

The Act provides for the planning of regions, districts and local areas with the object of conserving and improving the physical environment and in particular promoting health, safety, order, amenity, convenience and general welfare as well as efficiency in the process of development. This Act also empowers the local authority to make proposals for the acquisition of land for the development of the local area through the formulation of master plans that will have to be authorized by the Minister in

consultation with all relevant stakeholders. The Act also empowers the local authorities to issues an order for the protection of any natural forests that may fall under its jurisdiction in consistency with the Forestry Commission objectives. This Act will be very useful in the sustainable acquisition of land for any of the subprojects of the HSBC project. The implementation of the ESMF will require close cooperation between the implementing partners and the local authorities.

3.10 WATER ACT (CAP 20:24)

The Water Act provides for the development and utilisation of water resources of Zimbabwe, grants of permits for the use of water, control of use of water when water is in short supply, protection of the environment and the prevention and control of water pollution and for the matters incidental to or connected with the foregoing. Section 32 under Part IV provides for the use of water giving the right to any person who is a holder of a permit to abstract water not exceeding 5000 cubic metres unless the Catchment Council is notified. Section 42 specifies the control of use of water whereby the Catchment Manager must be notified of the existence of storage works, boreholes and wells on site. Control of use of water is also done through the installation of meters for measuring and recording the amount of water abstracted as spelt out by Section 43. In view of the Water Act requirements, the subprojects that entail drilling of water boreholes need to synchronize these activities with the groundwater registration, permitting and monitoring of the respective catchment councils.

3.11 PARKS AND WILDLIFE MANAGEMENT ACT (CAP 20:14)

The Parks and Wildlife Act was enacted to protect wildlife. The Act defines wildlife as any kind of vertebrate animal and eggs and the young thereof, together with the plant species and the natural ecosystem. This came along with a Parks and Wildlife Board, mandated to provide for the protection, utilization and conservation of fish and wildlife, the preservation and propagation of plant life and the preservation of the natural landscape. Subject to the Act, the functions of the PWMA shall be to control, manage and maintain national parks, botanical reserves and botanical gardens, sanctuaries, safari areas and recreational parks and, so far as is reasonable, practicable and compatible with such purposes, to provide facilities for visitors thereto. The Act also makes the parks area a restricted area where no one is allowed to pick any plants or kill any animals except under a licence permit in accordance with the Act.

The Act provides for the creation of safari areas, whose purposes are or may be constituted under this Act shall be to preserve and protect the natural habitat and the wild life therein in order that facilities and opportunities may be afforded to the public for camping, hunting, fishing, photography, viewing of animals, bird-watching or such other pursuits that may be permitted therein in terms of this Act. The Act states that whenever it appears to the President that any land or an interest in or right over land is required for the purpose of protecting, establishing or extending a national park, botanical reserve, botanical garden, sanctuary, safari area or recreational park, it shall be lawful for the Minister, on the authority of the President, to acquire such land, interest or right, this will however be implemented in accordance with the Communal Lands Act. All the facets of the proposed HSBC project are consistent with the provisions of the Parks and Wildlife Management Act.

3.12 FOREST ACT (CAP 19:05)

This Act established a commission for the administration, control and management of State forests, to provide for the transfer of certain assets belonging to the Government to the said Commission; to provide for the setting aside of State forests and for the protection of private forests, trees and forest produce; to provide for the conservation of timber resources and the compulsory forestation of private land; to regulate and control trade in forest produce including the use of trade names and marks in connection with forest produce; to regulate and control the burning of vegetation; and for other purposes connected with the foregoing. The proposed project is within the confines of the Forestry Management Act and the fact that one of the subprojects will be implemented by Forestry Commission itself will assist in ensuring that the proposed project is consistent with legal requirements.

3.13 LAND ACQUISITION (DISPOSAL OF RURAL LAND) REGULATIONS, 1999

Subject to these regulations, the owner of any rural land, other than the State, a local authority or a statutory body, shall not sell the land unless he has offered to sell it to the Minister and—

(1) If the owner of any rural land which was the subject of an offer in terms of section 3 rejects a price proposed by the Minister in terms of subsection (4) of section 5, the Minister shall, within ninety days after being notified of the rejection, commence negotiations with the owner in regard to the price to be paid by the President for the rural land concerned.

(2) If negotiations referred to in subsection (1) conclude without an agreement being reached on the price to be paid for the rural land concerned, the Minister shall, within forty-five days after the conclusion of the negotiations-

(*a*) issue the owner of the land with a certificate of no present interest; or

(*b*) notify the owner, in writing, that it is intended—

(i) to acquire the land compulsorily in terms of this Act; or

(ii) to resume ownership of the land in terms of any condition in the land's title deed.

(3) Negotiations shall be deemed to have concluded without agreement for the purposes of subsection (2) if no agreement is reached on the price payable for the rural land concerned within fourteen days from the commencement of the negotiations.

The legislation does not in any way affect the implementation of the project since there is no potential for resettlement

3.14 NATIONAL MUSEUMS AND MONUMENTS ACT (CAP 25:11)

The National Museums and Monuments of Zimbabwe Act Chapter 25:11 protect all areas of archaeological, historical, architectural, geological and palaeontological value or scientific interest. Such sites cannot be altered, excavated or damaged and material on them cannot be removed without the written consent of the Executive Director of the National Museums and Monuments of Zimbabwe. The law requires that any monument or relic discovered must be reported in writing to the Executive Director of the National Museums and Monuments of Zimbabwe by the discoverer and the owner of the land on which it is found. All Zimbabwe's archaeological, natural, historical and other heritages are automatically protected under the National Museums and Monuments of Zimbabwe Act. Archaeological sites are protected through designation as National Monuments or as Monuments (section 2,) or through automatic protection by virtue of being of particular historic or archaeological value. Any monument or archaeological site may not be altered or damaged without a permit issued by the National Museums and Monuments of Zimbabwe Executive Director (Section 24(i) (a) (b)).

The *Archaeological Impact Assessments Guidelines for Planning Authorities and Developers* prepared by the National Museums and Monuments of Zimbabwe derive their authority from the National Museums and Monuments Act. They outline procedures of how to deal with archaeological evidence during development. They require that archaeological impact assessments must be carried out for all major

development projects prior to commencement of activities on site. The role of National Museums and Monuments of Zimbabwe Act is to administer, preserve and protect relics and monuments, not to prohibit or impede land use and development. When proper impact management practises are implemented, it is usually possible to minimize the loss of archaeological resource values in a cost effective manner. Where the loss of significant archaeological values cannot be adequately mitigated the role of National Museums and Monuments of Zimbabwe is to ensure that appropriate compensatory measures are implemented. In compliance with this Act, the appropriate Archaeological Impact Assessment will be carried out as part of the recommendations of any screening outcomes that will be implemented in the subprojects.

3.15 WORLD BANK STANDARDS

3.15.1 O.P 4.01 ENVIRONMENT ASSESSMENT

Environmental Assessment policy ensures the World Bank is able to identify, avoid, and mitigate the potential negative environmental and social impacts associated with Bank's lending operations, while enhancing the positive benefits. The policy guides the screening process for the Bank projects and the scope of environmental assessment commensurate with each screening classification. The screening process categorizes project in category A, B or C. Category A has significant environmental impacts thereby require full EIA while category B requires Environmental Analysis only due to reduced environmental impacts and category C requires none of the above though environmental planning is still applicable especially where there is disposal of waste. The Environmental Assessment Policy sets the parameters for the recruitment of the EIA consultant, the quality of work expected in each type of project and the EIA review process until the EIA report is disclosed. Carrying out the actual EA is the borrower's responsibility. The government or project sponsor arranges for the EA; they often select consultants or an institution to conduct the analyses. When it is necessary to use international experts to supply skills not available in the borrowing country, the Bank encourages involvement of local consultants as well, in order to take advantage of local knowledge and to strengthen their capability for future EA work. Bank EAs emphasize identifying environmental issues early in the project cycle, designing environmental improvements into projects, and avoiding, mitigating, or compensating for adverse impact. The HSBC project has been categorized a category B, therefore requiring some Environmental Assessment. This classification is quite consistent with the project scope because the proposed project has potential to

generate waste in the guinea fowl component, occupational safety and health issues in the mechanized land rehabilitation project, groundwater abstraction and small dams for game drinking water points. **The Environmental Assessment Policy is triggered in this project**. To comply with the policy requirements, this ESMF has been formulated before project appraisal and subprojects EMPs will be formulated for the detailed project designs and implementation through the provided screening process.

3.15.2O.P 4.04 NATURAL HABITAT

Natural Habitats policy and procedure seeks to ensure that World Bank-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society. The policy strictly limits the circumstances under which any Bank-supported project can damage natural habitats (land and water areas where most of the native plant and animal species are still present). Specifically, the policy prohibits Bank support for projects which would lead to the significant loss or degradation of any Critical Natural Habitats, whose definition includes those natural habitats which are legally protected, officially proposed for protection, or unprotected but of known high conservation value. The proposed project area does coincide with areas which constitute critical natural habitat since some components of the project are implemented in gazetted forestry areas and national park. **O.P 4.04 –Natural Habitat is therefore triggered**. In compliance with the requirements of the policy, the respective subproject (EMA, PWMA and Forestry Commission) EMPs will focus management of biodiversity among other issues.

3.15.3 O.P 4.36 FORESTS PROTECTION

The Bank's forests policy aims to reduce deforestation, enhance the environmental contribution of forested areas, promote forestation, reduce poverty, and encourage economic development. The Bank's policy is anchored on three equally important and interdependent pillars to guide future Bank involvement with forests:

- Harnessing the potential of forests to reduce poverty,

- Integrating forests in sustainable economic development, and
- Protecting vital local and global environmental services and forest values.

O.P 4.36 – Forests Protection policy is triggered because the project area is located in a gazetted forestry area and is surrounded by communities that derive their livelihoods from the forest area. The project also coincides with the National Parks, whose activities are based on the sustainable management of forests. The livelihoods include cattle grazing, firewood and gathering of wild fruits and honey. To comply with the requirements of the policy, CAMPFIRE, Forestry Commission and PWMA will produce EMPs after screening and will need to focus on sustainable forests conservation and management among other things.

3.15.4O.P 4.11 PHYSICAL CULTURAL RESOURCES

The objective of the policy is to avoid, or mitigate adverse impacts on cultural resources from development projects that the World Bank finances. The policy defines physical cultural resources as movable or immovable objects, sites, structures, group of structures and natural features that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance. The environmental baseline study shows that the local community has strong cultural beliefs and practices that include rainmaking ceremonies and have burial sites within the local landscape. The Tonga Chief also reiterated the need for close collaboration during project implementation so as to preserve their cultural resources. The Environmental baseline show that the Gokwe North area is rich in fossils. Such fossil are on a national importance. For precautionary reasons, O.P **4.11- Physical Cultural Resources policy is triggered** because the project scope may involve mechanised reclamation which may have impact on the underground physical archaeological or paleontological significance. In order to provide adequately for this triggered safeguard, there is need to ensure that the EMA subproject screening should also cover potential for such physical cultural resources. The screening outcome follows the normal O.P 4.01-Environmental Assessment procedure.

3.15.5 O.P 4.12 INVOLUNTARY RESETTLEMENT.

Involuntary Resettlement is triggered in situations involving involuntary taking of land or involuntary restrictions of access to legally designated parks and protected areas or when the Bank assisted project's achievement of objectives is dependent on an already existing restriction. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts to displaced people. It promotes participation of displaced people in resettlement planning and implementation, and its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects. **O.P 4.12- Involuntary Resettlement is triggered because of the following reasons;**

iii. The existing restriction is directly and significantly related to the Bank –assisted project.
iv. The existing restriction is necessary to achieve the objectives of a Bank-assisted project.
v. The restriction is carried out or planned to be carried out, contemporaneously with the Bank – assisted project.

A process framework is therefore required.

3.15.6O.P 4.37 DAM SAFETY

Operational Policy (OP) 4.37: Safety on Dams requires that experienced and competent professionals design and supervise construction, and that the borrower adopts and implements dam safety measures through the project cycle. The policy also applies to existing dams where they influence the performance of a project. The policy also distinguishes between small and large dams. Small dams are normally less than 15 meters in height and examples include farm ponds, local silt retention dams and low embankment tanks. Dams between 10-15 meters are considered large dams if they present specific design complexities. The policy requires generic dam safety measures designed by qualified as adequate. In cases of large dams, the policy requires some special panel of experts to review the investigation, design and construction of the dam and start of operation. The proposed game drinking water points are a combination of the borehole drilling, pumping and storage in earth ponds called water holes. The ponds may take a small dam configuration covering and average 3000 square meters and the deepest point being at most a meter. Downstream of such watering points is usually marshy and very shallow slope, creating

a very gradual flow in the event of a breach. **There is really no any such risks as those associated with a conventional small or large dam, therefore O.P 4.37-Safety of dams is not triggered**.

3.15.7O.P 4.10 INDIGENOUS PEOPLE

This policy contributes to the Bank's mission of poverty reduction and sustainable development by ensuring that the development process fully respects the dignity, human rights, economies, and cultures of Indigenous Peoples. For all projects that are proposed for Bank financing and affect Indigenous Peoples, the Bank requires the borrower to engage in a process of free, prior, and informed consultation. The Bank recognizes that the identities and cultures of Indigenous Peoples are inextricably linked to the lands on which they live and the natural resources on which they depend. For purposes of this policy, the term "Indigenous Peoples" is used in a generic sense to refer to distinct, vulnerable, social and cultural groups possessing the following characteristics in varying degrees:

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories[7]
- customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- an indigenous language, often different from the official language of the country or region.

The HSBC coincides with the location of the San People in the Tsholotsho district adjacent to the Hwange National Park. **The project therefore triggers O.P 4.10 Indigenous Peoples. An IPPF is was prepared.**

3.15.8 O.P 7.50 INTERNATIONAL WATERS

The policy aims at reducing potential conflicts that may arise from projects that are in shared water resources by ensuring that the riparian countries are notified about the proposed project and their consent has be accorded. Zimbabwe is signatory to the SADC protocol on shared water course and is bound by the protocol's objective of jointly managing water resources on all internationally shared rivers. The protocol is an agreement between the riparian states of the Zambezi River Basin on how to manage the

Zambezi River basin. The riparian states are; the Republic of Angola, Republic of Botswana, Democratic Republic of the Congo, Kingdom of Lesotho, Republic of Malawi, Republic of Mauritius, Republic of Mozambique, Republic of Namibia, Republic of Seychelles**,** Republic of South Africa**,** Kingdom of Swaziland, United Republic of Tanzania**,** Republic of Zambia and the Republic of Zimbabwe. All other parties signed the agreement except the Democratic Republic of the Congo. The overall objective of this Protocol is to foster closer cooperation for judicious, sustainable and co-ordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation. In order to achieve this objective, this Protocol seeks to:

a) Promote and facilitate the establishment of shared watercourse agreements and Shared Watercourse Institutions for the management of shared watercourses.

b) Advance the sustainable, equitable and reasonable utilisation of the shared watercourses.

c) Promote a co-ordinated and integrated environmentally sound development and management of shared watercourses.

d) Promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of the resources thereof.

e) Promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management.

Article 4 of the protocol has specific procedures for the notification of riparian state on the proponent's intension to implement a planned activity. It is important to note that notification will then lead to consultation depending on how the other riparian state views the planned activity. **Only projects with possible significant trans-boundary effects require notification.** Though the HSBC covers two catchments that are within the catchment area of the Zambezi River and the Kariba Dam and the landuse pattern shows that 3.41% of the land area is the Kariba Dam **O.P 7.50- International Waters policy is not triggered because the following reasons;**

i. The project will not have adverse effects on the riparian possible water use, neither will the project be affected by other riparian possible water use.
ii. While the project area is within the Gwayi and Sanyati catchments which are tributaries to the Zambezi River, the project has no footprints the two rivers.
iii. Reference to exemption qualification of the SADC protocol on shared water resources. The project qualifies for exemption because it has no significant adverse impacts on the quality or quantity of the Zambezi River or the Kariba Dam. So triggering the policy where the there is no

requirement for notification from the riparian states would not generate incremental value for the project.

3.15.9 OTHER SAFEGUARDS POLICIES

Due to the nature of the project, its location and overview of the subprojects, the following safeguards policies will not be discussed or triggered because they completely do not apply;

i. O.P 4.09 – Pest Management.
ii. O.P 7.60 – Projects in Disputed Areas.

CHAPTER 4

ENVIRONMENTAL AND SOCIAL BASELINE

4.1 INTRODUCTION

This chapter describes the environmental and social baseline in a way that enables adequate forecasting of the potential negative and positive environment and social impacts. This chapter was put together using secondary information that was obtained from the applicable national databases, some physical inspection of the project area and also baseline from the available project information. Stakeholder consultation also gave important baseline information especially on socioeconomic and cultural setting.

4.2 BIOPHYSICAL ENVIRONMENT

4.2.1 HYDROLOGY

Water resources in Zimbabwe are managed following the hydrological catchments boundaries. There are seven catchments in Zimbabwe and the catchments are named after the seven major rivers in the country namely Save, Manyame, Mazowe, Runde, Gwayi, Mzingwane and Sanyati. The catchments are managed through a stakeholder board called the catchment council with the technical support being provided by the Zimbabwe National Water Authority (ZINWA). The HSBC span through two catchments namely Sanyati and Gwayi.

The Sanyati River System covers areas drained by Kwekwe, Zivagwe, Munyati, Mupfure, Sengwa, Ume and Nyaodza Rivers. There are 15 hydrological sub-zones with areas varying from 2527 to 11427 km^2. The area does not have economic sites for dam development other than the Sengwa Gorge dam site meant to supply water for the thermal power generation at the Sengwa Coal Fields. The Gomorehoto dam is the other option to provide agricultural water for the Sengwa communal areas around Ume (subzone AZ4). Conjunctive use of water is the only major solutions for this area and it needs exploitation of its fossil ground water potential. A small dam Sengwa 2 will need to be raised to supply

water to Gokwe Centre. Mutange Dam is under construction to augment fossil borehole water supply to Gokwe Centre.

Ume River drains into Lake Kariba at the Matuzviadonha range. Ume (AZ4) is 7 233km^2 in area, the Unit MAR is 40mm, Coefficient of Variation is 120% thus the gross MAR is 457 080 Mega Litres (mega litre is equal to 1000 litres). The potential dam storage in the area is 16 418 Mega Litres (ML). However there are a number of tributaries that drains into Ume as follows :- Masuka, Arodziva, Chifudze:-Wadze and Kasusa drain into Chifudze, Mate, Kakwari, Kausiga, Sessani:-Gadzi, Rekunge and Pohwe drains into Sessani, Nyemba, Tasu, Kantemba, Kanwa, Masawi, Chimachengi and Kaonga.

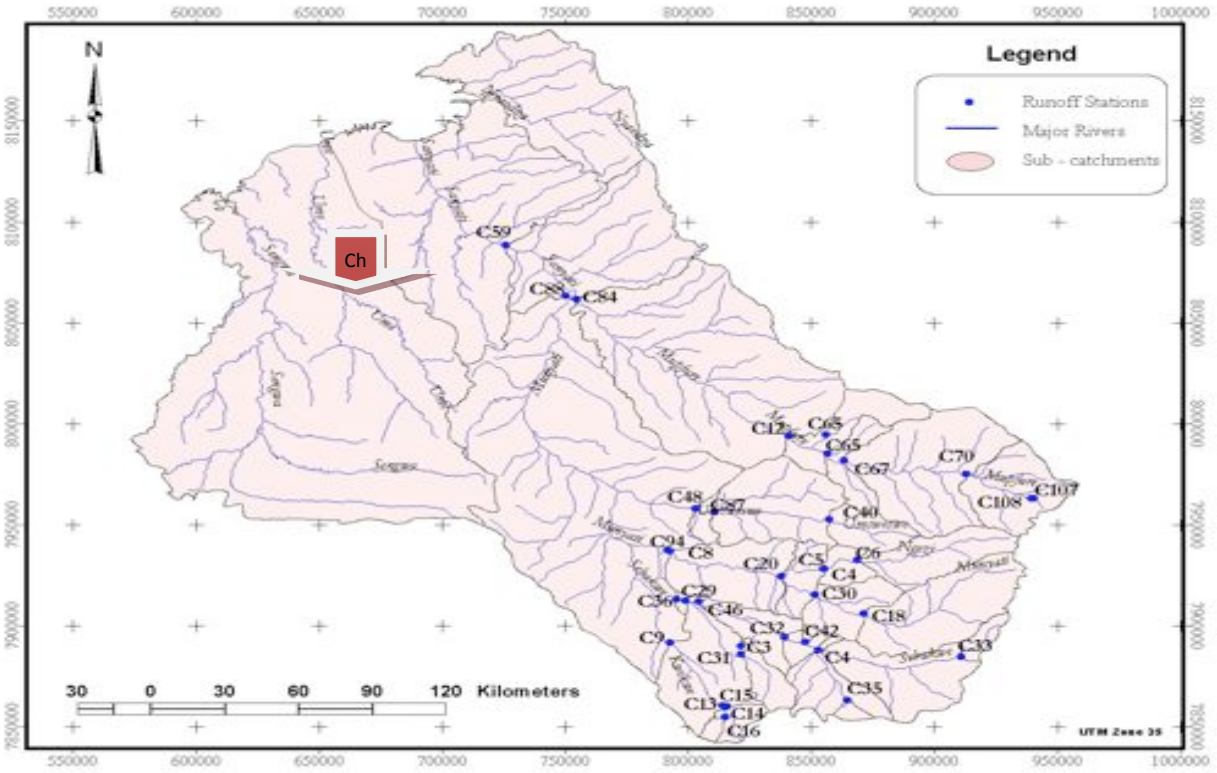


Fig 4.1 Hydrological sub-zones of the Sanyati Catchment:
Source ZINWA-Data and Research Department

The project area also includes Gwayi Catchment with the highest rainfall being experienced on the headwaters of Shangani River (620 – 640 mm/year), and also in subzones AZ2 and AR (620 – 706 mm/year). Subzone AK which covers mostly parts of Hwange National Park has the lowest rainfall, 550 mm/year. Recharge rates can be estimated using the base flow index. The lowest recharge rates, 0.2 to 3.1 mm/year of 0.2 to 0.5% of the mean annual rainfall occur on sub-zones underlain by Kalahari Sands

(AG1, AG2, AG5, AG6, AK, AIN, and AS2). The area is surrounded by rivers such as Lukosi that drains into Gwayi and Deka river which drains into Zambezi river.

The figure below shows the Gwayi Catchment where Hwange is located.

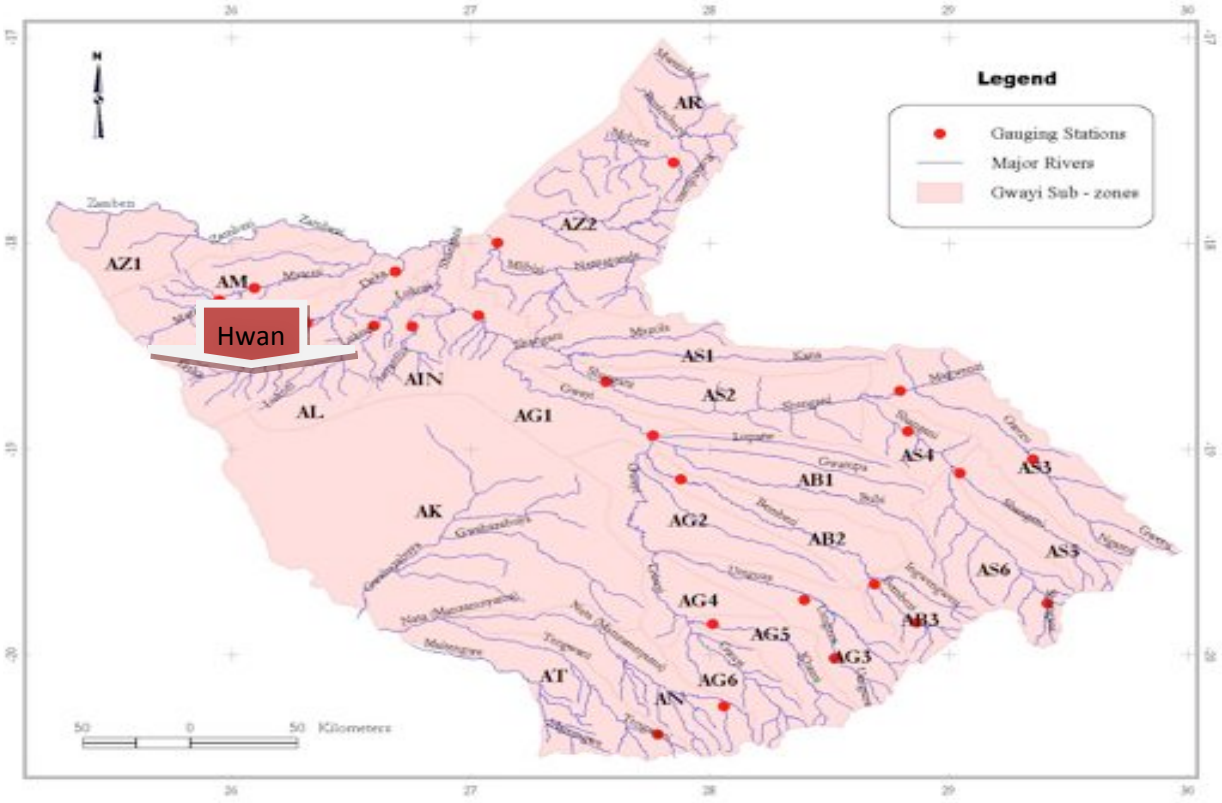


Fig 4.2 Hydrological sub-zones of the Gwayi Catchment:
Source ZINWA-Data and Research Department

4.2.2 HYDROGEOLOGY

The southern and south-eastern parts of the Gwayi Catchment are underlain mainly by gneiss and granites (Figure 7) which are inherently impermeable. Groundwater only occurs where secondary porosity has developed due to weathering and fracturing. Water tables are generally shallow, less than 10 m, in these formations. Borehole yields usually vary from 10 to 100 m^3/day (Interconsult A/S, 1985).

A belt of rocks of the Bulawayan and Shamvaian ages occurs between Bulawayo and close to Gwampa Valley. These rocks are impermeable and groundwater will only occur where secondary porosity has developed. Bulawayan rocks tend to be mafic and produce a hilly topography. The chance of groundwater occurrence is high on Bulawayan rocks. Aquifers in these rocks have been developed for irrigation on commercial farming areas. Water tables usually vary from 10 to 20 m on Bulawayan rocks,

while borehole yields are in the 100 to 250 m^3/day range. Chances of groundwater occurrence on Shamvaian rocks are rather low with borehole yields in the 10 to 25 m^3/day range (Interconsult A/S, 1985).

Kalahari sands that comprise fine to medium grained Aeolian unconsolidated sands dominate the middle part of Gwayi Catchment. The thickness of these sands can extend up to a depth of 200 m. Kalahari sands have primary porosity and aquifers occurring in these sands are of a regional nature. These sands are considered to have the largest groundwater resources of Zimbabwe. Borehole yields generally vary from 100 to 1000 m^3/day. Upper Karoo sandstone which comprises fine grained sand with a considerable silt content occur within the Hwange-Zambezi basin, along Shangani River in Nkayi, Lupane and Gwampa Rivers. Sandstone has primary porosity and their aquifers have a regional character. Large water supply schemes abstracting water from sandstone aquifers have been developed in the Nyamandlovu area. Water table depths are often greater than 20 m, while borehole yields vary from 50 to 300 m^3/day. The Batoka basalt occurs in subzones AD and AM. Basalt has no primary porosity, and groundwater occurs where secondary porosity has developed. Basalt has a moderate potential for groundwater occurrence with borehole yields generally in the 20 to 100 m^3/day range.

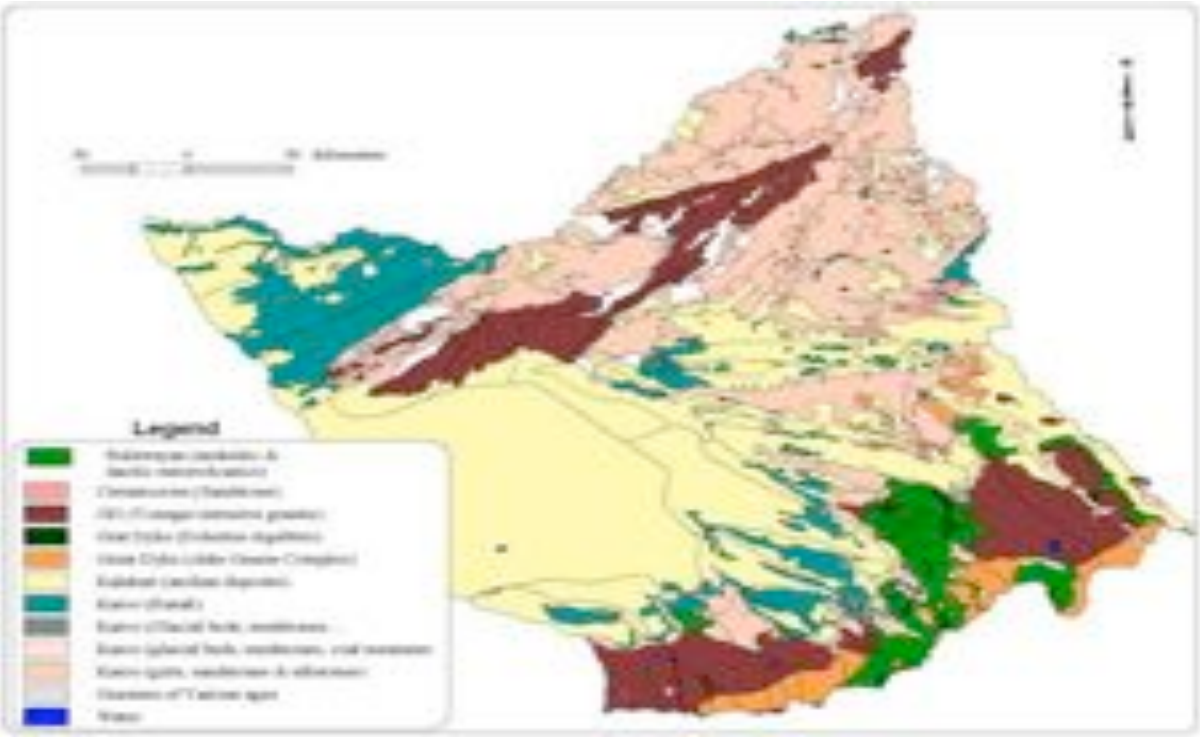


Fig 4.3 Geological Map for Gwayi Catchment

Achaean granitic and gneissose rocks occupy over 50% of the areas of sub-zones CUF1, CUF2, CUF4, CUN2, CUN3, CUN4, CUN6 and CUS (Fig 4.1). These rocks are primarily impermeable. Groundwater only occurs where secondary geological processes have resulted in the development of secondary porosity. Areas with prominent outcrops generally have shallow depths of weathering and therefore low potential for groundwater occurrence. Shallow water tables, less than 10 m, are characteristics of these formations, with borehole yields typically being 10 – 100 m^3/day.

Sandstone, greywacke and arkose occupy 14 to 42% of AZ3, AZ4, CUF1, CUF3, CUF4, and CUN1. Sandstone has primary porosity with water table depths often greater than 20 m. On AZ3 and AZ4 sandstone occupies high areas. Borehole yields vary from 50 to 300 m^3/day. Siltstone and mudstone occupy about 20% of AZ3 and AZ4. Mudstone tends to have low transmissivity, and groundwater tends to occur in areas with shallow weathering or where sand layers occur within the mudstone. Water tables depths are generally greater than 20 m with yields in the 10 – 50 m^3/day range. Kalahari sands occur within AZ3, CUN1 and CUN4 as fine to medium grained Aeolian unconsolidated sands which are primarily permeable. Water table depths are generally greater than 20 m with yields in the 100 – 1000 m^3/day range.

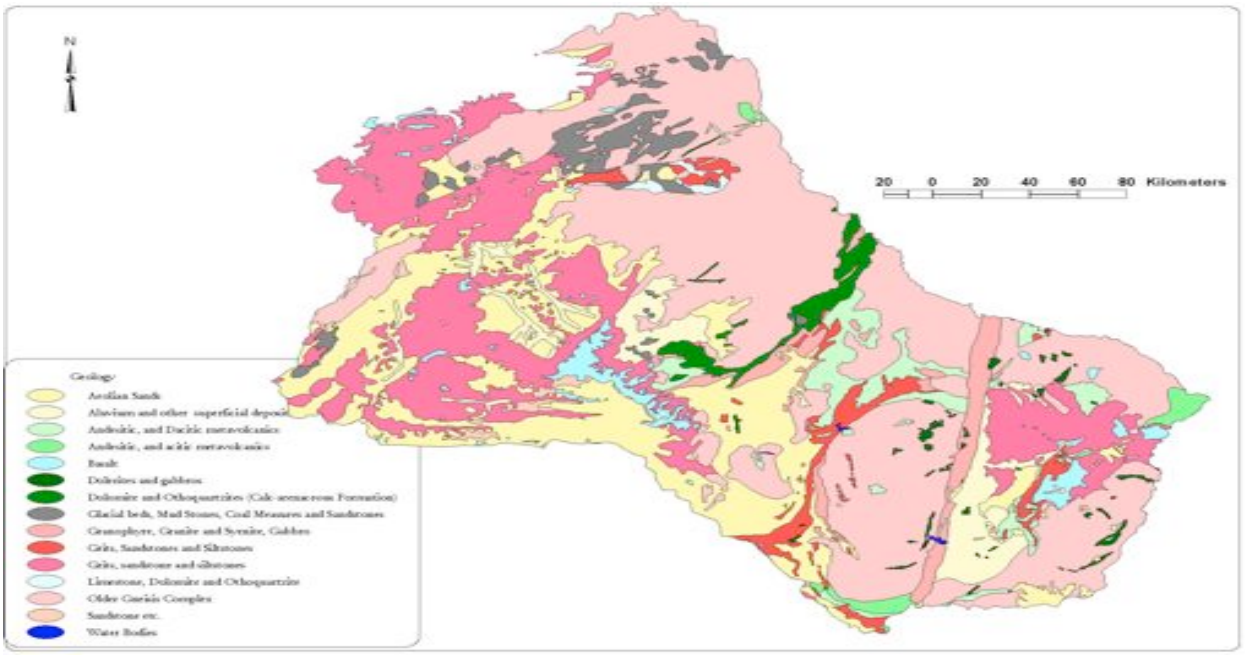


Fig 4.4 Geology of the Sanyati Catchment

There are some commercial farms within the Gwayi area using underground water for irrigation. This indicates that the ground water resources may be explored sustainably though there is need to monitor aquifer deletion through detailed geophysical assessments which are subproject specific. This was further discussed in chapter 6 and 7. The planning department of ZINWA, the regulatory and management authority for water in Zimbabwe also had the opportunity to review the project in relation to the operations of the operations of Sanyati and Gwayi catchments and there were no adverse impacts raised on groundwater, surface water or water quality.

4.2.3 WATER QUALITY

The Environment Management Agency has a network of water quality monitoring points within the project area. The water quality of the results for the Gwayi River for the period between April 2012 and September 2013 were refered to. The general water quality as reflected by the selected parameters show that the ambient water quality is high. The following parameters show;

Table 4. Water quality results

Parameter	**Average Value**	**Acceptable limit**
pH	8.5	6-9
COD	40mg/L	Less than 60mg/L
DO (% saturation)	95%	Above 60%
Conductivity	260uS/cm	Less than 1000uS/cm
Alkalinity (mg/L HCO3	110	Less than 5NTU

The above parameters show that the water quality of the Gwayi River at the point along the Bulawayo-Victoria Falls crossing falls within the normal water quality range. The proposed project is not likely to affect this status because it does not have water polluting aspects.

4.2. 4 TOPOGRAPHY

A. REGIONAL TOPOGRAPHY OF THE HSBC

The Hwange sanyati biodiversity corridor cuts through two major topographic and relief zones of Zimbabwe as classified by the Surveyor general. These are the middle veld and the low veld. Project focal areas such as Tsholotsho, Hwange National Park, Ngamo and Sukumi forests which are in Mateleland North province are part of the middleveld. In full, the middleveld covers about 40 percent of Zimbabwe and lies between 915-1220 metres. It is narrow in the Limpopo and Sabi valleys and also in the North Eastern parts of the county. It however forms a very large plateau in the western part of the Zambezi valley. The altitude of the area is between 900 meters and 1200 meters above sea level. Slight fluctuations in gradient resulting in escarpments and irregular orography had also been noted especially west of Tsholotsho. Other focal areas such as Binga in Matebeleland North and Chireya which is in Gokwe North of Midlands province are part of the low veld. The low veld lies below 915m and covers 35 percent of the Zimbabwe. In the North it is divided into three areas; around Hwange town, stretching to Binga. The low veld is also significant in the South of Lake Kariba and to the North East of the Lake where we find Chireya focal area. It is most extensive in the Limpopo and Save valley.

B.LOCAL TOPOGRAPHY

B.1 MATEBELELAND NORTH (Tsholotsho, Ngamo forest, Sikumi forest, Hwange National park and Binga)

The topography of Matebeland North Province is almost congruent throughout the whole province except of Binga which had acute high and low lands. It had been observed that the topology of the landscape is basically gentle with undulating average highlands and low lands which are evidence of soil degradation in the area. However, the topology gently slopes from Hwange and Dete to Tsholotsho where Gwayi River forms various tributaries such as Inzuza and Bembezi. In Ngamo and Sikumi forests, the landscape is amazingly gentle and stable. Potential index for soil erosion is minimum on these forests as compared to communal areas of Tsholotsho, down the corridor.

B.2 MIDLANDS (Gokwe North- Chireya)

Rugged and irregular topography dominates the Chireya focal area. Ridges, inselbergs and plateaus are scattered across the plain. Owing to the poor ground vegetation and occurrence of sodic soils, the low lands are extensively gullied by soil erosion.

4.2.5 SOILS

Matebeleland North- Department of Parks and Wildlife, Campfire and Forestry Commission focal areas.

The bulk of soils along this stretch of HSBC derive their characteristics from basalt or karoo rocks. Thus the soils exhibit various natures such as karoo sands, Kalahari sands, lithosols, solonetz and very few resemble a perapheralitic nature. Most of these soils have a neutral or alkaline soil reaction except in areas which are highly salinised, a high base status and medium or high **cation exchange capacity** (CEC) values. These factors contribute to the average fertility that is crucial in the re-vegetation of the forests especially in areas such as Ngamo, Sikumi forests and Hwange National Park where herbivores and grazers destruct the vegetation. Due to the dry weather conditions experienced in the area, salinisation of soil normally occur resulting in sun-backed soils witnessed in areas with low vegetation density. This is mainly evident in Binga.

Midlands Province- Gokwe North (Chireya- EMA focal area)

Sodic soils

The vast of Gokwe, especially Gokwe North is dominated by sodic soils. These are characterized by a disproportionately high concentration of sodium (Na) in their cation exchange complex. They consist of an exchangeable sodium percentage greater than 15%. These soils normally occur within arid to semiarid regions and are innately unstable, exhibiting poor physical and chemical properties, which impede water infiltration, water availability, and ultimately plant growth. Other physical manifestations of soil sodicity noted are crusting, hard-setting and water-logging of soils and the range of side effects in terms of water movement into the soil profile including reduced infiltration and plant-available water capacity, whilst reduced leaching causes perched water tables and accumulation of toxic elements.

The above properties enhance chemical weathering which results in extensive corrosion of soil from underground, forming holes which trigger extensive erosion. In some cases, the soils develop cracks in the dry season which catalyze soil erosion when precipitation falls eventually leading to tunnel and gully erosion. These gullies have been observed at Chireya centre where the Hospital and shopping centre are under critical siege from gullies which are as a result of both the chemical and physical weathering. In fact, there is extensive gully erosion across the whole Gokwe North district in areas such as Zhomba

hence the HSBC project should take note of other areas apart from Chireya.

Fig 4.5 Shows holes as a result of chemical weathering and cracks on sodic soils in Chireya.

4.2.6 CLIMATE AND CLIMATE CHANGE

The baseline study and assessments have shown that the BSBC project covers part of agro-economic region 3, 4 and 5 of Zimbabwe. However, it had been noted that climatic characteristics of region 5 sometimes protrudes into region 4 due to the geographical proximity of the regions. Semi-arid conditions generally prevail across these regions. However, it is noted that major changes are being experienced due to climate change.

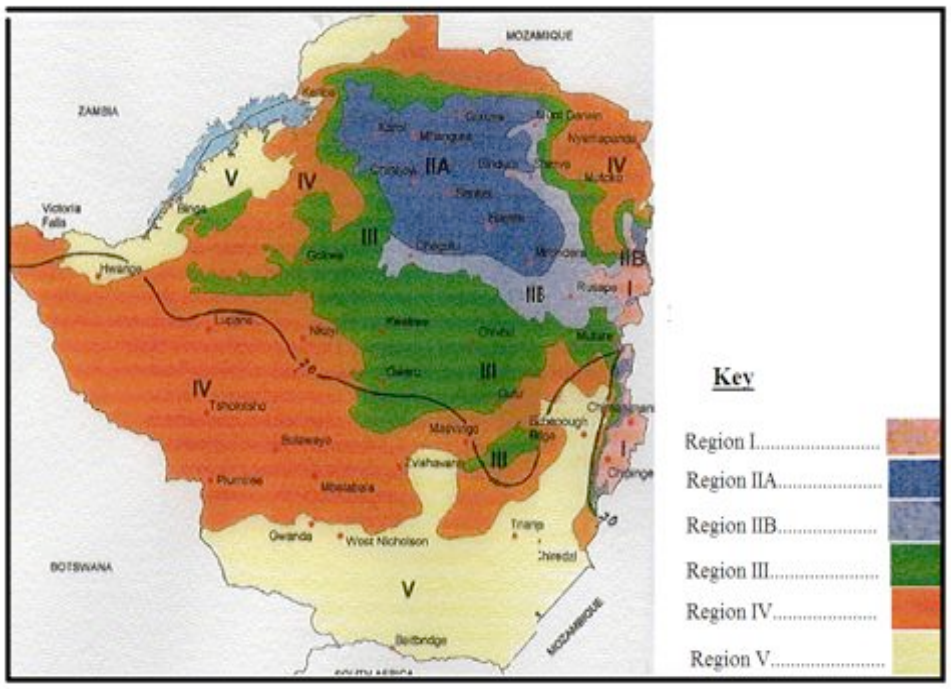


Fig 4.6 Zimbabwe's agro-ecological regions. Adapted from Ministry of Agriculture (1999).

A. REGION 4 AND 5 – TSHOLOTSHO, DETE, HWANGE AND BINGA

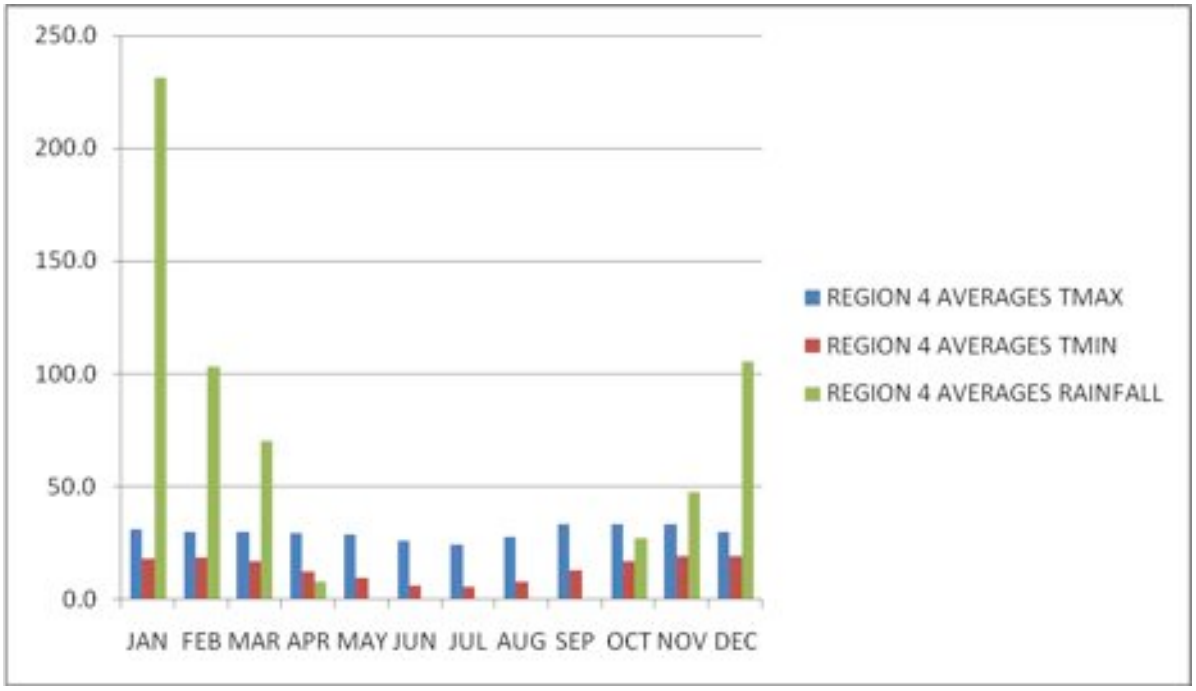


Fig 4.7 shows monthly average maximum temperatures, minimum temperature and rainfall in Region 4 for the year 2012. Source: Zimbabwe MET Department (2012).

A.1 RAINFALL

The HSBC area which lies in Agro-ecological region four of Zimbabwe used to receive an average rainfall of 450mm-600mm per year during the 1980s but there had been notable changes due to the impacts of climate change and global warming. According to the Meteorological Department, the average maximum monthly rainfall for the year 2012 was 231,2 mm in January and 0.0mm in mid winter as indicated on the above graph. Seasonal dry spells are however rife in the region. Seasonal droughts are also charecteristic of this region due to the impact of the the Botswana Upper High (BUH) from the Kalahari desert. Normally 80% of the rainfall is generally received between November and January where the highest is normally around 230mm. Rain received this region is mainly conventional since it comes as a result of the southern Frontier of the Inter-tropical Convergence Zone (ITCZ). Normally, there are some over-cast conditions in winter emanating from cold and moist air blowing in at a speed of 15mph from south-eastern direction. Such relatively low rainfall is however suitable for animal and wildlife management, for instance in Hwange National Park. The low rainfall pattern is also a major factor in the socioeconomics of the project area.

A.2 TEMPERATURE

Temperatures had not been spared by climate change. Temperatures had significantly increased over time in the region with heat waves being recorded since the 1990s. The Meteorological Department (2012) recorded a highest monthly maximum temperature of 33,5^{o}c in October and 5.8^{o}c minimum temperature in July. The bulk of the data on temperature is shown on the graph above. This is in contrast with a range of between 20 degrees Celsius and 25 degrees Celsius maximum temperature which dominated the region in the 1980s and part of 1990s. Cold temperatures are basically experienced in the winter and hot temperatures being experienced in the summer. There are more annual sunshine hours while cloudy hours are fewer. The high temperatures had often resulted in heat waves and heat stress in the region.

B. REGION 3 – GOKWE

B.1 RAINFALL

The heaviest of rainfall received in region 3 are brought in by the Zaire Air mass and the type of rain is mainly convectional formed from warm rising air. The average and conventional annual rainfall which used to be experienced in this region was moderate, 550mm – 700 mm in the 1980s and 1990s but it had since declined to a maximum of 150 mm in 2011 as a result of global warming and consequent climate change.

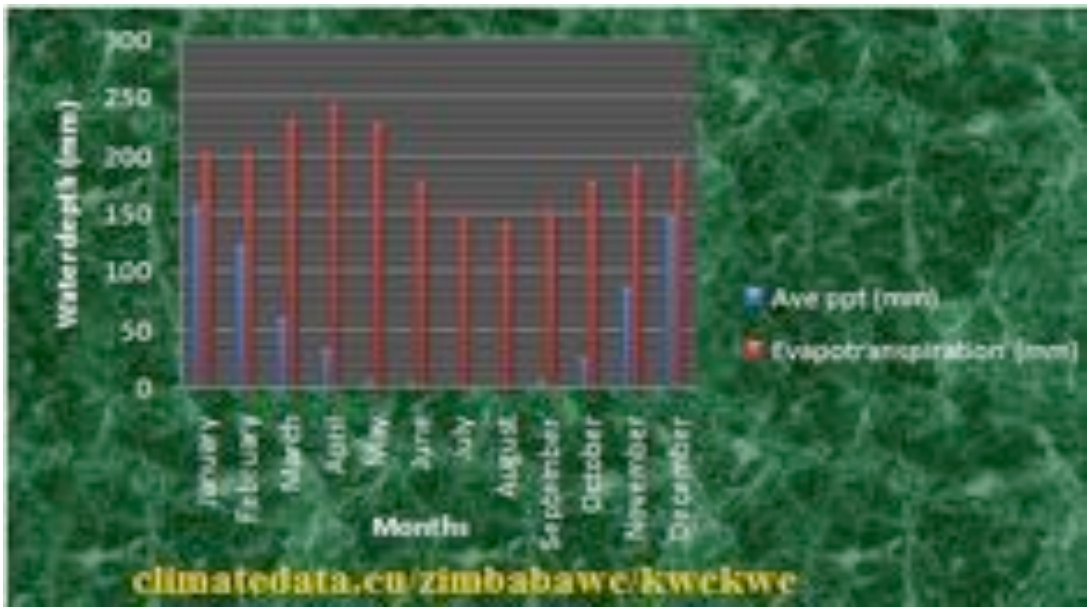


Figure 4.8 Regional rainfall and evapo-transpiration in (mm) for 2011.

B.1 TEMPERATURE AND WIND

The average annual temperatures for region 3 since the 1980s range between 18 and 24 ^{0}C. However, higher and severe temperatures of about 31^{0}C have been experienced in 2011 as shown on the graph below. All these changes can be attributed to climate change.

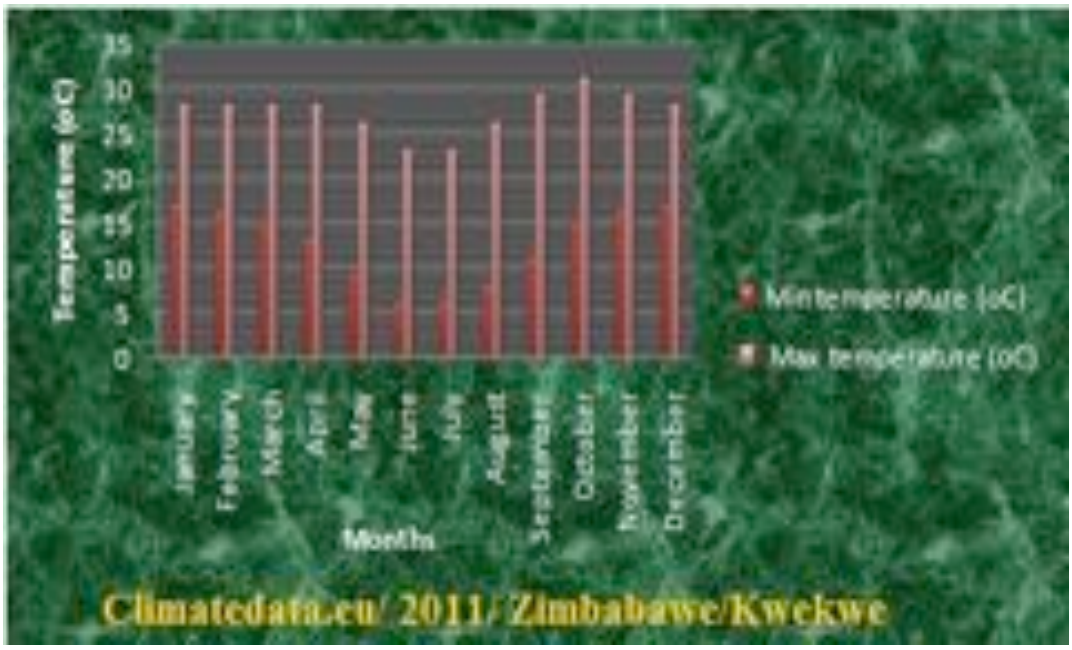


Fig 4.9 Temperature range throughout the year 2011

Source MET Department 2011

4.2.8 FLORA AND FAUNA

FAUNA

HNP has a wide diversity of wildlife species-it is endowed with over 100 species of mammals. They include the Cape buffalo (Syncerus caffer), the African elephant (Loxodonta africana); giraffe (Giraffe camelopardalis); kudu (Tragelaphus strepsiceros); zebra (Equus burchelli); lion (Panthera leo); leopard (Panthera pardus); wildebeest (Connochaetes taurinus) and a variety of other antelope species. Some of the species such as the rhino, both black (Diceros bicornis) and the white (Ceratotherium simum) are endangered. It is also home to rare and endemic animal species such as the Gemsbok (Oryx gazelle); has a prolific bird life with over 400 species which include the ostrich and the ground dwelling Kori Bustard; and provides habitat to most of the vultures found in the country; and is home to endangered species such as the wild dog.

Fig 4.10 Zebras in the Ngamo Forest

Fig 4.11 Elephants herd in the Hwange National Park

Fig 4.12 A giraffe in the Hwange National Park

FLORA

The Acacia woodland covers a significant portion of the Sikumi Forest and a small portion consists of Miombo and Baikiaea woodlands. **The Ngamo Forest is mostly composed of Baikiaea woodlands or the teak forest. Dominant species include: B. plurijuga (Zambezi teak), Guibourtia plurijuga, Pterocarpus angolensis (Mukwa) and Afzelia quanzensis (Pod mahogany) are found.** The ecosystem in the other project areas like Hwange National Park and Binga consists mainly of the Colophospermum mopane woodlands dominated by C-Mopane on all soil types. The Mopane species is known for its tapering roots which deeply encore through the top soil towards the water table in search of the much needed water source in these dry habitats. Mixed woodlands such as kurkiaacuminata, adansoniadigitata, cassiaabbreviata, schlerocarcya caffira are common in this area. Besides, riverine and alluvial woodlands include Acacia Albida, Acacia tortilis, Acacia robusta, Zizi phus mucronata, Combretum imberbe among others.

Fig 4.12 Mtondo Species in the Sikumi Forest

Fig 4.14 Mopane Species, a habitat for wildlife in Hwange National Park

4.2.9 KEY ENVIRONMENTAL CHALLENGES IN THE HSBC

A. HWANGE NATIONAL PARK AREA

i. The Park is impacted upon by climate change and habitat degradation. Its soils are infertile and have low water holding capacity hence they are unable to support meaningful biomass production and sustained ground water supplies.

ii. As is the case in other parts of the country, the HNP is subjected to global warming due to climate change. This is manifested in the high occurrence of droughts and floods in some areas. Climate models suggest that the country's water resources will dwindle and evergreen forests of the eastern part of Zimbabwe maybe reduced to seasonal forests. The HSBC system is getting drier as a result of the effects of climate change. This adversely impacts on the amount of forage and water available to wildlife and leads to wildlife migration to neighbouring areas-e.g. communal lands leading to human-wildlife conflicts.

iii. Subsistence and commercial wildlife poaching. Some 876 snares were recovered in 2011. In addition 32 poachers were arrested.

iv. Uncontrolled forest fires. In 2011 96 500 ha were affected by veldt fires.

v. Inadequate game water supplies. From a total of 80 watering points in the Park, only 56 are functional. This forces wildlife to aggregate at the few watering points resulting in habitat destruction. However, more even distribution of watering points could lower the water table with adverse effects on the corridor and downstream-e.g. Kavango delta. Since its inception, the Park has been abstracting underground water for wildlife during the dry season. However, the sustainability of such water abstraction in the long run has never been assessed.

B. NGAMO AND SIKUMI FORESTS

i. The forests are impacted upon by climate change; and increasing land encroachment for settlements, cropping and livestock grazing.

ii. The forests' soils are infertile and have low water holding capacity hence they are unable to support meaningful agricultural production. Consequently, communities that neighbor the forests are food insecure and have resorted to extensive agriculture which results in deforestation and land use change near the forests.

iii. As in the case in other parts of the country the two forests are subjected to global warming due to climate change. This is manifested in the high occurrence of drought and floods in some areas. Climate models suggest that the country's water resources will dwindle and evergreen forests of the eastern part of Zimbabwe maybe reduced to seasonal forests.

iv. Commercial timber poaching: 17 timber poachers were arrested in 2011.

v. Subsistence and commercial wildlife poaching. Some 900 snares were recovered in 2011. In addition nine wildlife poachers were arrested.

vi. Uncontrolled forest fires. In 2011 the forests recorded a total nine forest fires that affected 47 405 ha.

vii. Inadequate game water supplies. From a total of 15 watering points in the two forests, only five are functional. This forces wildlife to aggregate at the few watering points resulting in habitat destruction. However, a more even and wider distribution of watering points could lower the water table with adverse effects on the corridor and downstream-e.g. the Kavango delta.

Fig 4.15 Some dry and wet watering holes in the Ngamo Forest

C. UME MICROCATCHMENT

The Ume micro catchment in general and Chireya ward in particular face considerable land degradation and climate change impacts among other challenges.

i. Land degradation

Most land degradation challenges in the catchment emanate from improper land use practices (including stream bank cultivation); cultivation of fragile soils (e.g. sodic soils); isolated incidences of veld fires; tree cutting for commercial wood energy and wood curios/carvings; land clearance for cultivation; and

sand abstraction for construction. Among other things, the foregoing has resulted in severe deforestation, soil erosion, gully formation and the siltation of water bodies.

Fig 4.16 Cattle Sales threatened by gully erosion

Fig 4.17 Shop and power line threatened by Gully erosion at Chireya Shopping Center.

ii. Climate Change

As is the case with the rest of Zimbabwe, the Ume catchment is subjected to global warming due to climate change. This is manifested in the high occurrence of droughts and floods in some areas. Climate

models suggest that the country's water resources will dwindle and evergreen forests of the eastern part of the country may be reduced to seasonal forests. This has the following adverse impacts:

- Land degradation and water scarcity are exacerbated. This increases food insecurity, poverty and over-reliance on natural resources in the catchment.
- Increased dependence on wetlands/river beds for food and animal production. The unsustainable use of these ecologically sensitive ecosystems compromises their ability to perform important hydrological and ecological functions.

4.3 SOCIO ECONOMIC ENVIRONMENT

4.3.1 LAND USE PATTERN

Reference is made to table 2.1; The landuse pattern is quite diverse in that there are a number of complementary activities in some cases while there is competition in others. 42.75% of the land in the HSBC is under communal land use while 5.8 % is under resettlement areas. Over the years there has been growth in demand for resettlement land and in some cases there has been encroachment of settlements into land designated for other landuse like forestry areas. National Parks, Safaris and Forestry areas account for 31.53%, 5.93% and 4.30% respectively. In most cases, the sequence of location progress from the National Park, to Forestry Area and to settlement area so that the forestry are provide a buffer zone between the human activities in settlement areas and the wildlife habitation in the National Parks. The Ngamo and Sikumi forest areas serve as a good buffer between the Hwange National Park and the communal areas. Quite often, the wild animals from Hwange National Park usually go past the forestry areas and interact directly with the communities, giving rise to human-wildlife conflicts like destruction of gardens, poaching, killing of cattle herds by lions just to mention a few. Fig 2.2 also shows that there is potential conflict between wild animals and human activities during migration. The proposed project seeks to enhance harmony between the competing landuse within the corridor.

4.3.2 ADMINISTRATIVE ARRANGEMENTS AND LOCAL NETWORKS.

The proposed HSBC spans through Matabeleland North and Midlands provinces. Districts that are participating in the HSBC that fall within Matabeleland North are Tsholotsho, Hwange and Binga Districts. Gokwe North District falls within the Midland province. The provincial capital for Matabeleland north is Lupane and for Midlands it's based in Gweru. The administrative authority within the participating districts is the District Administrator. The DA coordinates Local Government system at district level. Within his jurisdiction are all the Government departments that are represented at the local area. These Government departments are very essential for the smooth running of the HSBC. They include Ministry of Lands, Ministry of youth, indigenization and empowerment. EMA, Forestry Commission and CAMPFIRE are all represented at district level. The District Administrator's function is to ensure that all developments within the district are consistent with the government's policies and procedures. The DA is the ultimate authority within the district.

Each district has a Rural District Council which is run by a council of elected councilors from their respective wards. CAMPFIRE offices are an arm of the RDC. The RDC focuses on service delivery at the local level and they run issues like rural road maintenance, rural council schools and rural service centres like the Chireya. The RDCs generate revenue from levies to businesses operating within their jurisdiction. The levies include mining levies, shop owners levies and hunting safaris just to mention a few. The RDC is also very important for the smooth execution of the HSBC project.

The participating organizations have a network of environment committees at local level. At district level, there is a District Environment Management Committee followed by Zone Environment Management Committee. A zone is a combination of about 5 wards depending on the areas. Below the Zone Environment Management Committee is the Ward Environment Management Committee which is followed by the Village Environment Management Committee. Within the village there are volunteer environment watchpersons who work closely with the HSBC project implementing organizations at the lowest local level. The ward and the village levels committees are most represented by elected members of the local area while the district levels upwards are most government departments operating within the area and some senior community representatives like Chiefs.

The traditional administrative arrangement starts at village level with the village head to the headmen and to the Chief. Through this chain, there is level of delegation of power, where village heads can attend to some disputes before forwarding them to the headmen until the matter get to the Chief for final resolution. Where the traditional route fails to resolve some matters, the matter may be channeled to the administrative court that is at the local district offices. The Chief is accountable to the District Administrator.

The above structures show that there are adequate structures and networks to effectively implement the HSBC project. The above administrative structures and network also have the capacity to effectively address any environmental or social issues that may arise from the project implementation.

Fig 4.18 Chief Binga' Court in session during consultation. There was an interesting debate on Guinea fowl pricing and profit sharing.

Fig 4.19 Chief Dingane explaining the community participation in the painted dogs conservation program

4.3.3 CULTURAL STANDING

This area is mainly dominated by Ndebele speaking people with areas like Lupane and the surrounding districts like Nkayi, Tsholotsho and Umguza having eighty percent of their population as Ndebele speaking and ninety percent understanding the language. There is however a notable population (about 2000) of the San People in some parts of Tsholotsho bordering the Hwange National Park. Most of the rural people live in shelters made of pole and dagga with a roofing of grass. The pure Ndebele people in the area still cling to the Nguni cultures of South Africa where they came from. They believe in spirit mediums and still hold their cultural ceremonies. In Tsholotsho, the San people are still clinging to the hunter-gatherer lifestyle though there is great pressure for change from the modernization drive locally and internationally. Hwange and Binga have a mixture of the Ndebele, Tonga and Nambia tribes, with a few traces of the Shona. The Tonga people were mainly found along the Zambezi River but were moved from the area during the construction of the Kariba dam and also when Victoria Falls developed into a resort town. During construction of the Kariba Dam in the 1950s the Tonga community was displaced further away from the Zambezi Rivers, cutting cultural ties with the other Tonga communities in Zambia. The Tonga people believe in their river god called the Nyaminyami. The HSBC project should thus ensure that these ethnic cultures and values of the native people are not disturbed.

Fig 4.20 Typical Ndebele Homestead in Tsholotsho

Use of Mopane trees for fencing and home beautification contribute to deforestation in the area.

The area around Gokwe is dominated by the Shangwe people, a Shona-speaking group, which lay in the northern part of the Midlands province. The area is now split into Gokwe South District and Gokwe North District. A number of other groups live in the area, including the Tonga, and Ndebele. As a central point in Zimbabwe it has a blend of Shona, Ndebele, Tswana, Suthu, Chewa among various other languages spoken in Zimbabwe. The Gokwe North area is therefore a multicultural area. The diversity of culture within this area needs to be preserved during the implementation of the HSBC project.

4.3.4 LIVELIHOODS

Matabeleland North is semi-arid making crop husbandry very limited and only possible under irrigation. Where there is no irrigation some drought resistant crops like sorghum and millet are grown for consumption. Investigations on various industries directly linked with the communities revealed that small scale agricultural activities, manufacturing and selling of curios, flea markets, CAMPFIRE projects, general commodity broking (buying and selling), tourism and mining industries are the major industrial activities that directly contribute income generation and livelihoods to the general population.
The agriculture sector here mainly base on cattle and poultry production. Intensive production of guinea fowls was also noted in Binga and some parts of the province. The thriving guinea fowl production at household level is precursor to the CAMPFIRE livelihoods component to pilot commercialization of guinea fowls production in Simatelele and Manjolo wards of Binga District.

Some locals especially in the Lupane and Tsholotsho areas earn a living through the sale of Mopani worms, which are a nutritious delicacy. The worms are harvested from the Mopani tree, dried and sold to areas as far as Kariba, Harare and Mutare. Apart from the fact that the region is semi-arid, vegetable gardens under irrigation from underground water also form the local diet. The local communities also derive a great deal of livelihoods from harvesting of non timber products from bordering forests. These products include honey. The San People are still practicing the hunting and gathering culture though they are under pressure to modernize and incorporate cultivation due to the scarcity of resources and the restriction of access to the Hwange National Park. Due to their inexperience in the farming, the San

people are reported to be unproductive and exposed to hunger, resulting in some NGOs having to assist them with food handouts.

The area also boasts of its timber plantation which is a major foreign currency earner since most of the teak products are exported. These plantations are found in Mbembesi, Gwayi, Umguza, Ngamo and Sikumi to mention a few. There is also a lot of tourism activity in the area because of the Hwange National Park, Zambezi National Park and Victoria Falls National Park which hosts a wide plethora of wildlife as discussed in the ecological baseline. Hwange is home to the colliery which employs a great majority of people from the province. However, it should be noted that most of the places in the project area are remote with a few of services to offer. There is great expectation for significant economic benefits to the local community from wildlife and forests of which they are the historical custodians. The HSBC project should therefore focus at deriving greater economic benefit to communities through CAMPFIRE activities.

Fig 4.21 A head of cattle in Binga and Guinea fowls at Chief Binga's Headquarters

Fig 4.22 Tsholotsho flea market and Curios

The above activities contribute much in the livelihoods of the locals-most curios cost us$5

Table 4. CAMPFIRE Livelihoods activities within the HSBC

District	No of Wards	CAMPFIRE Activities	CAMPFIRE Sponsored Non-Hunting Projects
Binga	21 (24 824 households)	Wildlife management (3 Hunting Concessions), Fisheries, Tourism, Crafts	Mwinji Cultural Village, Masumu River Lodge (private), Electric Fencing (non-functional)
Gokwe North	14 (13 515 households)	Wildlife management (2 Hunting Concessions), Tourism	Gandavaroyi Falls Campsite, Veld Fire Management
Gokwe South	10 (8 705 households)	Wildlife management	Jahana Zebra Watering
Hwange	1 7 (10 838 households)	Wildlife management (3 Hunting Concessions), Tourism, Fishing, Crafts	Gorges River Lodge (private), Cheziya Fishing Camp

Kusile	23 (15 980 households)	Wildlife management (migratory), Beekeeping, Timber Logging (2 concessions), Sand abstraction	7 Ward Beekeeping Projects – not active
Nyaminyami	12 (11 078 households)	Wildlife management (3 Hunting Concessions), Tourism	7 Private Sector Lodges (3 currently operational)

4.3.5 DEMOGRAPHICS

According to the 2012 census an estimated 12.974,000 million people live in the country, with an annual population growth rate of 0.11 percent [World Bank 2010]. Approximately two thirds of the population resides in rural areas, though urbanization is projected to rise [UNPD 2008]. The country's population is largely young: the median is 18.8 years [UNPD 2008] and about 40 percent of the population is under the age of 15 [World Bank 2010]. Population growth rate is estimated to have stalled [World Bank 2010], likely because of an adult HIV/AIDS prevalence rate estimated at 15.3 percent [World Bank 2010] and High levels of outmigration [UNICEF 2008]. The HSBC spans through Matabeleland North and Part of Midlands with a population of 704 948 and 809 675 respectively. The proportion of male and female population is an average 48 and 52 percent respectively in the two provinces. Average rate of natural population increase stands at 1.26 percent, crude birth rate was at 31.29 births per 1000 while crude death rate stands at 18.64 deaths per 1000 in 2002. Information from the local NGOs working with the San people in Tsholotsho show that there are about 2000 San people living in Tsholotsho, though the greater number of the San community is across the border in Botswana. The average family size in the project area is 6 people per household. Analysis of the household mix shows that there are mostly women and the elderly who are staying with children while the middle aged and most males are seeking jobs in the provincial headquarters and commercial centers within the provinces. Where there are youths at the home, they are mostly unemployed and help with the household livelihoods activities like herding cattle and crop farming where applicable. There is great potential for employment uptake in all job creating aspects of the HSBC project.

4.3.6 EDUCATION

The HSBC project area coincides with two provincial territories that has two institutions of highest learning. Matebeleland North hosts the Lupane University while the Midlands province hosts the Midlands State University based in Gweru. While there are those two universities, the direct contribution from the remote parts of the project area is still very negligible. Secondary schools are at an average of eight kilometres apart, making it very difficult for pupils to successfully attend and complete their secondary education. Children can be seen riding bicycles donated by a donor to schools in Hwange and Dete. In Tsholotsho, illiteracy is still rife but the government had tried to improve the situation. In Binga and parts of Hwange, the Tonga community has scored a first for minority languages in Zimbabwe following the formalization of the Tonga language in schools in the Zambezi Valley basin that borders Zimbabwe and Zambia. The Tonga language was in October 2011 officially tested at Grade 7 level for the first time in the history of Zimbabwe. The literacy level among the San people is understood to be very low, with most of the children either not attending school at all or dropping out of school at an early grade. This is mostly influenced by the San People way of life and the poverty levels such that they do not afford the resources mobilization that is required to see a child throughout the schooling life.

Fig 4.23 Children riding to schools as far as 6km in Hwange using donated bicycles.

About 17% of the pupils walk more than 5km to attain primary education in remote parts of Midlands Province. In Gokwe Chireya, there are 30 primary schools, enrolling a total of 12 585 pupils. About 6 168(49.01%) of the pupils are girls whilst boys constitute a total of 6417(50.99%) of the total enrolment. There are 303 teachers (both trained and untrained) in the constituency and the constituency pupil to teacher ratio stood at 43:1 which is equal to the national average. The primary teaching staff complement consists of about 71.95% male teachers and 28.05% female teachers.

The Gokwe-Chireya constituency has four secondary schools located in ward 4, 9, 10 and 14. Total enrolment for all the schools is at 2 520 whilst 53 teachers provide secondary education service. Pupil to teacher ratio is below national average as it stands at 48:1. Only Chireya secondary school provides Advanced Level education whilst other schools provide up to Ordinary Level. The project area has the capacity to learn key lessons out of the HSBC project. Due to some literacy challenges in some parts of the project area, there is need to consider disseminating information in the local languages.

4.3.7 TRANSPORT AND COMMUNICATION

The project area has certain areas with good transport facilities/infrastructure while other parts of the project area have dusty and bumpy gravel road. The HSBC project area is serviced by a good and all-weather tarred road stretching from Tsholotsho to Hwange and to Binga though the link follows the Bulawayo- Victoria Falls highway in some cases. Areas that are away from the major centers are however accessed through gravel roads that are dusty and bumpy in most cases. Most of the rural roads in Tsholotsho are however more difficult to use than any other part of the project areas due to the extensive Kalahari sands covering the district. There is also a railway line that passes through the northern part of Tsholotsho District that connects Tsholotsho and various parts of Zimbabwe with railway line transport nertwork through Hwange to the north and Bulawayo to the South. Most of the roads in Gokwe North are gravel roads which in most parts are not in good condition. Typical examples are the one which connects Nembudziya from Sanyati and the one from Nembudziya to Chireya. Land degradation had been noted as one of the major causes of road destructions. The HSBC component of gully reclamation is a positive step in dealing with bad roads.

Communication systems are mostly concentrated on the major centres like growth points. The area is covered by both fixed and mobile network. The fix network that is operational in the area is the TelOne network and Netone is the dominant network line in most of the areas though network connectivity is still a problem.

Fig 4.24 Typical gravel roads in Gokwe North (Threatened by gullies)

For planning purpose, the HSBC therefore needs to equip the project implementers with four wheel drive vehicles to enable them to access the project areas with relative ease.

4.3.8 WATER SUPPLY

Drinking water supply for local communities is mostly groundwater. For corporate the pumping mechanisms are automated while the communities use manual pumping means. Some of the communities use shallow wells on river beds or wetlands. Animal drinking is also supported by the same boreholes or by the major rivers in the project area including Gwayi River, Sanyati river and Ume River just to mention a few. The water scarcity for wildlife normally forces them to migrate across communities to access drinking water. The HSBC project comes in handy to alleviate water supply challenges especially for the wildlife thereby limiting the changes of human wildlife conflicts.

An example of water scarcity causes is that the Chireya area has a total of 89 boreholes and 5 deep wells from which residents draw water. About 41 boreholes are located in ward 14 though only two are working. Of the 89 boreholes in the area, only 16(16.98%) are functional. Deep wells are located in ward 4, 9 and 14. Increasing the number of boreholes and deep-wells within the constituency would help to easy pressure on the existing ones. Clean and safe water to drink is a challenge especially in winter. Local people sometimes draw water from shallow well on the river bed (mufuku). According to the Habbakuk Trust, alocal NGO in Tsholotsho, the drinking water situation in Tsholotsho is understood to be critical, including areas where the San people are concentrated. It was reported by one of the active indigenous people's organization that some members of the San community were staying in the forest in search for drinking water for their animals. While there are a notable number of boreholes within the local communities of the corridor, communal water supply still has be explored to greater heights.

Fig 4.25 Borehole water source in Chireya

4.3.9 NON GOVERNMENTAL ORGANISATIONS ACTIVITY

The project area is intensively covered by NGOs which include Concern Worldwide, Christian Care, World Vision, Adventist Development and Relief Agency (ADRA), Heifer International and BASIWIZI Trust. BASIWIZI Trust is specifically spearheading the protection of the welfare of the Tonga people who were displaced from the Zambezi Valley to pave way for the Kariba Dam. Other NGOs are involved in activities such as water and sanitation, agriculture, health and education, rural development, orphanage, gender and women empowerment, alleviation of hunger and poverty, capacity building and infrastructure servicing. All wards in the project area are covered with at least one Non Governmental Organization offering various services. In Tsholotsho, there are NGOs who are working for the wellbeing of the remnant San peoples in Zimbabwe. These organizations include Christian Care, Tsoro-o-tso San Development Trust, and the Habakkuk Trust. It will be important for the HSBC project to integrate with these NGOs where there is common cause.

4.4 HERITAGE, CULTURAL AND INDIGENOUS PEOPLE ISSUES

4.4.1 INTRODUCTION

Heritage sites are the immovable physical remains that were created during the history of human kind and that have significance, they include archeological sites and the ruins, tombs, traditional petro glyphs, spiritual sites, sacred places, as well as modern and contemporary places and commemorative places and buildings, and those historic precincts (villages or towns), together with their original heritage components, that are officially declared protected sites. It should be noted that these archaeological and cultural remains are non- renewable such that when destroyed they cannot be replaced, hence the need for pre- development assessment to allow for preservation of the same, for posterity.

The Archaeological Impact Assessments Guidelines prepared by the National Museums and Monuments of Zimbabwe (NMMZ) derive their authority from the National Museums and Monuments of Zimbabwe (NMMZ) Act. They outline procedures of how to deal with archaeological evidence during development. They require that Archaeological Impact Assessments (AIA) as a core component of the Environmental Impact Assessment (EIA) must be carried out for all major development projects prior to commencement of activities on site. The Environmental Management Act (EMA) (chapter 20.27) of 2002 forms the basis of environmental management in Zimbabwe and makes it a mandatory for developers to consider Archaeological and Cultural issues in addition to other environmental aspects in carrying out an Environmental Impact Assessment. In this ESMF, an Archaeological expert was included in the consultancy team to ensure that there is full compliance on the project to all local legislation.

4.4.2 ETHINICITY, CULTURE AND HERITAGE IN VARIOUS PROJECT AREAS

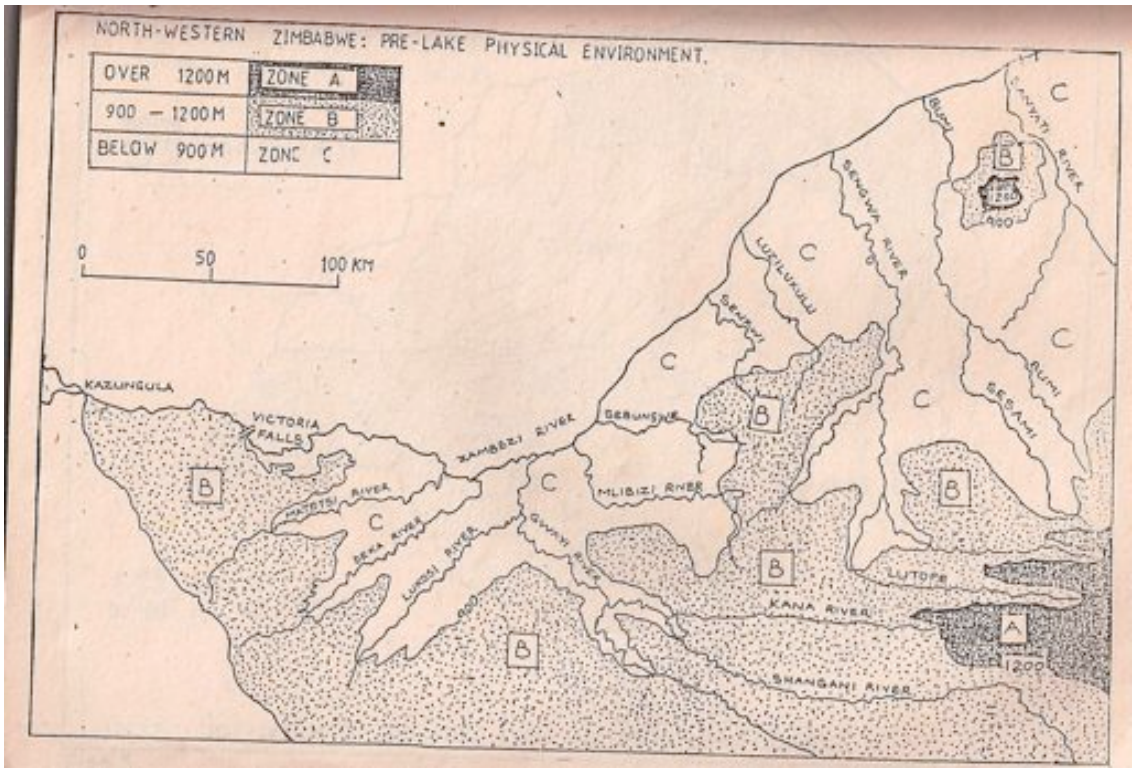
There are various ethnic groups in the project area and most of these are local people. The entire project area is dominated by population from an African ethnic origin, with a negligible percent accounted for aliens especially those of the Malawian origin. These people conduct various religious activities on specific sites in their landscapes to consult, appease and pray their gods. Hence any development must be preceded by social and cultural assessment such that the cultural belief system, customs and rituals will not be affected by such new development. This was echoed by Chief Nerukova of the Tonga people who emphasized on extensive consultations with the traditional leadership to avoid desecration of sacred places. Below are some of the ethnicity and indigenous people and their issues.

A. TSHOLOTSHO

Tsholotsho is home to three ethnic groups, these being the Ndebele, Kalanga and San. The San are however outside the CAMPFIRE focal areas but they are within the impact area for the Hwange National Park activities. The principal language is Ndebele which is spoken by over 80% of the population and understood by over 90% of the population. The Khoisan language is the least used language within the district because even the San, also use other languages like Ndebele. The San people in Tsholotsho do qualify to be considered Indigenous Peoples and an IPPF is required. The San people were displaced from their ancestral habitation around 1920s to pave way for the establishment to the Hwange National Park. Over the years they have been fighting for recognition in the mainstream representation. They are a minority group that requires special protection against potential exclusions that is associated with being a minority group.

B. BINGA

Binga is a district in Matabeleland North basically occupied by the Tonga and Nambya people, lying on the south eastern shore of Lake Kariba. Binga was constructed to rehouse the BaTonga people whose homeland was flooded by the Kariba reservoir. The Tonga were among the first groups in the peopling of the Zambezi Region together with the Korekore and later joined by the Nambya. The group has two main dialects that is Leya and Dombe and has always been regarded by their neighbors as the earliest established Bantu speaking settlers. Tonga oral traditions do not mention any migrations from a specific homeland outside their present area of settlement. Their traditions indicate that they have always been aboriginal to the Zambezi Valley where they were settled along the Zambezi River. However Archaeology indicates that the earliest Tonga or proto Tonga originated in the northern part of Zambia's southern province specifically around the Kafue Valley. Archaeology indicates a southward spread of the Tonga from this area to the rest of Southern Zambia and northern parts of Zimbabwe through the western stream Kangila Tradition from the Batoka plateau between 1000 and 1100AD. Essentially the Tonga were a riverine people who depended on the Zambezi River. Because of the biannual flooding of the Zambezi River the Tonga would crop twice in a year and maintained a delicate ecological balance of the river basin. They were settled along the river in low-lying areas below 900m above sea level in areas marked C on the map below.



Tonga settlement patterns before Kariba dam (after Ncube, G 2004)

Their belief systems centred on the water and river system kasambavezi and veneration of the Nyaminyami River god. The Tonga expanded along the Gwembe Valley because this river system and the Nyaminyami assured them of perennial water supply. In times of drought it is believed that the Nyaminyami would offer itself to the populations so that people would be able to cut pieces of its body meat to starve off hunger. It was on this religious basis that the Tonga remained a united religious group forming one society, spoke one language and observe the same customs, but devoid of a complex political system. There is no evidence of the Tonga politically operating under one paramount Chief, which explains why they are still today organized under about 17 small chieftaincies in one district.

The Tonga were displaced from their home of origin, the Gwembe Valley, in the 1960s to make way for Lake Kariba. Because of this sudden and forced removal their cultural capital has largely been dismembered and a lot of distortions and stereotypes are now attached to them as an ethnic group. Materially their Archaeology was flooded and therefore cannot be fully documented. However they have solidly maintained their intangible cultural heritage and today several of their sites are as a result of the reminiscences of their religious and cultural life in the Gwembe valley.

Fig 4.26 Tonga architecture reminiscent of life in the Gwembe valley

C. GOKWE NORTH

Gokwe North is home to mainly to two Shona dialectical ethnic groups and these are Shangwe and Karanga. However, there are also some Ndebele and Nambya people found in this area of the country. There is lack of serious attachment between the indigenous people, that is, the Shangwe people and their landscape, usually that develops in the creation of cultural landscapes. Together with Binga, the only known heritage sites from Gokwe North are the fossil wood and related paleontological remains. The landscape lies within the Karoo super group which is world famous for a continuous fossil record. In addition the post-karoo rocks and sediments have also yielded fossil remains. The rock formation in these areas that have potential to yield fossils are the ecca and coal group, madumabisa muddstone formations, forest sandstones formations, kalahari sands and alluvial deposits. The fossils that have been recovered from the Zambezi Valley include mammals,, and mammals-like reptiles. Not much can be seen on the ground relating to these fossils remains..

D. HWANGE

Hwange is home to mainly three ethnic groups and these are the Ndebele, Kalanga, Nambya. Several Stone Age sites were recorded from Hwange National Park and these maybe affected by the drilling of boreholes. However, like the Gokwe area, there are no known sacred shrines in the Hwange area.

4.4.3 CONCLUDING REMARKS

More than 80% of the sites recorded are cultural sites. The rest are natural sites with potential for tourist utilization. All the cultural sites have an intangible dimension which is particularly important to the Tonga as they seek relevance in their new cultural landscape after their forcible removal from the Gwembe valley. Most of the sites have to do with malende/rainmaking signifying their relationship with water and rain as part of their riverine belief systems. Their displacement from the Zambezi valley destroyed their cultural aspects and identity which they are fighting hard to recover in their new cultutral landscape. Further research and consultations has to be conducted with the Tonga people so that any development in their new cultural landscape will not further compromise their cultural practices and identity. Thus any development in the Tonga landscape should be sensitive to the Tonga plight and culture as the host community.

Fossil and /paleontological sites are of great importance in their contribution to scientific research of the past paleo-environments and climatic changes. Hence any development to take place in the said area must be sensitive to the conservation of paleontological heritage resources, hence a paleontological screening must be initiated in Gokwe North before the subproject commence because these subproject will involve earth moving and relocation of some stones. Gokwe North also boost of fossil remains such as fossil wood which is also protected under by heritage of Zimbabwe by the National Museums and Monuments Act Chapter 25:11, screening before the subprojects commence will concientise the communities not to use fossils remains as ordinary stones in the construction of barriers to erosion roots.

Tsholotsho and Hwange boost of Stone Age remains especially in the Hwange National Park and these sites are not under threat to intended development. Additional sites where the Park will sink additional

boreholes has to be investigated if they are identified that such there will be no damage to artifacts and sites during the rigging/drilling of boreholes for wildlife water supplies.

CHAPTER 5

STAKEHOLDER CONSULTATION

5.1 INTRODUCTION

Stakeholder consultation process is a valuable source of information on key impacts, potential mitigation measures and the identification and selection of alternatives for project design. The openness and transparency which was practiced in this process ensured that unbiased information was collected from this process. It is anticipated that the stakeholder participation will be maintained throughout the project life-cycle and serious consideration of stakeholder input will be made so that the potential negative impacts will be effectively mitigated while potential positive impacts will be maximized. The key stages of this public consultation process involved public information and consultation. It is anticipated that stakeholder consultation will lead to total stakeholder participation in the implementation of the project.

5.1 OBJECTIVES OF THE STAKEHOLDER CONSULTATION PROCESS

The objectives of the stakeholder consultation were;

- To inform the stakeholders about the Hwange sanyati biodiversity corridor Environment management and Conservation project and its various subprojects.
- To identify potential negative and positive environmental and social impacts associated with the proposed project.
- To formulate joint impact mitigation and enhancement measures for the negative impacts and positive impacts respectively.
- To assess the availability of mechanisms for cooperation and conflict management between and amongst local stakeholders and implementing partners during project implementation.

5.2 PRINCIPLES GOVERNING PUBLIC CONSULTATION

The following principles were followed to achieve the above goals of the stakeholder consultation;

- **Inclusivity**

The public consultation process covered representatives of all relevant stakeholders. To ensure this principle was upheld, the stakeholder list was reviewed by WWF, Parks and Wildlife Authority, EMA, Forestry Commission and the Consultant.

- **Open and transparent**

In order to enhance this principle, the consultant ensured that all steps and activities of public consultation were understood by all consulted stakeholders.

- **Relevance**

Relevance was also key in this ESMF and this was achieved through remaining focused on the project issues that matter. The consultation boundaries also ensured that the consultation process remains relevant to the proposed activities.

- **Fairness and responsiveness**

To achieve the objectives of the stakeholder consultation process there was a need to ensure that the consultation was conducted impartially. All stakeholders were empowered with project information first in their local language, and then solicit their informed input.

5.3 PUBLIC CONSULTATION METHODOLOGY

The methodology that was used to capture stakeholder concerns was multi-facetted. The local leadership, and community was consulted through a meeting and an individual questionnaire administered to each of the participants. The Government departments were consulted through questionnaire that was augmented by follow up discussions. A news paper notices were also placed in the local dailies to capture submissions from a wide range of stakeholders. Consultations were segmented into the specific project areas of the subprojects. The table below shows the various consultations focal areas.

Table 5.1 Focal areas for stakeholder consultation

DISTRICT	PROJECT FOCAL AREA	IMPLEMENTING PARTNER
Gokwe North	Chireya.	EMA.
Binga	Manjolo and Sinamatele.	CAMPFIRE.
Hwange	Hwange National Park, Ngamo forest, Sikumi forest.	Parks and Wildlife Management Authority, Forestry Commission.
Tsholotsho	Sidinda Ward.	CAMPFIRE.

5.4 STAKEHOLDER CONSULTATION LIST

To allow hybridization of ideas and also ensure full impact identification the stakeholder listing targeted diverse community organizations and representatives. The contact details of the consulted stakeholders are in Appendix B. Below is the category of stakeholders targeted in each focal area;

- District Administrators.
- RDCs.
- Ministry of Lands and Rural Resettlement.
- Ministry of Women Affairs, Gender and Community Development.
- Ministry of Youth Development, Indigenization and Empowerment.
- Departments of Social Welfare.
- Departments of Public works.
- ZINWA.
- DDF.
- AREX.

- ZRP.
- EMA.
- Forestry Commission.
- CAMPFIRE.
- Parks and Wildlife Authorities.
- Ward Councilors.
- Headmen.
- Schools.
- Business people.
- Farmers.
- Hospitals.
- Researchers.
- Safari operators.
- NGOs.
- Local community.

The list and contact details of the consulted stakeholders are in appendix C.

5.5 SUMMARY AND DISCUSSION OF STAKEHOLDER CONSULTATION

5.5.1 HWANGE- Forestry Commission Components

Table 5.2 Summary of stakeholder concerns

Stakeholder	Stakeholder Concerns	Stakeholder suggestion	Consultant's analysis
Hwange District Administrator	• Veldt fire management issues • Forest management issue	• Community involvement at all levels of planning, monitoring and evaluation. • Inclusion of indigenous knowledge systems in the management and utilization practices of the natural resources.	The suggestions are quite valid and should be considered in the project design finalization, implementation, monitoring and evaluation.
Department of Social Welfare	• Control of wildlife poaching • Need for community participation in decision making on the Parks' ecosystem and wildlife management.	• Deterrent sentence to be made against the offenders. • Need for regular and meaningful involvement of communities in wildlife management. • Involving traditional leadership and community structures in wildlife management.	This is quite consistent with the spirit and intent of the project. The involvement of community and its traditional leadership is quite valid and will be integrated.

Ministry of Women Affairs, Gender and Community development	• Improve land and forest management in Sikumi and Ngamo forest. • Game water supply to be improved. • Extent of commercial timber and wildlife poaching reduced.	• Offer permits to locals who engage in wood curving. • Sell wood directly to the locals at a reasonable price. • Protecting the locals from wild animals.	The selling of fire wood to communities is quite interesting, this may in the long run encourage conservation at household level. There is indication of local being victims of wildlife here, it should be considered under human wildlife conflict management and adaptation.
Hwange , District Councilor	• Community benefits • Fire management • Timber management • Seedlings	• Community can reclaim gullies under payment. • Timber harvesting quotas under supervision from Forestry commission. • Forestry commission should provide seedlings where possible.	The payment of community members is also applicable to the EMA component.
Chief Dingani	• Forest fires from main road. • Poachers cause fires. • Lack of knowledge. • Community benefits from benefits.	• The community should be given land from forestry for grazing. • Fire guards-funding needed. • Capacity building.	The emphasized need for community to derive benefits from the forests eg grazing land. This has to be clearly articulated in the forest management plan.
Parks and Wildlife	• Veld fire prevention.	• Environmental awareness	The mentioned interventions will be considered in the

Authority	• Reduction of deforestation and wood poaching. • Wildlife poaching. • Human encroachment into forestry land.	campaigns. • Sponsoring the community to start income generating projects.	project design.
RDC	• Direct benefits to accrue to communities living adjacent to forests. • Community benefits and involvement	• Timber should be available to communities so that all schools are properly furnished so as to improve the quality of learning at schools. • Off-cuts should be sold to wood carvers to improve livelihoods. • Communities to be given first preference in employment of veldt fire management so that people can identify themselves with the community, currently there is a big question that remains unanswered, what is the forest to us? • Training the community.	This is quite revealing and value adding.

Ministry of Youth Development, Indigenization and Empowerment	• Forestry commission should consult widely.	• Conducting workshops aimed at providing information to community relating to environmental management matters. • Youths should be actively engaged to participate in matters of preservation and conservation of the environment which is a national heritage.	Very important point to consider especially for project implementation.
Painted Dogs Conservation	• Deliberate Policy on fires and wood collection need consideration. • Community involvement has been highly undermined.	• Policy foundation should begin from the adjacent communities and reach agreements before implementation. • Research should be undertaken to establish the extent of negative fire and wood collection by the local people.	• This is quite in line with the project and effort to link this with indigenous knowledge systems must be made.
Hwange Safari Lodge	• Veld fires are a cause of concern to the ecosystem.	• Fire fighting team should be in place and properly trained on the use of fire-fighting equipment. • Fire drills should be	• Fire management is a major issue since it threatens all natural resources

		carried out once per week. • Fire fighting competition to be introduced to motivate the teams.	
Dete ZRP	• Wood harvesting for domestic use. • Harvesting wood for commercial use. • Veld fire management. • Deforestation due to increasing elephant population.	• Community involvement and participation. • Provision of alternative sources of energy. • Control timber harvesting. • Creating awareness of the veld fires and biodiversity.	• Very important aspects that have been incorporated in the project already.
National Railway of Zimbabwe (NRZ)	• Provide adequate drinking place. • Fence the game parks. • Provide good roads. • Fire guards.	• Sink boreholes in the Game reserve. • Fence the Game Park to prevent animals from being hit by trains. • Proper roads should be constructed. • Fire guard should be well maintained.	• Fencing will not be applicable since it would restrict the anticipated free movement of wildlife.
L. Ncube-Ward 17	• Destruction of crops by animals from	•	• Allowance to harvest dry wood in the

Resident	Sikumi. • Access to forests for fire wood.		Sikumi Forests.

SUMMARY OF KEY ISSUES THAT CAME OUT OF CONSULTATIONS

The following are the issues that stakeholders anticipate in the project design, implementation and monitoring:

- Community participation in wildlife management.
- Use of indigenous knowledge systems in wildlife management.
- Implementation of deterrent offenses for poachers.
- Traditional of traditional leaders throughout the project.
- Payment of local labor in reclamation work.
- Arrangement for grazing land in protected areas.
- Joint fire management with community.
- Funding of community income generating projects as way to curb poaching.
- Youth involvement in conservation.

It is recommended that the following issues be considered in the project design finalization and implementation.

5.5.2 HWANGE- PARKS AND WILDLIFE MANAGEMENT AUTHORITY COMPONENT

(b) Summary of stakeholder concerns

Stakeholder	Stakeholder Concerns	Stakeholder suggestion	Consultant's analysis
Hwange District Administrator	• Human-wildlife conflicts. • Resource wildlife proceeds utilization by communities.	• Sensitization of CAMPFIRE program to communities. • Revamping the CAMPFIRE concept and make it adapt to emerging issues and trends.	This is quite important so that the community feels the compensatory effect of CAMPFIRE programs to local communities' loss to wildlife rampages.
Department of Social Welfare	• Control of wildlife poaching. • Need for community participation in decision making on the Parks's ecosystem and wildlife management.	• Deterrent sentence to be made against the offenders. • Need for regular and meaningful involvement of communities in wildlife management. • Involving traditional leadership and community structures in wildlife management.	Noted and quite important in the project design finalization.
Ministry of Women Affairs, Gender and Community development	• Improve game water supply for Hwange National Park. • Raise awareness campaigns on the ecosystems to reduce destruction of water supply.	• Increase water supply to reduce wild animals preying on livestock and destroying farm lands and livestock. • Educate local leaders, visit schools and wildlife workshops.	An important awareness approach in schools program since anything that transpires at school will almost always get home vividly.

Hwange , District Councillor	• Wild beast such as lions and herbivores such as elephants destruct livestock and crops but Parks Authorities do not respond quickly. • Compensation of loses	• Parks and Wildlife Authority should have immediate responses to attacks by wild beast. • CAMPFIRE should be allowed to cover state land. • Employment creation for locals. • Stock check and compensation on the number of beast lost.	There are indications of serious personal losses to wildlife. Proposed project needs to attend to personal loses and how they relate to CAMPFIRE operations and benefits.
Chief Dingani	• Predators such as lions and elephants destroy livestock and crops respectively. • Community benefits from wildlife.	• Communal land should be fenced by funds from this project. • Compensation.	This indication of serious human wildlife conflicts and worthy noting for project design finalization.
Parks and Wildlife Authority	• Human–wildlife conflicts • Poaching	• HSBC should channel more resources to fight poaching. • Channeling resources to the community to keep them busy there- by avoiding poaching.	Quite important for project design finalization and budgeting.

RDC	• Direct benefits to accrue to communities living adjacent to Hwange. • Funding of human-wildlife conflicts programme and employment opportunities for locals.	• Harvesting of meat at subsidized prices. • Community should be given first preference in employment for wildlife management e.g Parks rangers. • Funding of community based scouts who will react to community distress calls. • Abattoirs should be established. • Assistance in case of those whose crops or livestock is destroyed.	Important considerations noted.
Ministry of Youth Development, Indigenisation and Empowerment	• Community awareness on conservation issues e.g rampant poaching, veld fires and data on ecosystem to avoid danger of wildlife becoming extinct.	• Involvement of communities particularly youths in terms of planning, management and control of the environment.	• Community involvement and education is a major milestone for this project.
ZRP-Dete	• Human-wildlife conflict. • Water provision for	• Creation of game reserves adjacent to communities. • Establishment of more	• This is quite consistent with the objectives of the project.

	animals. • Veld fire management. • Poaching in all its various forms.	sources of water. • Improved fire fighting skills and resources. • Community ownership of wildlife projects. • Awareness on the importance of wildlife in the ecosystem.	
Painted Dog Conservation	• Human footprint in the HSBC needs attention as society and its needs continue to compete for the same resource as Parks and Wildlife Authority.	• Wide consultation and extensive research on land use management by local communities. • A coordinated approach including all stakeholders.	• This is important and will be covered under human-wildlife conflict.
CAMPFIRE	• Consideration of Kamativi, Kamalala, Gwayi and places where wildlife is. • Movement of animals in the rainy season. • Destruction of crops by wild animals.	• Capacitation of CAMPFIRE at local level, for example provision of cars per ward to support it.	• CAMPFIRE component project design will address this contribution.
M. Chapanda-Tshabasitsha	• Elephants pass through our area on their way to Gwayi	• Quick response by Parks and Wildlife Authority.	• This will be addressed through the human- wildlife conflict management.

village.	river. • Destruction of crops and animals by wildlife. • Kabwita dam under pressure from wild animals.		
National Railways of Zimbabwe.	• Provide adequate drinking places for animals. • Fence the Game parks. • Provide good roads. • Fire guard.	• Sink boreholes in the game reserves. • Fence the Game Park to prevent animals from being hit by trains. • Proper roads should be constructed. • Fire guard should be well maintained.	• Fencing will not be practical intervention as this will distract free animal movement.
Hwange Safari Lodge	• Game water. • Electricity challenges.	• Use of submersible pumps powered by solar energy. • Capital injection. • Involve qualified personnel.	• Solar powered submersible pumps would be are areal innovation to incorporate.

SUMMARY OF ISSUES THAT CAME OUT OF STAKEHOLDER COMSUSLTATIONS

- CAMPFIRE activities should be enhanced as mitigation for human- wildlife conflicts.
- Involve traditional leaders in the HSBC project.

- Provision of adequate water supply to wildlife as means to avoid their movement out of protected areas.
- CAMPFIRE should cover state land.
- Direct compensation from PWMA for losses incurred by community from wildlife movements.
- Equip local reaction teams to attend to preying wildlife in communities.
- Network with community in anti-poaching strategies.

5.5.3 BINGA- CAMPFIRE COMPONENT

Table 5.3 Summary of stakeholder concerns

Stakeholder	Stakeholder Concerns	Stakeholder suggestion	Consultant's analysis
Binga District Administrator	• Livelihoods projects are vital. • Communication of the benefits of natural resources to the community. • Youth involvement in community projects.	• Communication and transparency of projects will enable sustainability. • Having the youths is a sure sign of sustainability.	This is quite important in the selection of the pilot areas and beneficiaries. Women and youths will be especially considered for inclusion.
Department of Social Welfare	• Community participation from project design to implementation. • Market linkages for products and supplies. • Direct returns to project members and cascade to other wards.	• Meaningful community participation. • Involve other stakeholder such as AGRITEX and VET. • Have the community run the project such that there will be continuity when the funder leaves Binga.	Very important submission for sustainability of the project.
Ministry of Women Affairs, Gender and Community development	• Women involvement so that they can be able to sustain their living. • Project should spread to other wards and a market for eggs should be established in the district.	• Feasibility studies by the implementing partner to involve others in the community.	The stakeholder is forward looking about the pilot projects.

Binga District Councillor	• Wild beast such as lions and herbivores such as elephants destruct livestock and crops but Parks Authorities do not respond quickly. • Compensation of loses	• Parks and Wildlife Authority should have immediate responses to attacks by wild beast. • CAMPFIRE should be allowed to cover state land. • Employment creation for locals. • Stock check and compensation on the number of beast lost.	Noted.
Chief Dingani	• Predators such as lions and elephants destroy livestock and crops respectively. • Community benefits from wildlife.	• Communal land should be fenced by funds from this project. • Compensation.	The issue of fencing continue to be suggested so the project owners should explain the disadvantage of fencing in wildlife management processes.
Parks and Wildlife Authority	• Obtain a breeders license for guinea fowls from National Parks. • Is there a good quality and reliable juvenile or eggs for	• Establish own seeds, juveniles and eggs of good breed. • Formulate own good quality food to reduce cost.	Quality control issues being raised are important for adequate production.

	restocking. • Is there quality feed for the species and are the prices cost effective. • Is the guinea fowl adaptable to culture conditions? • Hardness and resistance to diseases and parasites. • Easy market accessibility. • Knowledge of the guinea fowl culture	• Choose the species that are best suited to the conditions in Binga. • Do market research for the product. • Enhance the knowledge of locals on guinea fowls production.	
Binga RDC	• Breeders license • Community participation. • Conservation of guinea fowls • Community should not temper with wild guinea fowls.	• Project members to liaise with Council and National Parks. • Training of project members on guinea fowl management. • Employment creation.	Important legal compliance issues coming up. The license issue will need to be complied with.
Ministry of Youth Development, Indigenization and Empowerment	• Conservation of natural resources. • Direct benefit of community from natural resources. • Community based	• Establishment of community owned or individual owned projects such as guinea fowl projects. • Educate community on	Noted.

	management of natural resources. • Conflicts between humans and wild life.	conservation of natural resources. • Revenue from natural resources should be ploughed back to community. • Establishment of ward and village CAMPFIRE committees who will manage natural resources in those respective areas. • Ministry of Environment to create a fund to support projects that are dealing with natural resources.	
Department of AGRITEX	• Prevent human- wildlife conflict. • Ready market for guinea fowl products. • Veld fires.	• Revisit wildlife population against carrying capacity. • Identify settlement areas for our off springs as they mature. • Veld fire management.	The resettlement issue coming in this submission is not really applicable to the project.
Forestry Commission	• Communities should be consulted and allowed to participate in decision making. • Implementation should be a	• Several consultation meetings should be done in the communities before and during implementation stage. • Allow and consider the indigenous knowledge system	More consultation will be conducted during the subproject screening and EMP formulations.

	bottom-up strategy. • Indigenous Knowledge system should come from the community.	where it is needed.	
Chief Binga and Headmen	• Review community percentage benefits. • Proper management and transparency so that the community will be satisfied. • Record keeping and information dissemination. • Extinction of wild guinea fowls. • The whole community should benefit. • Pricing of guinea fowls.	• Taking wild guinea fowl eggs should be a crime punishable by the chief. • Prices to be determined after reduction of production costs. • Community should be responsible in all manners. • Involvement of other villages that are not part of the pilot project. • Clear follow up eggs and deaths of guinea fowls. • A 10 percent should be given to community projects.	The discussion with the Chief and the headmen was quite interesting. The Chief preferred proceeds coming to all community members while the headmen preferred proceeds accruing to individual participants. This discussion is quite critical for the sustainability of the project, especially when up-scaling.
Kulima Mbobumi Training Centre	• Training in production of guinea fowl production and project management. • Training in appropriate fowl runs and diseases control. • Establishment for the market for the birds.	• Train beneficiaries to take ownership. • Use and involve AGRITEX. • Avoid 100 % free hand out as the syndrome can affect the success of the project. • Beneficiaries to contribute	The community contribution should be clear as suggested here. The training centre can also be used as resource centre.

		percentage cash in the establishment of the project.	
Manjolo Springs Primary School	• Exploitation of available natural resources in a suitable manner.	• Education through organized meetings or workshops, seminars, literature, pamphlets published in the local language where possible.	The use of pamphlets in local language is important awareness approach.
Councillor Mleya	• Promotion of community. • Protection of natural resources. • Community benefits.	• Follow-up. • Encouragement.	The follow up is important during project implementation.

SUMMARY OF ISSUES THAT CAME OUT OF STAKEHOLDER COMSUSLTATIONS

- Involve traditional leaders in the HSBC project.
- CAMPFIRE should cover state land.
- Transparency in pilot project.
- Involve Agritex and Veterinary Service Department.
- Integrate indigenous knowledge systems.
- Sustainability should consider other villages' emolument from pilot, profit sharing in view of future expansion of the project.

5.5.4 TSHOLOTSHLO - CAMPFIRE COMPONENT

Table 5.4 Summary of stakeholder concerns

Stakeholder	Stakeholder Concerns	Stakeholder suggestion	Consultant's analysis
Environmental Management Agency	• Wildlife –Livestock interactions. • Human- Wildlife inter-specific interactions. • Enforcement of policies governing wildlife utilization.	• Community sensitization on human-wildlife sustainable interactions. • Formulation of by-laws to aid in human-wildlife conflict management. • Drought mitigation strategies e.g rotational grazing, fencing of paddocks.	Noted.
District Administrator-Tsholotshlo.	• Empowerment of local communities for them to feel that they own their natural resources. • Communities participation in projects proposal of their areas and in choosing safari operators.	• Education through seminars in wildlife management. • Increase community shares in CAMPFIRE allocations. • Increase emergence reaction towards problem animals in the community.	
Tsholotshlo Ward 10 Councilor	• Elephants destroy people's fields. • Security against animals.	• Dams to keep away animals. • We need Game Guards. • Educate people that animals are a source of living.	
Ward 7 Councilor	• Workshops to educate people about animals.	• Funding.	This should be covered during

	• Fire management. • Poaching.	• Fireguards. • Anti-poaching committees to be established.	stakeholder consultation at subproject level.
Zimbabwe Republic police	• Community leaders' involvement in the use of funds obtained from safari operators. • Fencing off the Hwange National Park from nearby villages such as Pelandaba village. • Pro-active awareness campaigns by EMA and Parks and Wildlife Authority.	• Transparency on the part of Tshlotshlo Rural District Council-good cooperate governance approach is required from this RDC. • Education awareness campaigns by Parks and Wildlife Authority. • Continued sustained pro-active awareness campaigns by EMA.	The issue of fencing continues to surface.
Social Welfare	• Community ownership. • Community consultations before and after implementing the project. • Adherence to CAMPFIRE by-laws from Council.	• Working closely with traditional leadership. • Use of technical support from relevant stakeholders.	Community engagement being emphasized here.
Ministry of Education and Culture	• Influential people to be informed. • Training of the community concerning the project.	• There should be a selected committee within the community to participate in the distribution of the benefits	Transparency resource utilization requested here.

	• Capacitation of Campfire. • Employment of local people.	from natural resources. • No funds from any resources should go unknown by the community. Figures should be hold to the community e.g timber and elephants.	
Ministry of Youths Development, Indigenous and Empowerment	• There is need for coordinated effort which is inclusive all relevant line ministries. • Intensive advocacy and awareness campaigns through the whole district. • Need for capacity building. • Those who exploit natural resources must plough back.	• There is need for coordinated effort which is inclusive all relevant line ministries. • Intensive advocacy and awareness campaigns through the whole district and meetings. • Need for capacity building for CAMPFIRE. • Those who exploit natural resources must plough back. • Transparency in awarding hunting concession.	Very important points mentioned here.
Tsoro-o-tso San Development Trust	To be advised.	To be advised.	The Executive Director indicated that he was out of the office, but will be happy to make a submission when he is back in the office. Effort to get the

			submission will particularly be made at the subproject level. General provisions will be made through the IPPF.

SUMMARY OF ISSUES THAT CAME OUT OF STAKEHOLDER COMSUSLTATIONS

- Involve traditional leaders in the HSBC project.
- CAMPFIRE should be capacitated.
- Transparency in community benefits.
- Awareness, consultations and community education.
- Integrate indigenous knowledge systems.
- Poaching.
- Inclussion of the San People in the project design, implementation and monitoring. This will however be considered under the Parks component since it is the one with direct impacts on the San Community by way of human-wildlife conflict.

5.5.5 GOKWE NORTH (CHIREYA) - EMA COMPONENT

Table 5.5 Summary of stakeholder concerns

Stakeholder	Stakeholder Concerns	Stakeholder suggestion	Consultant's analysis
Gokwe North District Administrator	• Chireya gully is threatening Chireya rural service centre. • The HSBC should not zero down to Chireya gully alone because there are other gullies in the area such as Zhomba and Chikarimatsito. • The district growth point also has an underground receding gully which is threatening buildings.	• Massive funding to reclaim the named gullies. • Recommendation for special foundations for the houses at the growth point should be made by experts. • An all-stakeholder participation in the project is imperative.	Other areas requiring similar interventions have been noted.
Department of Public Works	• Inform Public Works head quotas in Harare and make arrangements with the quantity Surveyor.	• Civil Engineer and Quantity Surveyor to visit the site and device appropriate methods to deal with the gully.	This is quite important for consideration of project alternatives.
Department of Lands and Rural Resettlement	• Urgent rehabilitation of the area. • The hospital and shops are under threat.	• Local community needs to be consulted before and after project initiation.	Noted.

AGRITEX	• Land use in the area. • Conservation works in the area. • Water harvesting structures • Dams and gully reclamation. • Livestock safety.	• Community awareness campaigns. • Use of conservation works in the area such as contours. • Conservation farming. • Training. • Avoid overgrazing, tree cutting, veld fires and stream bank cultivation in the catchment area.	A clear indication of the importance of catchment management in this project.
Chief Chireya	• Gabion wires. • Rocks • Planting trees. • Vativa grass.	• Community to load stones in trucks and plant vativa. • DDF and Forestry Commission to contribute.	These can be considered for project design.
District Development Fund	• All farmers to comply to the advice of AGRITEX. • Forestry Commission to introduce afforestation programmes to reduce soil erosion. • Community sensitization by EMA concerning land conservation.	• All relevant ministries and local authorities should work together so as to achieve the goals. • Relevant ministries must fully involve local residence in the implementation of control measures.	Importance of stakeholder participation coming out clearly.
Department of social welfare	• Rehabilitation of Chireya	• Engage local communities and	Noted.

	gully and Zhomba gully.	the communities affected.	
Ministry of Youth Development, Indigenization and Empowerment	• EMA should address an awareness campaign to the inhabitants of Chireya to understand.	• EMA should use local leadership so that the inhabitants can understand. • Relocate all people under threat from the valley.	Noted.
Gokwe North RDC	• Community participation and mobilization. • Layout plan improved • Mobilization of local raw materials. • Community awareness meetings. • Subsequent impact of the gully and land degradation. • Land use planning.	• Conducting awareness meetings • Involvement of all major stakeholders. • Imposition of heavy penalties for breaching policies.	Noted.
Ministry of Education	• Combating stream bank cultivation. • Indiscriminate cutting down of trees.	• Educating Chiefs and village heads on the ultimate dangers of stream bank cultivation. • Putting in place heavy penalties on indiscriminate cutting down of trees.	Noted.
Chireya Mission	• Establishing water harvesting tanks at existing buildings,	• Provision of funds to purchase water harvesting tanks and	Water harvesting should be considered

Hospital	shops inclusive. • Stop construction of buildings towards gully heads. • Construction of contours and storm drains. • Construction of Water harvesting ponds on paved canals. • Engage fewer people so as to give incentives.	gutters. • Proper planning and siting of new buildings. • Compaction and paving of existing gully to avoid further degradation. • Material and funds for harvesting ponds and paved canals. • Funds as incentives for hired labour.	as part of the project design. Incentives issue came out quite vivid and is understood to have been the major cause of concern to the community.
Chireya St Dominic Primary School	• Stream bank cultivation along Ume River should be stopped as a matter of urgency. • The gullies forming from both Chireya Mission Hospital and Business Centre need National attention to curb head ward and lateral donga formations.	• Strong policies and enforcement. • Assistance of those seriously affected. • Water harvesting tanks and gutters. • All stakeholder participation.	Noted.
Chireya High School	• Prioritisation of public institutions like hospitals and Schools. • Involvement of the chief and village heads through	• Fence off the area using local labour. • Relocate the shopping centre to Kajirivanda or limit the number of structural units to	It is interesting to manage the said political moves at subproject level.

	education.	control run-off. • Rural District Council and EMA should work hand in hand to contain some political moves.	
Chireya Business Community Association	• Control of social activities such as stream bank cultivation. • Rehabilitation of the gullies threatening the community. • Ensure there is proper drainage in the area and proper control of runoff water. • Assistance in terms of building water storage tanks to avoid much runoff water	• Stream bank cultivation should be stopped. • Cutting down of trees and burning of grass to be stopped. • Proper drainage control. • Build water storage tanks. • Provision of diesel to well wishers who have tractors. • Money for those who will be working on the gulley.	Noted.
Save Mass Superette	• Source income for the project	• none	Noted
F. Marongwe-Business person	• Stop constructions of shops along the road towards the gully head. • All stakeholders should be involved. • Engagement manner of	• Payment of workers on the gully. • Strengthen team work. • Informing the RDC to assist relocating those affected.	The relocation issue here does not really appear applicable basing on the project description and its location. There will be no relocations.

	workers.		
D. Musoni-Businessman	• Underground erosion • Sealing the Chireya gully.	• Noting worker safety especially on underground erosion.	First time occupational safety issue is raised.
Mlambo shop	• Employ qualified engineers. • Community benefits. • Destruction of buildings at Chireya centre by the gully.	• Urgent project execution. • Paying workers working on the project.	Noted.
Chibango Warehouse-Chireya business center	• Building programmes should be architected. • The soils need gabions support. • Locals labor should be compensated.	• Monitoring.	Noted.

SUMMARY OF ISSUES THAT CAME OUT OF STAKEHOLDER COMSUSLTATIONS

- Occupational safety and health.
- Consider other gullies in the district.
- Involve other government departments like Public Works and Forestry.
- Project should focus on catchment protection.
- Include water harvesting in project design.
- Payment of community members working on the gullies.

6 DISCLOSURE

i. Publication for public consultation during ESMF formulation

As part of disclosure, a public notice was placed in the local daily to inform the general public about the proposed project and invited contributions for the sustainable implementation of the project through stakeholder contribution to the ESMF. The public notices generated input from the Regional Director of Environment Africa who wanted to understand how the organization could be involved in the project. An arrangement was already established that the organization be part of the key stakeholder for the project and will be kept informed and its participation will be ensured.

ii. Disclosure at finalization of ESMF

- Following the finalization of the ESMF, the MWEC will summarize the conclusions of the ESMF and publicize them in the local daily in the English language.
- The MWEC will also summarize the conclusions of the ESMF in pamphlets and publish them within the project area in applicable languages (Shona, Ndebele, Tonga, and Khoisan) or inform the stakeholders through community meetings.
- The MWEC will officially write to the Bank to clear the ESMF for publishing through the World Bank InfoShop.

iii. Disclosure of major ESIA or ESMP

In the event that the subproject screening has resulted in major environmental and social assessment work like ESIA or detailed ESMP or any applicable Safeguards instruments, the MWEC will disclose it within the local subproject areas through communities meetings.

iv. Availability of the ESMF for public viewing

The ESMF will be accessible to the public for viewing from the MWEC, WWF, implementing agencies head offices, participating provincial offices and participating district offices. The ESMF will be available on request in writing to the MWEC.

CHAPTER 6

IMPACT ANALYSIS AND ASSESSMENT

6.1 INTRODUCTION

The process of impact assessment has two major components namely impact analysis and impact evaluation. Each of the components will be discussed in detail. Though the details of the specific subprojects are not yet clearly known, the ESMF will still be able to forecast some general impacts that may be applicable. More detailed impact identification, analysis and evaluation will be conducted when the details of the subprojects are clearly understood. This chapter is segmented into the four participating focal areas.

6.1 IMPACT ANALYSIS

Following the identification of the various potential environmental impacts, the impact analysis framework looked at the impacts under the following categories;

1. **Nature of the impact:** This dimension reveals if the impact is direct or indirect, cumulative or instantaneous and whether the impact is positive or negative.
2. **Magnitude:** This parameter discusses the intensity of the impact, whether it is low, moderate or high.
3. **Extent:** The extent gives the quantitative aspects of the impact and the spatial distribution of the impact.
4. **Timing:** This shows when the impact would occur in terms of the project life cycle.
5. **Duration:** The parameter reveals whether the impact is short term or long term, intermittent or continuous.
6. **Permanence:** This shows whether the impact is reversible of it is irreversible.
7. **Likelihood:** This tells us the probability of the impact occurring.

8. **Significance:** This tells the value that the affected stakeholders put on the aspect affected.

The analysis of the environmental impacts is focusing on the planning, construction, operation and decommissioning phases of the project.

Table 6.1 Analysis of Environmental Impacts for the Forestry Commission Component

Impact	Nature	Magnitude and extent	Timing and duration	Permanence	Likelihood and significance
1. Adequate game water supply.	Positive.	High intensity. Corridor wide significance.	Implementation phase. Futurist.	Permanent.	Definite. Highly significant.
2. Reduced poaching activities.	Positive.	Moderate. Local impact.	Implementation phases. Immediate impact.	Semi permanent.	Definite and highly significant.
3. Reduced veldt fires.	Positive.	High intensity. Local and spread impact.	Implementation phase. Futurist.	Permanent.	Definite. Highly significant.
4. Improved forest management.	Positive.	High. Localized to Ngamo and Sikumi forests.	Implementation phase. Futurist.	Permanent.	Definite. Highly. Significant.
5. Institutional capacity strengthening.	Positive.	High intensity. Directly benefits FC and surrounding communities.	Occurs in the implementation stage.	Temporal.	Definite and highly significant.
6. Rejuvenation of	Positive.	High intensity.	Occurs in the	Semi	Definite and

natural habitats from sustainable forest management.		Directly benefits in local ecosystem.	implementation stage.	permanent.	highly significant.
Impact	**Nature**	**Magnitude and extent**	**Timing and duration**	**Permanence**	**Likelihood and significance**
Negative Environmental Impacts					
7. Restriction of access to protected forests.	Negative.	Directly affects neighboring communities.	Occurs continuously in all project phases.	Permanent and irreversible due to legal provisions.	Definite. Highly significant considering the livelihoods.
8. Increase in human-wildlife conflict due to straying wild animals.	Negative	Directly affects neighboring communities. Continuous effects.	Occurs accidentally in the all project phases.	Permanent and irreversible.	Definite. High significance considering livelihoods and poaching.
9. Depletion of groundwater resources.	Negative	Directly affects the catchment and aquifers.	Gradually occurs in the operation phase.	Permanent and reversible in the long run.	Moderate probability considering the recharge and low rainfall pattern. High significance considering that water

					availability is critical in the project.
10. Overstocking of wildlife within the Forest area.	Negative	Directly affects the natural habitat.	Occurs gradually in all project phases.	Temporal and reversible.	Highly probable considering effect of adequate water. Highly significant considering importance of carrying capacity.
11. Noise to animals during borehole drilling.	Negative	Directly affects sensitive wildlife.	Occurs intermittently in the implementation phase.	Temporal and irreversible.	Low probability and low significance.
12. Vegetation destruction to open roads for borehole drilling machines.	Negative	Directly affects the natural habitat.	Occurs once off during project implementation.	Temporary and reversible.	Remote probability but highly significant.
13. Soil erosion potential during water holes construction.	Negative	Directly affects surface water sources.	Occurs in the rain season after construction.	Permanent and irreversible.	Low probability and high significance.
14. Mosquito breeding at	Negative	Directly affects	Occurs seasonally in	Temporal and	Moderate probability.

water points.		tourists.	the operation phase.	reversible.	Low significance considering distance to human settlements.

Table 6.2 Analysis of Environmental Impacts for the Parks and Wildlife Management Authority Component

Impact	Nature	Magnitude and extent	Timing and duration	Permanence	Likelihood and significance
1. Adequate game water supply improving the source capacity.	Positive.	High intensity. Directly benefits the source and indirectly benefits the sinks.	Occurs in the Operation phase. Immediate and long-term impact.	Permanent.	Definite. Highly significant.
2. Reduced poaching activities increasing permeability.	Positive.	High intensity. Localized within HNP and the surrounding sinks.	Occurs continuously in all phases. Immediate and long-term impact.	Permanent and reversible if slackened.	Definite and highly significant.
3. Reduced veldt	Positive.	High	Occurs	Permanent	Definite.

fires.		intensity. Localized within HNP impact.	continuously in all phases. Futurist.	and reversible if slackened.	Highly significant.
4. Improved Park management.	Positive.	High magnitude. Localized to HNP.	Implementation phase. Futurist.	Permanent.	Definite. Highly. Significant.
5. Institutional capacity strengthening.	Positive.	High intensity. Directly benefits PWMA and surrounding communities.	Occurs in the operation stage.	Permanent.	Definite and highly significant.
6. Rejuvenation of natural habitats from sustainable forest management.	Positive.	High intensity. Directly benefits in local ecosystem.	Occurs in the implementation stage.	Semi permanent.	Definite and highly significant.
Negative Environmental Impacts					
7. Restriction of access to protected areas.	Negative.	Directly affects neighboring communities.	Occurs continuously in all project phases.	Permanent and irreversible.	Definite. Highly significant considering the livelihoods.
8. Increase in human-wildlife conflict due to	Negative	Directly affects neighboring	Occurs occasionally in all project	Permanent and irreversible.	Definite. High significance considering

straying wild animals.		communities. Continuous effects.	phases.		livelihoods and poaching.
9. Depletion of groundwater resources.	Negative	Directly affects the catchment and aquifers.	Gradually occurs in the operation phase.	Permanent and reversible in the long run.	Moderate probability considering the recharge and low rainfall pattern. High significance considering that water availability is critical in the project.
10. Overstocking of wildlife within the national park.	Negative	Directly affects the natural habitat.	Occurs gradually in all project phases.	Temporal and reversible.	Highly probable considering effect of adequate water. Highly significant considering importance of carrying capacity.
11. Noise to animals during borehole drilling.	Negative	Directly affects sensitive wildlife.	Occurs intermittently in the implementation	Temporal and irreversible.	Low probability and low significance.

			phase.		
12. Vegetation destruction to open roads for borehole drilling machines.	Negative	Directly affects the natural habitat.	Occurs once off during project implementation.	Temporary and reversible.	Remote probability but highly significant.
13. Soil erosion potential during water holes construction.	Negative	Directly affects surface water sources.	Occurs in the rain season after construction.	Permanent and irreversible.	Low probability and high significance.
14. Mosquito breeding at water points.	Negative	Directly affects tourists.	Occurs seasonally in the operation phase.	Temporal and reversible.	Moderate probability. Low significance considering distance to human settlements.

N.B

1. The positive impact of adequate game water supply has to be viewed in relation to the potential negative impact of aquifer deletion.

2. While there are positive impacts associated with veldt fires, they could not be included in this impact frame work because this framework is referring to uncontrolled veldt fire. The positive impacts of controlled fires include and not limited to;

- better grazing for wildlife
- poaching control
- pest control
- better visibility for tourists

The above positive impacts of veldt fire need to be considered in relation to the park or forest management plan and need to be distinguished from the uncontrolled veldt fires caused outside the management plan.

3. While the adverse impacts are expected to be upon every other member of the host communities, the San community needs specific focus since their hunter gatherer life is the most affected by the existing restriction to gazetted HNP.

Table 6.3 Analysis of Environmental Impacts for the CAMPFIRE ASSOCIATION Component

Impact	Nature	Magnitude and extent	Timing and duration	Permanence	Likelihood and significance
1. Improved knowledge of ecological conditions of project area.	Positive.	High intensity. Localized to Sidinda ward significance.	Occurs in the Operation phase. Immediate and long-term impact.	Permanent and irreversible.	Definite. Highly significant considering importance to carrying capacity.
2. Institutional strengthening.	Positive.	Moderate magnitude. Localized to targeted subcommittees and participating communities.	Occurs continuously in all phases. Immediate and long-term impact.	Permanent and reversible if slackened.	Definite and highly significant.
3. Improved livelihoods from safari hunting and guinea fowl project activities.	Positive.	High intensity. Impact is localized to participating pilot areas.	Occurs continuously in all implementation phase.	Permanent and reversible if slackened.	Definite. Highly significant considering the poverty status of the community.
4. Reduced human wildlife conflicts.	Positive.	High magnitude. Localized to participating project areas.	Occurs in the implementation phase.	Permanent.	Definite. Highly. Significant.

5. Reduced poaching activities.	Positive.	High intensity. Directly benefits PWMA operations.	Occurs in the operation stage.	Permanent and reversible if community slackens.	Definite and highly significant.
Negative Environmental Impacts					
6. Food competition between guinea fowls and other household stakeholders like people and chickens.	Negative.	Directly affects participating communities.	Occurs continuously in all project phases.	Temporal and irreversible.	Definite probability. Highly significant considering the livelihoods.
7. Hunting of wild guinea fowl eggs to supplement household quarters at the central fowl run.	Negative	Directly affects the wild guinea fowl population and the ecosystem.	Occurs occasionally in all project phases.	Permanent and reversible.	Definite. High significance considering importance of wild guinea fowls in the ecosystem.
8. Change of RDC owned land use to accommodate project activities.	Negative	Directly affects the neighbouring community.	Occurs persistently during the planning and operation phases.	Temporal and reversible.	Low probability, RDC can allocate virgin land for project activities. low significance due to vast

					RDC land available.
9. Pollution (odor, effluent and solid waste) from livelihood projects.	Negative	Directly affects the receiving environment.	Occurs continuously in all operation phase.	Permanent and reversible.	Low probability. High significance.
10. Noise pollution from live guinea fowls at the guinea fowl project areas.	Negative	Directly affects neighboring communities.	Occurs continuously in the operation phase.	Temporal and irreversible.	Low probability and low significance.
11. Conflict within the participating and non participating wards.	Negative	Directly affects the community relations.	Occurs continuously during operation phase.	Permanent for the project duration and reversible.	Highly probable and highly significant.
12. Depletion of game stock due to increased hunting quotas.	Negative	Directly affects the source of wildlife.	Occurs intermittently in the operation phase.	Temporal and reversible.	Low probability considering source capacity. Moderate significant.

Table 6.4 Analysis of Environmental Impacts for the EMA Component

Impact	Nature	Magnitude and extent	Timing and duration	Permanence	Likelihood and significance
1. Degraded land rehabilitated.	Positive.	High intensity. Localized to targeted gullies eg Chireya.	Occurs in the Operation phase.	Permanent and irreversible if catchment management is neglected.	Definite. Highly significant considering the state of degradation.
2. Threatened infrastructure rescued.	Positive.	High intervention. Benefits the local hospital, community cattle sales and infrastructure at Chireya business center.	Occurs in the post implementation phase.	Permanent and reversible if rehabilitation not effective.	Highly probable and highly significant considering the utility of threatened infrastructure.
3. Improved knowledge on micro catchment protection especially in sodic soils, wetlands and river banks.	Positive.	Directly benefits the local communities and nation at large.	Occurs in the implementation phase and thereafter.	Permanent and irreversible.	Definite benefit and highly significant.
4. Improved	Positive.	Directly	Occurs in the	Permanent	Definite and

livelihood through high productivity crops.		benefits the participating communities.	implementation phase	and reversible if not sustainable.	highly significant.
5. Employment creating at rehabilitation activities.	Positive.	Low intensity. Directly benefits local community.	Occurs in the implementation phase	Temporal.	Definite and highly significant.
6. Institutional capacity strengthening.	Positive.	High intensity. Benefits are localized to targeted institutions, subcommittees and communities.	Occurs continuously in all phases. Immediate and long-term impact.	Permanent and reversible if slackened.	Definite and highly significant.
Negative Environmental Impacts					
7. Erosion potential from stream bank cropping and mechanized machines.	Negative.	Directly affects the targeted rivers.	Occurs continuously in all rain season.	Permanent and irreversible, though preventable.	Definite probability. Highly significant.
8. Over-draining of the wetlands.	Negative	Directly targeted wetlands and local ecology.	Occurs occasionally in all implementation phases.	Permanent and reversible.	Highly probable. High significance considering sensitivity of wetland

					ecosystems.
9. Occupational safety and health.	Negative	Directly affects the workers and indirectly their families.	Occurs accidentally during the construction phases.	Permanent and irreversible.	Low probability. High significance considering human life.
10. Interference with natural drainage.	Negative	Directly affects the micro catchment.	Occurs continuously in all implementation phase.	Permanent and reversible.	Highly probable. Highly significant.
11. Interference with community relations by contractors.	Negative	Directly affects host communities.	Occurs continuously in the implementation phase.	Temporal and reversible.	Low probability and high significance.
12. Conflict within the participating and non participating community members.	Negative	Directly affects the community relations.	Occurs continuously during operation phase.	Permanent for the project duration and reversible.	Highly probable and highly significant.
13. Interference with farming operation when looking for stones for gully rehabilitation.	Negative	Directly affects the source areas.	Occurs intermittently in the implementation phase.	Temporal and reversible.	Low probability and highly significant.

6.2 IMPACT ASSESSMENT

Following the identification and analysis of potential environmental impacts in each subproject, this section focuses on the evaluation of the significance of the identified impacts and the impact of the potential remedial action or enhancement measures. Following impact prediction and identification, impact evaluation is the formal stage at which a 'test of significance' is made.

6.2.1 METHODOLOGY

A systematic process was followed in evaluating significance, distinguishing between 'as predicted' and 'residual' impacts.

Step one involved evaluating the significance of 'as predicted' impacts to define the requirements for mitigation and other remedial actions.

Step two involves evaluating the significance of the 'residual' impacts, i.e. after mitigation measures are taken into account. This test is the critical measure of whether or not a proposal is likely to cause significant impacts. It is determined by the joint consideration of its characteristics (magnitude, extent, duration etc.), that is intensity and the importance (or value) that is attached to the resource losses, environmental deterioration or alternative uses which are foregone.

First, a technical judgment was made of the extent to which mitigation will reduce 'as predicted' impacts. Second, a subjective value was placed on the significance of residual impacts, using criteria and tests described below.

Assessed significance was found as a product of intensity and importance as given below;
Intensity x importance = significance

In the above equation, intensity refers to the quantitative characteristics (magnitude, frequency of occurrence, duration etc) of the impact while the importance is based on value that the affected stakeholders place on the impact. Intensity is based on facts on the impact while the attached importance

is quite subjective and is so much influenced by the perceived value. The following key will be used in the allocation of significance and importance.

Table 6.5 Key areas for evaluation of impact intensity, importance and significance

Range	Intensity	Importance	Significance range	Significance
1	Extremely low intensity	Extremely low importance	1 - <5	Extremely low significance
2	Low intensity	Low importance	5 - <10	Low significance
3	Moderate intensity	Moderate importance	10 - <15	Moderate significance
4	High intensity	High importance	15 - <20	High significance
5	Extremely high intensity	Extremely high importance	20 - 25	Extremely high significance

The conventional classification was applied for both the positive and negative impacts with the only difference being that when considering positive impacts, enhancement measures will be applicable while mitigation was applied to negative impacts. The "as predicted significance" pertains to unmitigated negative impacts and also level of positive benefit had before any enhancement measures. The residual significance refers to the magnitude of negative impacts that remain even after mitigation and also refers to the level of positive benefit after the enhancement measures are implemented.

Table 6.6 Evaluation of Impacts for the Forestry Commission Component

Positive Impacts			
Impact 1	**Adequate game water supply.**		
Predicted significance	Intensity	Importance	Significance
	3	5	15
Enhancement required	Conduct detailed groundwater assessment. Install flow regulation system to avoid water wasting. Conduct capacity testing regularly. Register boreholes with ZINWA for legal compliance. Ensure water quality through water quality surveillance. Guard against poacher related water poisoning.		
Resultant significance	5	5	25
Impact 2	**Reduced poaching activities**		
Predicted significance	3	5	15
Enhancement required	Network anti-poaching with local communities and all key stakeholders. Enhance CAMPFIRE activities in local communities to increase the sense of ownership amongst community members. Liaise with law enforcement to ensure more punitive punishment for poaching.		
Residual significance	4	5	20
Impact 3	**Reduced veldt fires.**		
Predicted significance	2	5	10
Enhancement required	Conduct veldt fire management awareness in local communities. Equip fire fighters with training and equipment. Install adequate and standard fireguards network.		
Residual significance	4	5	15
Impact 4	**Improved forest management.**		

Predicted significance	4	5	20
Enhancement required	Fire management. Minimize tree cutting for firewood. Establish and official firewood sales through CAMPFIRE activities. Control timber harvesting. Maintain sustainable game population.		
Resultant significance	5	5	25
Impact 5	**Institutional capacity strengthening.**		
Predicted significance	4	5	20
Enhancement required	Include indigenous knowledge systems.		
Residual significance	5	5	25
Impact 6	**Rejuvenation of natural habitats from sustainable forest management.**		
Predicted significance	4	5	20
Enhancement required	Fire management. Minimize tree cutting for firewood. Establish and official firewood sales through CAMPFIRE activities. Control timber harvesting. Maintain sustainable game population.		
Residual significance	5	5	25
Negative Impacts			
Impact 7	**Restriction of access to protected forests.**		
Predicted significance	5	5	25
Mitigation required	Establish some compensatory activities that will benefit local communities through CAMPFIRE.		
Residual significance	4	4	16

Impact 8	**Human-wildlife conflict due to straying wild animals.**		
Predicted significance	5	5	25
Mitigation required	Increase residence time of wildlife within the forest area through improved permeability within the source area. Enhance CAMPFIRE activities as tradeoff with communities. Where possible compensate individual losses. Make conflict management organic by engaging the affected communities continuously. Implement indigenous knowledge in reducing permeability in local communities.		
Residual significance	4	4	16
Impact 9	**Depletion of groundwater resources.**		
Predicted significance	3	5	15
Mitigation required	Implement water conservation. Monitor water consumption at pumping point. Institute regular capacity test to detect early water shortage early and understand recharge rates for the aquifers. Register boreholes with ZINWA. Install flow regulation to avoid water wasting.		
Residual significance	2	5	10
Impact 10	**Overstocking of wildlife within the Forest area.**		
Predicted significance	4	4	16
Mitigation required	Conduct carrying capacity assessments. Maintain sustainable wildlife carrying capacity. Integrate capacity management with the wildlife source area.		
Residual significance	1	4	4
Impact 11	**Noise to animals during borehole drilling.**		

Predicted significance	3	3	9
Mitigation required	Avoid drilling in sensitive ecosystem like estuaries. Avoid drilling during high presence of wildlife in the area.		
Residual significance	2	3	6
Impact 12	**Vegetation destruction to open roads for borehole drilling machines.**		
Predicted significance	3	4	12
Mitigation required	Use existing tracks where possible. Cut trees in a way that allows re-growth. Avoid trees strategically.		
Residual significance	2	4	8
Impact 13	**Soil erosion potential during water holes construction.**		
Predicted significance	3	4	12
Mitigation required	Avoid loosening the soil during the rainy season.		
Residual significance	2	8	12
Impact 14	**Mosquito breeding at water points.**		
Predicted significance	2	5	10
Mitigation required	Institute environment friendly malaria control program eg deliberate disturbing water stagnation through pressurized sprays. Avoid using chemicals.		
Residual significance	0-1	5	0-5

Table 6.7 Evaluation of Impacts for the Parks and Wildlife Management Authority Component

Positive Impacts			
Impact 1	**Adequate game water supply improving the source capacity.**		
Predicted significance	Intensity	Importance	Significance
	3	5	15
Enhancement required	Conduct detailed groundwater assessment. Install flow regulation system to avoid water wasting. Conduct capacity testing regularly. Register boreholes with ZINWA for legal compliance. Ensure water quality through water quality surveillance. Guard against poacher related water poisoning.		
Resultant significance	5	5	25
Impact 2	**Reduced poaching activities increasing permeability within the HSBC.**		
Predicted significance	3	5	15
Enhancement required	Network anti-poaching activities with local communities and all key stakeholders. Enhance CAMPFIRE activities in local communities to increase the sense of ownership amongst community members. Liaise with law enforcement to ensure more punitive punishment for poaching.		
Residual significance	4	5	20
Impact 3	**Reduced veldt fires.**		
Predicted significance	2	5	10
Enhancement required	Conduct veldt fire management awareness in local communities. Equip fire fighters with training and equipment. Install adequate and standard fireguards network.		
Residual significance	4	5	15
Impact 4	**Improved Park management**		

Predicted significance	4	5	20
Enhancement required	Effective fire management. Minimize tree cutting for firewood. Establish an official firewood sale through CAMPFIRE activities. Control timber harvesting. Maintain sustainable game population.		
Resultant significance	5	5	25
Impact 5	**Institutional capacity strengthened.**		
Predicted significance	4	5	20
Enhancement required	Include indigenous knowledge systems in park management.		
Residual significance	5	5	25
Impact 6	**Rejuvenation of natural habitats from sustainable park management practices.**		
Predicted significance	4	5	20
Enhancement required	Fire management. Minimize tree cutting for firewood. Establish and official firewood sales through CAMPFIRE activities. Control timber harvesting. Maintain sustainable game population.		
Residual significance	5	5	25
Negative Impacts			
Impact 7	**Human-wildlife conflict due to straying wild animals.**		
Predicted significance	5	5	25

Mitigation required	Increase residence time of wildlife within the forest area through improved permeability within the source area. Enhance CAMPFIRE activities as tradeoff with communities. Where possible compensate individual losses. Make conflict management organic by engaging the affected communities continuously. Implement indigenous knowledge in reducing permeability in local communities.		
Residual significance	4	4	16
Impact 8	**Depletion of groundwater resources.**		
Predicted significance	3	5	15
Mitigation required	Implement water conservation. Monitor water consumption at pumping point. Institute regular capacity test to detect water shortage early and understand recharge rates for the aquifers. Register boreholes with ZINWA. Install flow regulation to avoid water wasting.		
Residual significance	2	5	10
Impact 9	**Overstocking of wildlife within the park area.**		
Predicted significance	4	4	16
Mitigation required	Conduct carrying capacity assessments. Maintain sustainable wildlife carrying capacity. Regulate hunting quotas.		
Residual significance	1	4	4
Impact 10	**Noise pollution to animals during borehole drilling.**		
Predicted significance	3	3	9
Mitigation required	Avoid drilling in sensitive ecosystems like estuaries. Avoid drilling during high presence of wildlife in the area.		

Residual significance	2	3	6
Impact 11	**Vegetation destruction to open roads for borehole drilling machines.**		
Predicted significance	3	3	9
Mitigation required	Use existing tracks where possible. Cut trees in a way that allows re-growth. Avoid trees strategically.		
Residual significance	2	3	9
Impact 12	**Soil erosion potential during water holes construction.**		
Predicted significance	3	3	9
Mitigation required	Avoid loosening the soil during the rainy season.		
Residual significance	2	3	6
Impact 13	**Mosquito breeding at water points.**		
Predicted significance	3	5	15
Mitigation required	Institute environment friendly malaria control program eg deliberate disturbing water stagnation through pressurized sprays.		
Residual significance	2	5	10
Impact 14	Interference with physical cultural resources		
Predicted significance	1	5	10
Mitigation required	Consult the local traditional leaders and individual families how they want their graves and other cultural resources to be treated in the event of relocation. Liaise with responsible government departments like Police and National Museums and Monuments.		

Residual significance	0-1	5	0-5

Table 6.8 Evaluation of Impacts for the CAMPFIRE ASSOCIATION Component

Positive Impacts			
Impact 1	**Improved knowledge of ecological conditions of HSBC project area of Sidinda.**		
Predicted significance	Intensity	Importance	Significance
	3	5	15
Enhancement required	Disseminate the generated information to key stakeholders including local community in their local language. Ensure beneficial use of information to project stakeholders, the HSBC and the nation at large.		
Resultant significance	5	5	25
Impact 2	**Institutional capacity strengthened.**		
Predicted significance	3	5	15
Enhancement required	The scope of institutional capacity strengthening should include local community's networks and structures, not only restricted implementing agency and corporate partners.		
Residual significance	5	5	25
Impact 3	**Improved livelihoods from safari hunting and guinea fowl project activities.**		
Predicted significance	3	5	15

Enhancement required	Ensure quality control of eggs brought from communities to ensure they are not hunted from wild guinea fowls. The profit sharing should include emolument to non participating community institutions like clinics and schools, chief's office. A sustainable profit sharing which is futurist and in view potential economies of in the expanded pilot. Ensure transparency in cost accounting so that community participants appreciate direct costs involved.		
Residual significance	5	5	25
Impact 4	**Reduced human wildlife conflicts.**		
Predicted significance	3	5	15
Enhancement required	Increase residence time of wildlife within the forest area through improved permeability within the source area. Enhance CAMPFIRE activities as tradeoff with communities. Where possible compensate individual losses. Make conflict management organic by engaging the affected communities continuously. Implement indigenous knowledge in reducing permeability in local communities.		
Resultant significance	4	5	20
Impact 5	**Reduced poaching activities.**		
Predicted significance	3	5	20
Enhancement required	Involve community networks as part of anti-poaching initiatives. Include		
Residual significance	5	5	25
Negative Impacts			
Impact 6	**Food competition between guinea fowls and other household stakeholders like people and chickens.**		

Predicted significance	5	5	25
Mitigation required	Maintain sustainable stock of guinea fowl at household level. Include supplementary feeding to prevent food competition.		
Residual significance	2	5	10
Impact 7	**Hunting of wild guinea fowl eggs to supplement household quarters at the central fowl run, thereby depleting wild guinea fowls stock.**		
Predicted significance	5	5	25
Mitigation required	Maintain quality assurance for incoming guinea fowls eggs to ensure they are only from domesticated guinea fowls.		
Residual significance	1	5	25
Impact 8	**Change of land use at the location of guinea fowl activities.**		
Predicted significance	4	5	25
Mitigation required	RDC should facilitate identification and acquisition of free land for combined community projects.		
Residual significance	0-1	5	0-5
Impact 9	**Pollution (odor, waste) from guinea fowl activities.**		
Predicted significance	2	5	10
Mitigation required	Provide for adequate land that is well aerated. Keep fowl run clean and compost solid waste. Include effluent treatment before discharge where required. Regularize waste disposal with EMA where required.		
Residual significance	0-1	5	0-5
Impact 10	**Noise pollution from live guinea fowls at the guinea fowl project area.**		

Predicted significance	4	4	16
Mitigation required	Locate the fowl run away from human settlements. Create adequate buffer between fowl run and settlements.		
Residual significance	2	3	6
Impact 11	**Conflict within the participating and non participating wards.**		
Predicted significance	3	5	15
Mitigation required	Configure profit sharing to cater for non participating community members through an emolument to community institutions like schools, clinics and chief's office. Forecast the profit sharing with the expanded pilot in mind so that future economies of scale are brought in picture now, this will avoid changing future individual emoluments. Ensure transparency in cost accounting so that community participants appreciate direct costs involved.		
Residual significance	0-1	5	0-5
Impact 12	**Depletion of game stock due to increased hunting quotas.**		
Predicted significance	3	5	15
Mitigation required	Assess the carrying capacity and configure the hunting quotas in line with the restocking rate.		
Residual significance	0-1	5	0-5

Table 6.9 Evaluation of Impacts for the EMA Component

Positive Impacts			
Impact 1	**Degraded land rehabilitated.**		
Predicted significance	Intensity	Importance	Significance
	4	5	20
Enhancement required	Prevent future degradation on the same rehabilitated land.		
Resultant significance	5	5	25
Impact 2	**Threatened infrastructure rescued.**		
Predicted significance	3	5	15
Enhancement required	Property owners should take ownership of maintenance to avoid recurrence.		
Residual significance	5	5	25
Impact 3	**Improved knowledge on micro catchment protection especially in sodic soils, wetlands and river banks.**		
Predicted significance	3	5	15
Enhancement required	Share the information for use in similar catchments within the country. Disseminate knowledge to local community as well.		
Residual significance	5	5	25
Impact 4	**Improved livelihood through high productivity crops in stream banks and wetlands.**		
Predicted significance	3	5	15

Enhancement required	Use crops that do not require intensive maintenance so as to avoid soil erosion eg bananas, sugar cane, and traditional rice.		
Resultant significance	4	5	20
Impact 5	**Employment creating at rehabilitation activities.**		
Predicted significance	2	5	10
Enhancement required	Maximize local employment and pay sustainable wages.		
Residual significance	5	5	25
Impact 6	**Institutional capacity strengthening.**		
Predicted significance	4	5	20
Enhancement required	Include local community networks and structure in capacity building.		
Residual significance	5	5	25
Negative Impacts			
Impact 7	**Erosion potential from stream bank cropping and mechanized machines.**		
Predicted significance	5	5	25
Mitigation required	Select crops that do not require constant working of soil, enhance ground cover and that has high soil binding effect.		
Residual significance	3	5	15
Impact 8	Over-draining of the wetlands.		
Predicted significance	5	5	25

Mitigation required	Maintain water retention capacity of the wetland.		
Residual significance	3	5	15
Impact 9	**Occupational safety and health.**		
Predicted significance	4	5	20
Mitigation required	Ensure safe work procedures. Supply personal protective equipment. Eliminate ergonomics from the equipment. Mainstream HIV and AIDS at the workplace. Maintain work nutrition.		
Residual significance	0-1	5	0-5
Impact 10	**Interference with natural drainage.**		
Predicted significance	4	5	20
Mitigation required	Incorporate catchment drainage planning. Where possible institute water harvesting.		
Residual significance	1	5	5
Impact 11	**Interference with community relations by contractors.**		
Predicted significance	3	3	9
Mitigation required	Induct contractors on community relations.		
Residual significance	0-1	3	0-3
Impact 12	**Conflict within the participating and non participating community members.**		
Predicted significance	5	5	25

Mitigation required	Recruitment of workers should be very objective to avoid community unrest. An assisted volunteer approach may be necessary as screening method.		
Residual significance	2	5	10
Impact 13	**Interference with farming operation when looking for stones for gully rehabilitation.**		
Predicted significance	3	5	15
Mitigation required	Fetch stones when there are no crops. Avoid heavy machinery on farming land to avoid compaction of farming land.		
Residual significance	0-1	5	0-5

CHAPTER 7

ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORINGPLAN (ESMMP)

7.1 ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN

INTRODUCTION

The management and monitoring plan presents a summary of management initiatives that will be required to ensure the identified potential negative and positive impacts are mitigated and maximized respectively. It also indicates who will be responsible for undertaking the management initiative. The monitoring and evaluation indicators are also tabled in this chapter. Where there are budgetary implications besides the common project costs, they will be indicated specifically. The chapter also lays down the plan for monitoring the potential impacts during project implementation and decommissioning stages. In some cases the implementing agents would need the assistance of a consultant to adequately formulate local area and more specific Environment and Social Impact Assessments after project appraisal. It is important that the proponent implements this ESMF with reference to the impact analysis and evaluation chapters which have more detail on the impacts and the suggested mitigation measures. The ESMMP summarized the impacts and configured them into objectives that can be pursued sustainably for both the biophysical and the socio-economic impacts.

Table 7.1: ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN

Environmental objective	Activities	Indicator / Milestones	Time	Resources required (usd)	Responsibility
Minimize land degradation from trenching and excavations in game water points drilling and construction.	Rehabilitate all trenched areas and borrow areas by sequential backfilling and slope stabilization.	All trenches backfilled	Construction phase.	Contractors to provide for this in their bid in view of the water points designs.	Contractor implements. Parks and Forestry Commission give internal supervision. EMA give regulatory monitoring. Supervisory consultant optional.
		Pond wall fill material-borrow areas rehabilitated.			
Prevent soil erosion continually during the construction phase.	EMA land rehabilitation and riverbank cropping.	Soil erosion prevented.	Construction and Operation phase.	0.00	Contractor implements. Parks and Forestry Commission give internal supervision. EMA give regulatory monitoring. Supervisory consultant optional.
	Forestry and Parks water points construction.	Water holes walls not eroding		0.00	
Minimize vegetation destruction in construction of water points.	Selective cutting of trees.	Trees strategically avoided.	Construction phase	0.00	Contractor implements. Parks and Forestry Commission give internal supervision. EMA give regulatory monitoring. Supervisory consultant optional.
	Allow natural re-vegetation through soil profiling.	Systematic replacement of top and subsoil.		0.00	
	Use existing roads where possible.	New roads minimized.		0.00	

Maintain sustainable wildlife stocks and wellbeing.	Avoid over hunting.	Hunting quotas regulated.	Operation phase.	0.00	Parks, Forestry and CAMPFIRE implement. Local Communities involved. EMA give regulatory monitoring. Supervision Consultant optional.
	Provide adequate water supply.	Abstraction and flow records kept.		Project cost.	
	Control veldt fires.	Veldt fire managed.		Project cost.	
	Regulate tree cutting for fire wood.	Regulated tree cutting.		0.00	
Avoid over abstraction of groundwater sources.	EMA monitors wetland cultivation.	Trend assessment of wetland characteristics.	Construction and Operation phase.	0.00	EMA, Parks and Forestry Commission implement. ZINWA give regulatory monitoring. Supervision consultant optional.
	Parks and Forestry monitor borehole abstractions.	Detailed hydrogeological assessment before drilling boreholes.		0.00	
		Capacity tests of boreholes regularly.		0.00	
Prevent water pollution.	CAMPFIRE livelihoods component.	Waste and effluent compliant with EMA regulations.	Operation phase.	The design of project to consider waste pollution management.	CAMPFIRE implements. EMA monitors. Supervision consultant optional.
Eliminate Occupational Health and Safety Hazards at all construction areas continuously.	Maintain safe work environment and procedures continually.	Work procedures in place.	Planning, Construction and Operation phases.	Contractors to include the costs in their bids.	Contractor implements. EMA, Parks and Forestry give internal supervision. NSSA and Ministry of Health give regulatory monitoring. Supervision consultant optional.
	Inform the residents about ongoing works through notice boards, barricades, reflective liners and detours.	Informed public and employees.			
	Supply of adequate and appropriate personal	Appropriate PPE issued correctly.			

	protective equipment to employees and community whenever they are involved.				
	Conduct industrial hygiene at all contractor camps.	Water, Sanitation and HIV mainstreamed.			
Prevent land use conflicts.	All RDC land used for the project should be documented.	Consent of neighbouring land users.	Planning phase.	To be developed on subproject level.	CAMPFIRE implements. Ministry of Lands and RDC monitor. Supervision consultant optional.
Comply with all applicable World Bank Environment and Social Safeguards Policies.	O.P 4.01 Environmental Assessments.	4 Subproject screening and appropriate environmental Management tools. EMA EIA certificate or exemption letter.	Planning phase.	100,000.00 Travel and subsistence for subproject screening, ESIA and EMPs formulations and consultancy fees where required. Usd 25,000 for each subproject.	Subproject implementing agencies implement. WWF/World Bank monitor. Supervision consultant optional.
	O.P 4.04 Natural Habitats.	Habitat management emphasized in respective ESMPs.	Planning phase		
	O.P 4.36 – Forest Protection	Forest Management Plan and Park Management Plan as part of subproject management tools.	Planning phase	This is part of the project scope so detailed design should consider related costs.	
	O.P 4.11- Physical Cultural Resources.	Subproject screening and ESMPs to include physical cultural resources.	Planning phase.	Covered in the subprojects screening budget.	
	O.P 4.12 – Involuntary	Process Framework	Planning and Implementati	Project design to cater for this.	

	O.P 4.12 – Involuntary Resettlement.	Process Framework followed.	Planning and Implementation phases.	Project design to cater for this.	
	O.P 4.10 Indigenous Peoples.	Indigenous People Planning Framework followed.	Planning and implementation phases.	Project design to catter for this.	
Environment and Social Safeguards Training.	Safeguards Training.	Trained project staff.	Planning and implementation phases.	54,000.00 Once off activity. 54 people (42 from 6 districts and 12 from head offices) @ usd 1,000.00 per person for 5 days inclusive.	Project coordination (WWF) implements. World Bank Project supervision monitors.
Disclosure of ESMF and latter instruments.	Disclosure of the ESMF conclusions.	ESMF and major screening outcomes disclosed.	Planning and implementation.	15,000.00. Public notices, brochures, stakeholder meetings.	MWEC implements. WWF/ World Bank monitor.
Monitoring and Evaluation.	Conduct annual stakeholder consultation meetings in project areas for feedback and updates.	Annual stakeholder meetings.	Planning and implementation phases.	10,000.00 Annually especially for the process framework implementation.	All implementing partners. Local leaders. Monitor. Supervision consultant optional.
	Safeguards section in all project progress reports.	Project progress reports with safeguards section.		0.00	Project coordination (WWF). World Bank Project supervision.
	Monthly, Quarterly and annual ESM reports or as and when required.	Subproject reports containing a safeguards section.		10,000.00 Project oversight by head offices.	Implementing agencies report. WWF monitors. Supervision consultant

COMMENT ON IPPF BDUGET

One of the key objectives of the IPPF is to ensure that any potential adverse impact on the IP are identified, avoided, minimized, mitigated or compensated. As discussed in chapter 6, the Parks operations impact on the host community by way of restricting access to the park. This restriction is more pronounced on the San People because they have a historical attachment to the park area in that they were relocated in the 1920s to pave way for the park. There are reports that the San People are particularly running short of water and in some cases they live outside there local areas insearch for water for their cattle. Looking at the fact that the Parks subproject aims at supplying water in the HNP, the San People may see this negatively in that the project is supplying water in the HNP where they were involuntarily resettled from yet they themselves have no adequate water supply in the new area they were resettled in. To quench this thought, it would have been more friendly and enhancing if the project had a small budget to address water supply challenges in the San community. According to the Tsoro-o-tso San Development Trust and the Habbakuk Trust, there is a prevalent thought in the San Communities for reinstatement in the HNP because their livelihoods have been adversely affected by living outside the traditional land (HNP). Investing in water supply for the San community would be taken as a positive gesture that will enhance their livelihoods outside the park areas and quench the rememberance of the San People traditional and ancestral habitation..

CHAPTER 8

INSTITUTIONAL ARRANGEMENTS AND CAPACITY

8.1 INTRODUCTION

The HSBC project is being implemented by the Ministry of Environment, Water and Climate through four implementing agencies that are coordinated by the fifth organization. This implementation arrangement creates a delicate scenario where every implementing agency is expected to be at the same implementation efficiency with the others in terms of time management and documentation. In addition to the complexities brought about by the four different organizations, there is also participation of other key government departments like the Ministry of Lands and the District Administrator who are key to the implementation of the key processes like the resettlement action plans. The local communities, local leadership and interested NGOs will also be actively involved in the implementation of the project.

8.2 INSTITUTIONAL CAPACITIES

MANPOWER ESTABLISHMENT

CAMPFIRE has a compliment of eight staff centrally located in Harare and technically supported by CAMPFIRE departments within participating districts. EMA has a staff compliment of 260 people strategically located throughout the country. The organization has representation at ward and village level through the ward environmental management committee and village volunteer environmental monitors. Forestry Commission has a staff compliment of 673 people strategically located throughout the country with an officer located at every district office. The Authority has a staff compliment of 3 225 people strategically located throughout the country provincial offices and specific wildlife management areas. The general qualifications of all the above personnel at head office, provincial and district level is a minimum of a degree in the natural sciences. The observation is that the scientific background of most officers make them struggles to appreciate the deeper aspects of the Bank social safeguards due to the inclination towards the biophysical environment. However; the staff has capacity appreciate and integrate

the broad environmental perspective that should cover the social, economic and cultural dimension if they are well inducted and trained on the full spectrum of the Bank Environment and Social Safeguards.

8.3 TRAINING

While the above implementation players have personnel in place for the implementation of the project, there is need for training on the general World Bank Environment and Social Safeguards so that the implementation of these safeguards is smoother and more understood amongst the implementing partners. The staff will also need training on the use of the various safeguards tools including the screening forms and formulation of specific safeguards tools where required. This training should be extended to the District personnel that will be partnering with the immediate implementing agencies. These District personnel include;

- Government departments at local district offices.
- District Administrators.
- Traditional leaders.
- Local NGOs.

CHAPTER 9

SUBPROJECT SCREENING PROCESS

9.1 INTRODUCTION

Specific details and locations of the project activities, for the HSBC Project are not yet fully known at this time. Therefore, the environmental and social screening process (the screening process) is necessary for the review and approval of the project. The objectives of the screening process are to:

a) Determine which project activities are likely to have potential negative environmental and social impacts.

b) Determine the level of environmental work required i.e. whether an ESIA is required or not.

c) Determine appropriate mitigation measures for addressing adverse impacts.

d) Incorporate mitigation measures into the project implementation.

e) Indicate the need for any World Bank Social Safeguards Tools (ESMP and Indigenous Peoples Plan).

f) Facilitate the review and approval of the environment and social management tools proposed.

g) Provide guidelines for monitoring environmental and social parameters during the project implementation.

The extent of environmental and social assessment work that might be required, prior to the commencement of project, will depend on the outcome of the screening process described below in sections (steps 1-4).

9.2 SCREENING OF PROJECT ACTIVITIES AND SITES

The Environment Management Act (CAP 20:27), first schedule list the projects that are prescribed for EIA prior to implementation. In the event that there is a subproject that falls within this category, an Environmental and Social Impact Assessment is required. However, where it is not clear that the subproject activities fall under the list, this procedure shall apply.

A. SCREENING AND PROSPECTUS SUBMISSION

The subproject implementing agency project team (multi-disciplinary) or designate shall conduct subproject screening and submit the screening outcome to the EMA District Office for review in a detailed prospectus. Where EMA is the subproject implementing agency, the Ministry of Environment, Water and Climate will be the reviewer of the prospectus or EMA will appoint some agent to formulate the prospectus for review by EMA. As part of the screening process, the screening team shall undertake the following activities;

i. To ensure that the screening form is completed correctly for the various project locations and activities. Training should first be provided to members of the subproject screening team prior to screening.

ii. Conduct detailed desk review of the project description and design.

iii. Carry out the initial screening in the field, through the use of the Environmental and Social Screening Form (Appendix 1). This form should be completed by personnel qualified in the implementation of the screening process. The screening form, when correctly completed, will facilitate the identification of potential environmental and social impacts, the determination of their significance, the assignment of the appropriate environmental category, the determination of appropriate environmental mitigation measures, and the need to conduct an ESIA and or IPP where required.

iv. Document the screening outcome in a prospectus. The structure and contents of the prospectus shall include the following;

- ✓ Details of the proponent.
- ✓ Basic project description outlining project size, purpose, location, preliminary design, alternatives, technology, construction and operation procedures.
- ✓ Site plan and location details.
- ✓ Site key stakeholders to the project and how they have or will be consulted.
- ✓ Summary of stakeholder submissions.
- ✓ Overview of the environmental and social impacts related to the project.
- ✓ World Bank Social Safeguards applicable to the project and overview of compliance requirement.
- ✓ Discuss management measures applicable to the project.

- ✓ Recommendation and justification for the screening outcome (whether ESIA is required or not).
- ✓ Attach screening forms and location maps used during screening.

B. PROSPECTUS REVIEW AND OUTCOMES

EMA will review the prospectus within 20 days of submission. As part of the review process, EMA will relay the prospectus through the provincial office to the head office. Field inspections and consultations will also be conducted where deemed necessary. Depending on the scope of the subproject and its associated environmental and social impacts, EMA will either exempt the project or prescribe that an ESIA be conducted. An exemption letter or certificate will be issued. Depending on the scope of the project and its environment and social impacts, the following instruments may be required as part of the ESIA;

- ✓ EMP
  - ➢ Implement the project with suggested mitigation measures of the prospectus
  - ➢ Formulate a detailed EMP.
- ✓ SMP
  - ➢ IPP

9.3 CARRYING OUT ENVIRONMENTAL AND SOCIAL WORK

When it has been determined that an ESIA is required, the following activities shall be undertaken;

i. Formulation of the TORs for the ESIA by the respective subproject implementing agency.
ii. Recruitment of the ESIA consultancy service provider.
iii. Conducting of the ESIA process by a consultant including public consultation.
iv. Review and certification of the ESIA by EMA and clearance by the World Bank.
v. Disclosure of review outcome to key stakeholders.
vi. Implementation, Monitoring and Evaluation of ESMP.

The detailed ESIA will be subject to review through the National ESIA standards and the World Bank standards. Where there is deviation, the World Bank standards will prevail.

9.4 PUBLIC CONSULTATION AND DISCLOSURE

According to the Environment Management Act (CAP 20:27), public consultations are an integral component of the ESIA requirements, and the ESIA guidelines identify the following principal elements:

a) Developers are required to conduct public consultation during the preparation of Project Briefs and ESlAs.

b) The Environmental Management Agency may conduct own public consultation to verify the works of a proponent.

c) The ESIA report is available to the public for the purpose of litigation or project related third party losses.

d) The ESIA guidelines provide guidance on method of public consultation. Such methods include press conferences, information notices, brochures/fliers, interviews, questionnaires and polls, open houses, community meetings, advisory committees, and public hearings.

e) The Ministry will issue a disclosure letter to inform the World Bank of;

   (i) The Government's approval of the ESMP.

   (ii) The Government's authorization to the Bank to disclose these documents in its Info shop in Washington D.C.

f) The Government will disclose the project locally as follows;

   i. As part of the stakeholder consultation during the ESMF.

   ii. When the ESMF has been finalized. This will contain the summary of the ESMF and where the ESMF can be found by any interested party.

   iii. When there is a major screening outcome.

APPENDICES

APPENDIX A- SCREENING FORM

SCREENING FORM

1. **Instructions to members:**

- This form shall be jointly completed by the screening team, therefore thorough discussion and consultation is required during the screening process and a desk review before field project review.
- Attach maps and sketches used during screening.

2. **Names of the screening team members:** ----------

General Project description :----------

3. **Impact identification**

Impact on	Impact analysis								Mitigation	Significance		
	Nature	Reverse	Extent	Size	Timing	Duration	Probability	Importance				
Physical features										**L**	**M**	**H**
Soil quality												
Drainage												
Topography												
Surface water quality												
Surface Water flows												
Ground water supply												
Wetlands												
Air												
Aesthetics												
Climate												
Biotic features												
Forest												

Vegetation in general											
Rare plants											
Protected parks											
Wildlife – Small mammals											
Wildlife – Big mammals											
Wildlife- Birds											
Wetlands											
Forests											
Socio-economic & cultural											
Land ownership											
Farming operations											
Fishing operations											
Wildlife viewing											
Commercial hunting											
Commercial logging											
Commercial fishing											
General livelihoods											
Human wildlife conflict											
HIV and AIDS											
Occupational safety and health.											
Recreational facilities											
Education access											
Health access											
General security											
World Bank Social Safeguards											
Physical Cultural resources											
Indigenous Peoples											
Involuntary Resettlement											
Disputed lands											
Dam safety											
International water											
Pesticides											
Forest											
Habitat											
Overall significance and discussion											
Recommended screening outcome for subproject and discussion											

4. Signatures of screening team members

Name	Designation	Signature	Date

APPENDIX B

PUBLIC NOTICE

PUBLIC NOTICE

Chronicle – Wednesday 06 November 2013 [Page 10]

Herald – Wednesday 06 November 2013 [Page B3]

THE GOVERNMENT OF ZIMBABWE

HWANGE SANYATI BIOLOGICAL CORRIDOR (HSBC)

ENVIRONMENT MANAGEMENT AND CONSERVATION PROJECT

ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK FORMULATION

The Government of Zimbabwe is implementing the HSBC Environment Management and Conservation Project with the assistance of the Global Environment Fund (GEF) through the World Bank. The corridor covers an approximate area of **5 697 137 ha / 56 971.37 Kms²** spanning through 6 administrative districts namely Nyaminyami (*Kariba*), Gokwe North, Kusile (*Lupane*), Hwange, Tsholotsho and Binga. The project is co-ordinated by WWF and implemented through four implementing partners namely the Environmental Management Agency (EMA), CAMPFIRE, Forestry Commission and the Parks and Wildlife Management Authority with the full participation of all stakeholders.

EMA's focal area is land degradation and will be targeting the Ume micro catchment in the Gokwe North District to begin with. Its specific outputs are:

- Environmental baseline for micro-catchment protection and management established, Land rehabilitation and protection initiatives that are based on sustainable models implemented; and Enabling conditions for environmental protection and management put in place.

Forestry Commission's focal area is Climate Change interventions that will be implemented in the Ngamo and Sikume Forests in the Hwange District. Its outputs are:

- Pilot REDD+ project developed and implemented; Incidence of forest fires curtailed; Extent of commercial timber and wildlife poaching reduced and Game water supply improved.

The Parks and Wildlife Management is focusing on biodiversity management in Hwange National Park in Hwange District. Its specific outputs are:

- The functioning of the park's ecosystem better understood, Game water supply improved, Extent of wildlife poaching reduced, Incidence of veld fires curtailed and Pilot REDD+ project developed and piloted.

CAMPFIRE Association is addressing the livelihoods component of the project starting with the Tsholotsho, Hwange and Binga Districts. Specific project outputs are:

- Enhanced community incomes and welfare through revamped hunting safari operations in Sidinda ward of Hwange district (Project 1), Improved human and wildlife conflict management in selected wards of Tsholotsho district (Project 2) and Enhanced household income and nutrition security through intensive and commercial guinea fowl production as part of LEAPs in selected wards (Simuntele and Manjolo) of Binga district (Project 3).

As part of the Ministry's commitment to the Environment Management Act, the World Bank Environment and Social Safeguards Policy and attaining best practices, the Ministry is in the process of preparing an Environment and Social Management Framework. The objective of the ESMF is to ensure that sustainable environment and social management practices are incorporated in the project design finalization. Amongst the issues that the ESMF will closely provide for are; Environmental and Social Impact Assessments for respective subprojects, Habitat and Biodiversity Management, Forests Areas Management, Involuntary Relocations where applicable, Restriction of access to protected areas by surrounding communities, Cultural Heritage, Indigenous People, International Waters and Dam Safety where applicable.

The Ministry hereby invites comments from any interested and affected stakeholders. More information can be obtained from the Head Offices or District Offices for the implementing agencies (EMA, Forestry Commission, Parks and Wildlife and CAMPFIRE Association). Stakeholder submissions may be forwarded to any of the above offices and to **Waterkings Environment Consultancy, 61-72B, 3rd Avenue, Parktown, Harare. Telephone 04 2916600,** mobile phone **0772 246433,** email **wmuti@mweb.co.zw**. Though stakeholder consultation will be maintained throughout the project life, the ESMF will be submitted for finalization after **11th November, 2013** and any submissions thereafter will be considered for the respective subprojects EMPs.

APPENDIX C
LIST OF CONSULTED STAKEHOLDERS
BINGA- CAMPFIRE

NAME OF STAKEHOLDER	ORGANISATION	ID NUMBER	CONTACT DETAILS
Lydia Banda-Ndethi	DA	08-539674D08	0773496425
Munkuli Robert	Min Women Affairs	06-015935J06	0779869592
Lameck Muntanda	RDC	08-574747R06	0772509364
Moyo Nomusa	Parks Wildlife	08-553919M53	0712363017 nomusamoyo980@gmail.com
Mujoni P Mumpande	Kulima Mbobumi Training centre	08-179755M06	Kmtc@iway.co.zw
Kiya Mleya	Councilor	O8-216393L06	Buye Kraal, Box 54Binga
Mweembe Cosmas	Manjolo Springs Pre school	06-030598X06	O773290231/0712076016 cosmasmweembe@gmail.com
Mudungwe Regret	Min of Social Welfares	29185436Z22	regretmudungwe@yahoo.com
Mugande S	Min of youth Ind & Empwrmnt	79-062237N06	0772617355
Chief Binga and Headmen	Chief	08-055965H06	0776506218
Rodreck Nyahwai	Forestry Commission	22-169538Y27	0772650913 rdbaherbby@gmail .com
Agritex	Agritex	Not provided	Matebeleland north p.o.box 19 binga

CAMPFIRE – TSHOLOTSHO

NAME OF STAKEHOLDER	ORGANISATION	ID NUMBER	CONTACT DETAILS
O.D Ruzawi	EMA	63-2032919C42	0772468494/0387260/dudzieruzawe@gmail.com
Eliot Nkomo	Ward 7 Councilor	08-277349S73	0387/247
Murira Rosmary	Min of Education &Culture	08-302206L27	0712770636
M Muzzah	ZRP	32-063859V70	0772953715
Mahachi Varaidzo	District Social Welfare	22-217911C12	0777670396 mahachieev@gmail.com
Roy Ncube	Ward 10 Councilor	08-434415R-73	O777734695
Mr L Mbewe	Min of youth Dev,Ind & Empowerment	41-032573X73	0713022786 mbewelowana@yahoo.com
Parunofira R	DA	0409615C04	O779499525

EMA- GOKWE NORTH DISTRICT

NAME OF STAKEHOLDER	ORGANISATION	ID NUMBER	CONTACT DETAILS
F. Mudunga	DA	70-074914I70	0777328642 mupunguf@gmail.com
Mlambo	Mlambo shop	58-07517755M26	0713926488
T Chibango	Chabango Warehouse	58D55870F26	0713169153 tzchibango@gmail.com
Daniel Musoni	Shop owner	63-023745V75	0714003562
P Marongwe	Shop Owner	24-0587305D24	0714071639
Lameck Jonathan	Shop Owner	24-043010F24	0777865052
Maziriri	Min of Education	29-100122R12	0773783478/0715695569
Makechemu	Save mass superette	26-156505H26	0714394878
M Vengesa	Business community	Not provided	Not provided
Nkomo Kudzai	Chireya High school	63-836923J26	O771713241 Box 03 Chireya, Gokwe
Ncube Sylvester	Chireya ST Dominics primary	26-085076526	0713808284
Sr Benhilda Chitewe	Chireya Mission Hospital	63-646970N25	0774463467/0712546216/Box 1140Gokwe
Chigova Phillimon	DDF	26-124650H26	0712959727 Gvt complex Nembudziya
Manzini M	Agritex	04-047909A04	0713133465 manzinimartin.mm@gmail.com
Albert m	DA	24-082628T52	albertmajoma@gmail.com
Jakazani	Social Welfare	08-112130G26	0772855824/ngonidzajj@gmail.com
M Wilbert	Agritex	23-043659E23	0713008729/0713133370
Henry Chidzivo	The Paramount Chief	26-081793Z	0778586059 Bag 1072 Gokwe North
O. Mashambo	RDC	24-061558R26	0714737044
Matoro Tinoenda	Min of Youth ,Dev & Empowerment	26-095745P-26	O714163838
O. Mapfuwa	Publics Works	Not given	0712954526/0712959760/0592904

FORESTRY COMMISSION- HWANGE DISTRICT

NAME OF STAKEHOLDER	ORGANISATION	ID NUMBER	CONTACT DETAILS
Milton N Simango	Painted Dog	O8-071718R41	Painted Dog, Box 72 Dete
Stephen Chakoroma	ZRP	15-101668F15	0712597645
Mr Weston Mandiopera	Ministry of youth Dev	63-428158Z34	32543
Amos Guvema	Parks &Wildlife	83-076366X83	O773463114 amosigwema@gmail.com
J.Ncube	Local villager	73-073206x73	Ward 17 Hwange
E Mukucha	NRZ	14-03700P18	0712751328/018-392
D Mambo	Hwange Safari Lodge	79-100799D79	0772730477/0772177221 maint@nsl.africansun.co.zw
Mr Dingani	Chief	Not provided	Not provided
G Shoko	Hwange RDC- Ward 20 Councilor	79-080024x79	0774021266
C Gaba	Ministry of women Affairs	Not provided	Thomas Coulter Annex ,Box 309,Hwnge
Department of Social Welfare	Department of Social Welfare	Not provided	0281-34398/0772755147 macnonchirinepi@gmail.com
Tapera Mugoriya	DA	23-017905L-23	0774 314983 tmugoriya@gmail.com

PWMA – HWANGE

NAME OF STAKEHOLDER	ORGANISATION	ID NUMBER	CONTACT DETAILS
E Mukucha	NRZ	14-037006P18	0712751328/018-392
Wilson Nsimanwo	Painted Dogs conservation	08-071718F41	Box72 Dete
Tapira Mugoriya	DA	23-017905l-23	O774314983-tmugoriya@gmail.com
Department of social welfare	Department of social welfare	Not provided	0281-34398/0772755147
Min of Women Affairs	Min of Women Affairs	Not provided	Thomas Coulter School box 309 Hwange
Weston Mandiopera	Min of youth Development	63-428158Z34	0281-325443
P. Ncube	RDC	79-O31237579	0772897842
Amos Gwema	Parks &Wildlife	83-076366X83	0773463114 amosigwema@gmail.com
G. Shoko	Ward 20 Councillor	79-080024X79	0774021266
K. Chapanda	Ward16 villager	79-2017425E08	Tshabasitsha village
P. Ngwenya	Campfire leader	79-074603E79	0778680736 ward 17 Hwange
D. Mambo	Hwange Safari Lodge	79-100799D79	0772730477/0772177221
Stephen Chikoroma	ZRP	15-101668F15	0712597645
J. B. Dingani	Chief	Not provided	0735551113'o774018581