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IMPLEMENTATION COMPLETION AND RESULTS REPORT

TF-17713

ON A

GRANT FROM THE GLOBAL ENVIRONMENT FACILITY

IN THE AMOUNT OF US$5.64 MILLION

TO THE

Government of Zimbabwe

FOR THE

Hwange-Sanyati Biological Corridor Project
June 30, 2020

Environment, Natural Resources & The Blue Economy Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Apr 21, 2020})

Currency Unit = US$

FISCAL YEAR
July 1 - June 30

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ABBREVIATIONS AND ACRONYMS

BP	Bank Procedure
CAMPFIRE	Community Areas Management Programme for Indigenous Resources
CBD	Convention on Biological diversity
CIWA	Cooperation in International Waters in Africa
EMA	Environmental Management Agency
ESC	Environmental Sub-committee
EOP	End of project
ESIRT	Environmental and Social Incident Reporting Tool (ESIRT)
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization
FC	Forestry Commission
FM	Financial Management
FOM	Field Operations Manual [of WWF]
GEF	Global Environment Facility
GEO	Global Environmental Objective
GIMPA	The Ghana Institute of Management and Public Administration (GIMPA)
GIS	Geographical Information System
GoZ	Government of Zimbabwe
HNP	Hwange National Park
HSBC	Hwange-Sanyati Biological Corridor
HSBCP	Hwange-Sanyati Biological Corridor Project
HWC	Human-wildlife conflict
IAS	Invasive and alien species
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IMF	International Monetary Fund
IPPF	Indigenous Peoples Planning Framework
ISN	Interim Strategy Note
KAZA TFCA	Kavango-Zambezi Transfrontier Conservation Area
M&E	Monitoring and Evaluation
MDTF	Multi-donor trust fund
METT	Management Effectiveness Tracking Tool
MoEWC	Ministry of Environment, Water and Climate
MTR	Mid-term Review
NGO	Non-governmental organization
OP	Operational Policy
ORAF	Operational Risk Assessment Framework
PA	Protected Area

PAD	Project Appraisal Document
PDO	Project Development Objective
PF	Process Framework
PIM	Project Implementation Manual
PPG	Project Preparation Grant
RDC	Rural District Council
REDD+	Reduced Emissions from Deforestation and Forest Degradation
SADC	Southern African Development Community
SFM	Sustainable Forestry Management
STEP	World Bank Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wide Fund for Nature
ZAIP	Zimbabwe Agricultural Investment Plan
ZAMCOM	Zambezi Watercourse Commission
ZPWMA (ZIMPARKS)	Zimbabwe Parks and Wildlife Management Authority (ZIMPARKS)

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P124625	Hwange-Sanyati Biological Corridor Project
Country	**Financing Instrument**
Zimbabwe	Investment Project Financing
Original EA Category	**Revised EA Category**
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
Government of Zimbabwe	World Wide Fund for Nature

Project Development Objective (PDO)

Original PDO

To develop land use and resource management capacity of managers and communities in the Hwange-Sanyati Biological Corridor (HSBC).

FINANCING

	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing			
TF-17713	5,645,000	5,645,000	5,645,000
Total	**5,645,000**	**5,645,000**	**5,645,000**
Non-World Bank Financing			
Borrower/Recipient	13,215,000	13,215,000	14,180,000
World Wildlife Fund	1,500,000	1,500,000	1,850,000
Foreign Multilateral Institutions (unidentified)	550,000	800,000	677,000
Non-Government Organization (NGO) of Borrowing Country	200,000	200,000	180,000
Foreign Private Commercial Sources (unidentified)	3,450,000	3,450,000	200,000
Total	**18,915,000**	**19,165,000**	**17,087,000**
Total Project Cost	**24,560,000**	**24,810,000**	**22,732,000**

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
16-May-2014	22-Jan-2015	22-Jan-2018	30-Jun-2019	31-Dec-2019

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US$M)	Key Revisions
09-May-2019	5.08	Change in Results Framework Change in Loan Closing Date(s)

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	23-Nov-2014	Satisfactory	Satisfactory	.19
02	04-Jun-2015	Satisfactory	Moderately Satisfactory	.70
03	04-Dec-2015	Satisfactory	Moderately Satisfactory	1.01
04	30-May-2016	Satisfactory	Moderately Satisfactory	1.68
05	20-Dec-2016	Satisfactory	Moderately Satisfactory	2.29
06	22-Jun-2017	Satisfactory	Moderately Satisfactory	3.18
07	29-Dec-2017	Satisfactory	Moderately Satisfactory	3.75
08	01-May-2018	Satisfactory	Satisfactory	4.10
09	02-Nov-2018	Satisfactory	Satisfactory	4.73
10	05-Jun-2019	Satisfactory	Satisfactory	5.66
11	27-Dec-2019	Satisfactory	Satisfactory	5.84

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	**60**
Forestry	57
Other Agriculture, Fishing and Forestry	3
Public Administration	**40**
Sub-National Government	40

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)

Private Sector Development	**100**
Jobs	100
Urban and Rural Development	**32**
Rural Development	32
Land Administration and Management	32
Environment and Natural Resource Management	**69**
Climate change	3
Mitigation	3
Environmental Health and Pollution Management	18
Air quality management	6
Water Pollution	6
Soil Pollution	6
Renewable Natural Resources Asset Management	32
Biodiversity	32
Water Resource Management	16
Water Institutions, Policies and Reform	16

ADM STAFF

Role	At Approval	At ICR
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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. The economic and political situation in Zimbabwe at the time of project appraisal was relatively stable. A new five-year development plan "Zimbabwe Agenda for Sustainable Socio-Economic Transformation (*Zim Asset*, 2013-18)" had set in motion a new growth trajectory after a preceding decade of economic decline and hyperinflation. Poverty rates were however high at more than 72% of the population, and more prevalent in rural areas 84%. Zimbabwe was facing several daunting environmental challenges, including land degradation, soil erosion, deforestation and forest degradation, loss of biodiversity and land, air, and water pollution. Forest and land degradation were particularly worrisome and was driven by unsustainable land and forest use practices, particularly in the heavily utilized communal areas. The country had lost about 20% of its forest cover between 1990 and 2010, making it one of the world's worst top ten countries. Climate change was exacerbating land degradation and the erosion and gullying caused by it, which in turn was reducing agricultural productivity, threatening already severe food insecurity and accelerating biodiversity loss. The annual cost of land degradation was estimated at 6% of gross domestic product (GDP) and challenges were expected to increase. The Zimbabwe Agricultural Investment Plan (ZAIP), which had been supported by the World Bank in 2013 stated that a sustainable increase in agriculture production and productivity hinged upon improved management and sustainable use of the natural resources base, through targeted investments in irrigation, forestry and sustainable land management (SLM) practices.

2. One of the most important biodiversity areas in Zimbabwe is the Hwange-Sanyati Biological Corridor (HSBC), which covers the bulk of northwest Zimbabwe (5.7 million ha; see map in Annex 6). The HSBC is home to Hwange National Park (HNP) – one of Zimbabwe's largest parks and a biological reservoir for most of the wildlife found in the corridor – as well as five forest reserves and communal land. The HSBC provides habitat for a rich variety of native fauna, while also representing a major attraction to tourism and offering livelihoods to rural populations. The future of the HSBC was shadowed by the environmental and natural resource management issues that were problematic at the national scale. It also grappled with several specific challenges; frequent wildfires, groundwater shortages for wildlife, heightened poaching and hunting by communities and increasing human-wildlife conflict (HWC) causing destruction of crops, which was expected to exacerbate, as wildlife traveled further outside HNP in search of grazing and water. Groundwater extraction in HNP for the large elephant population was challenging due to lack of monitoring and limited data and scientific information on hydrogeological characteristics, and poor infrastructures. Due to the generally poor and infertile sodic soils of the HSBC and relatively low vegetation density, coupled with improper land use practices (including stream bank cultivation, veld fires, and land clearance for cultivation), soils in the HSBC were especially prone to extensive erosion and severe ravines or gullies in some areas.

3. The Government's previous attempts to tackle these issues had shown limited success. Besides insufficient funding, coordination among responsible agencies and stakeholders was lacking and there was an urgent need for improved management tools for the main agencies, including the Ministry of Environment, Water and Climate (MoEWC), the Environmental Management Agency (EMA), the Zimbabwe Parks and Wildlife Management Authority (ZPWMA/ZIMPARKS) and the Forestry Commission (FC) as well as local agencies; Rural District Councils (RDCs) and Environmental Sub-committees (ESCs) and the Community Areas Management Programme for Indigenous Resources (CAMPFIRE).

4. With its considerable experience on natural resource management from the region and globally, the Bank was well positioned to assist the Government of Zimbabwe (GoZ). While the GoZ had been in arrears to the Bank since 2000 and thus unable to access regular development assistance, funding from the Global Environment Facility (GEF) was provided as per OP 10.20. The project aligned well with the World Bank Interim Strategy Note (ISN) for Zimbabwe (2013-2015), especially the third objective of reducing vulnerabilities, improving resilience, and strengthening human development. The Bank was also engaged in Zimbabwe through the multi-donor trust fund for Cooperation in International Waters in Africa (CIWA) and funding from the TerrAfrica Trust Fund to support forestry and land management in Zimbabwe had just been leveraged.

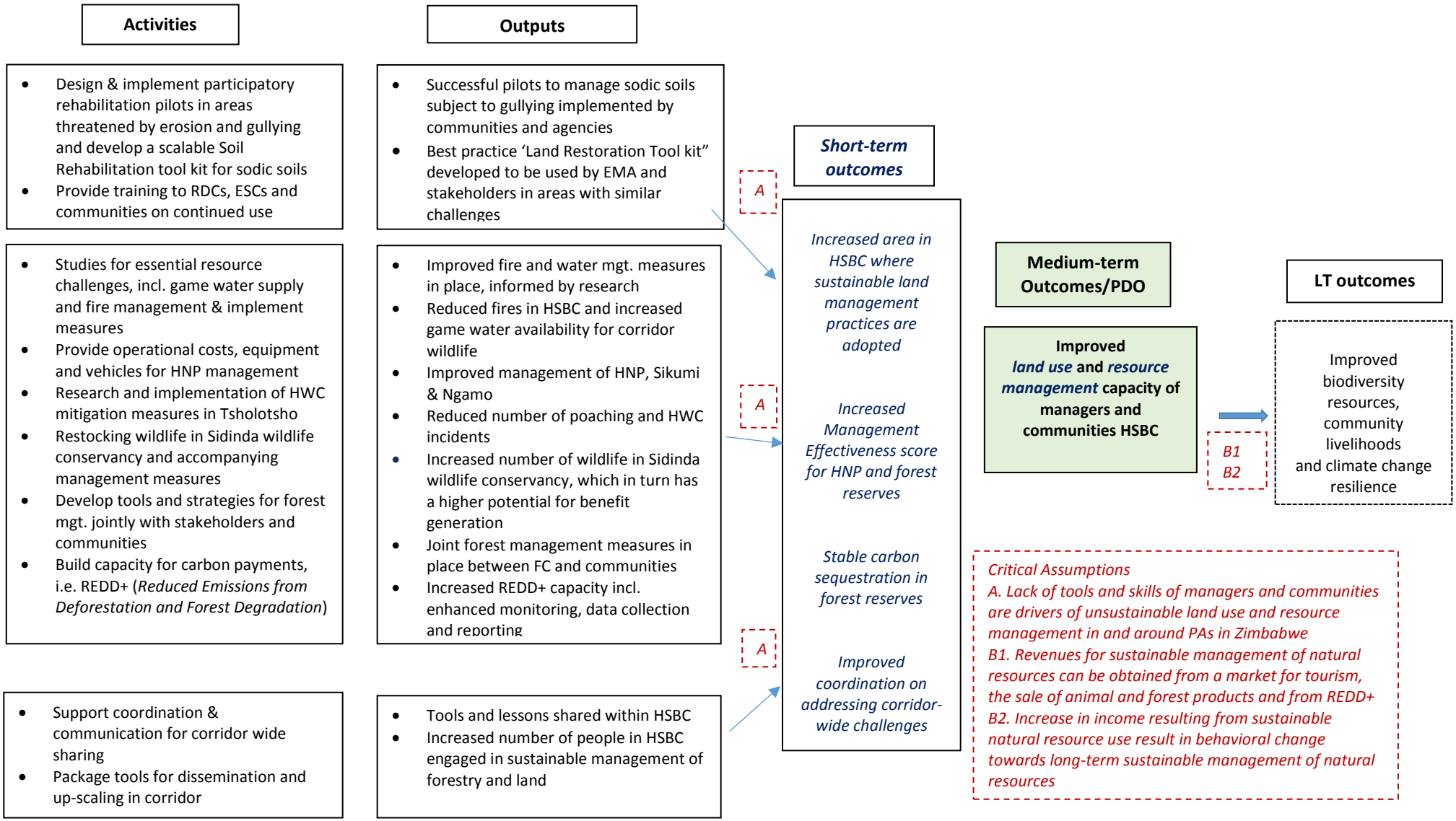
5. The project was formulated to contribute to the five-year plan 'ZimAsset', particularly the objective of improving environmental management of natural resources and protection and conservation of biodiversity. The project also contributed to Zimbabwe's regional integration agenda as articulated in the Southern African Development Community (SADC) Treaty, including the SADC Protocol on Wildlife Conservation and Law Enforcement (1999) and the country's obligations under the Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA), of which HSBC was part. On a global level, it was designed to contribute to Zimbabwe's obligations under the United Nations Framework Convention on Climate Change (UNFCCC); the United Nations Convention to Combat Desertification (UNCCD) Land Degradation Neutrality Target Setting program (LDN TSP) and the United Nations Convention on Biodiversity (CBD) Aichi targets (3, 5, 7, 8, 9, 10, 12 and 13).

Theory of Change

6. The theory of change is presented in Figure 1. The objective was to develop *land use capacity* and *resource management capacity* of managers and communities in HSBC. To develop *land-use capacity* adhered to increasing agencies and communities' joint capacity to address HSBC's severe *sodic soil degradation and gullying*, by developing scalable skills and pilots in Chireya District, an area with one of HSBC's most degraded sodic soils.To develop *resource management capacity* adhered to improving agencies and communities' management skills for key corridor *natural resources*, including groundwater, wildlife, forest areas, and communal wildlife areas, by investing in management improvements in Hwange National Park (HNP), two of HSBC's Forest Reserves – Sikumi and Ngamo – and two communal areas – Sidinda wildlife conservancy and the HNP-adjacent, HWC ridden Tsholotsho district. By targeting specific areas and their respective capacity gaps within the vast HSBC, the underlying objective of the project was that the management skills developed in each selected site would both feed into overall corridor-level capacity strengthening as well as generate environmental outcomes that would benefit the HSBC as a whole.

7. The main assumption was that limited land-use tools and management skills of managers and communities leads to unsustainable land use and resource management in HSBC, and if addressed, longer term national priorities of improving biodiversity resources, community livelihoods and climate change resilience could be attained. An underlying assumption was also that improved management of natural resources could increase revenues for both parks, forest reserves and communities through a market for tourism, the sale of forest and animal products and carbon payments. Relatedly, it was assumed that if communities indeed would enjoy increased income from tourism, or from other management activities such as sustainable forest harvesting in forest reserves, they would also change their behavior and be less likely to engage in poaching or unsustainable natural resource practices in the future.

Figure 1. Theory of Change (Results Framework)



Project Development Objectives (PDOs)

8. The joint PDO/GEO (Global Environment Objective) of the project was "to develop land use and resource management capacity of managers and communities in the Hwange-Sanyati Biological Corridor (HSBC)".

Key Expected Outcomes and Outcome Indicators

9. The key indicators linked to measure the outcomes specified in the PDO statement were:
   i. An improvement in Protected Area (PA) management effectiveness, as measured by the standardized GEF-developed Management Effectiveness Tracking Tool (METT)
   ii. Stable carbon sequestration in the project forest reserves over the lifetime of the project (core indicator)
   iii. Land area where sustainable land management practices were adopted (core indicator)
   iv. Direct project beneficiaries (number) (World Bank Core Indicator)
   v. Female beneficiaries (percentage) (World Bank Core Indicator)

Components

The Project had four components:

10. **Component 1: Protected Area management and community livelihoods** (*Estimated: US$1.80 million; Actual: US$1.26 million)* aimed to improve management of HNP and improve livelihoods of buffer zone communities in the Tsholotsho district and in the Sidinda wildlife conservancy. Activities within HNP, implemented by ZIMPARKSincluded: a) investments for improving park management and operations and b) studies and management measures for improving game water supply and fire management. In the buffer zones, implemented by *CAMPFIRE*, it included c) researching and implementing human and wildlife conflict (HWC) measures in Tsholotsho together with rural district councils (RDCs) and communities and d) restocking wildlife in the Sidinda wildlife conservancy and developing accompanying management measures for them to thrive and develop a business plan for the long-term sustainability of the conservancy.

11. **Component 2: Improved forest and land management** (*Estimated: US$3.24 million; Actual: US$2.01 million)* aimed to improve forest management in the Sikumi and Ngamo Forest Reserves and to design and implement sodic soil gully rehabilitation in Chireya district. In Sikumi and Ngamo, implemented by the Forest Commission (FC), activities included a) revising and implementing the forest management plans, including measures to improve communication infrastructure, fire protection efforts in collaboration with neighboring community fire brigades and operationalizing resource-sharing efforts with communities and b) carrying out detailed assessments of the "readiness" of the two forest reserves to implement REDD+ as a tool for avoiding deforestation. In Chireya, implemented by the Environmental Management Agency (EMA), activities included: c) designing and implementing participatory sodic soil gully rehabilitation pilots with communities, RDCs and Environmental sub-committees (ESCs); and d) producing a sodic soil "Land Restoration Tool Kit" to serve as future guidelines for areas with similar challenges.

12. **Component 3: Corridor Sustainability** (*Estimated: US$0.33 million; Actual: US$1.66 million)* aimed to improve coordination between the different actors in the HSBC and facilitate corridor-level sharing of tools and skills. Implemented by all national agencies (ZIMPARKS, EMA, FC, CAMPFIRE), activities included: a) developing a communication strategy on the project's tools and interventions to be shared across the HSBC and with the broader KAZA TFCA; b) supporting transboundary meetings and sharing of practical experiences among stakeholders.

13. **Component 4: Project Coordination.** (*Estimated: US$0.27 million; Actual: US$0.71 million)* was implemented by the Project Implementing Agency, World Wide Fund for Nature (WWF) and provided funding to manage and provide oversight of the project, including financial management and audits, procurement, and monitoring and evaluation.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

14. The Project went through one Level 2 restructuring in May 2019 to extend the project by six months to facilitate completion of key activities that could not be finalized by the initial project close-out date of June 30, 2019[1]. The activities included: i) facilitating an end of project (EOP) wildlife survey in HNP to provide population information; ii) supporting the set-up of a Community Trust for the Sidinda Wildlife Community Conservancy; iii) facilitating translocation of outstanding wildlife to Sidinda; iv) finalizing the Project Design Document (PDD) for the voluntary carbon trading in Ngamo and Sikumi forests; and v) finalizing and disseminating the sodic soil 'Land Restoration Tool Kit' for Chireya. The extension allowed successful completion of all the intended activities, except the EOP wildlife survey, due to failure of ZIMPARKS to raise requisite matching funds. The effect of completing the other activities so late in the project is subsequently discussed.

Revised PDOs and Outcome Targets

15. There were no changes to the PDO or Outcome Targets.

Revised PDO Indicators and Components

16. There were no changes to the indicators or components.

Rationale for Changes and Their Implication on the Original Theory of Change

17. The rationale for extending the project closure date was to enable completion of activities that were key to achieving project outcomes. The extension was further justified by the slight initial project implementation delay, which also constituted the equivalent period of six months.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

Rating: ***High***

18. The relevance of the project development outcomes to Zimbabwe's national, regional and global priorities is explained in section 1.A. The project remained relevant to these priorities as it contributed to objectives and activities under them, including the following; i) by improving land and forest management jointly between agencies and communities as stewards, the project contributed to Zimbabwe's 'Vision 2030' (which was the successor to 'Zim Asset' and approved in 2018), especially the objectives of promoting a broad based citizenry participation in national and socio-economic development programs; ii) the Land Restoration Toolkit developed and piloted in Chireya contributed towards achievement of Zimbabwe's Land Degradation Neutrality (LDN) targets, and will further help the country to avoid, minimize and reverse land degradation by 2030, as set out under Zimbabwe's UNCCD targets; iii) by building capacity on ecosystems management and reducing land degradation with clear community benefits, the project helped advance

[1] The Data Sheet on Page 2 mentions changes to the Results Framework, yet it was erroneously marked.

national obligations under CBD Aichi targets (3, 5, 7, 8, 9, 10, 12 and 13); iv) by building capacity on REDD+ as a climate mitigation tool, the project contributed to shape the importance of forests in climate mitigation efforts as indeed stated in the country's Nationally Determined Contribution (NDC) under the UNFCCC Paris Agreement; v) the project also assisted ZIMPARKS in fulfilling its obligations for the KAZA TFCA Treaty, in particular the commitment to implement country-specific conservation programs, ensuring alignment between national and KAZA TFCA-wide activities.

19. The Project objectives remained relevant to the World Bank ISN 2013-15, which is still the basis for the Bank's support to Zimbabwe. By increasing community stewardship and benefits derived from improved land-use and resource management capacity, the project helped support the ISN's provision for broad based pro-poor growth with support for social protection and other mechanisms to provide safety nets for the poor and vulnerable and for improving the availability, cost, and utilization of basic services for the poor. It also remains aligned with the ISN's third objective of reducing vulnerabilities, improving resilience, and strengthening human development. The project outcomes are also relevant to the Zimbabwe Reconstruction Fund (ZIMREF) (2014-2021), which is a WB country-specific multi-donor trust fund and key instrument for implementing the ISN. The project was particularly relevant to two of ZIMREF's programmatic windows, namely a) strengthening livelihoods and resilience and b) analytical and advisory work under which capacity of the government to integrate climate change into investment planning in forestry, agriculture, and the water/energy nexus is included.

B. ACHIEVEMENT OF PDOs (EFFICACY)

20. The project's first objective to *develop land use capacity* is assessed against achievements in improving land restoration in one of HSBC's most degraded areas, Chireya district. The second objective to *develop resource management capacity* is assessed against achievements in improving management measures in Hwange National Park, the two Forest Reserves and the Sidinda wildlife conservancy, with a focus on key resources, including groundwater, fire management, forest land and wildlife management.

Objective 1: Improve land use capacity of managers and communities in HSBC

21. Prior to the project, a few investments in gully rehabilitation had been implemented in Chireya and its vicinity, yet with limited results. One of the main reasons to why previous attempts of mechanical curative measures had failed to reclaim or control gully development, was that they had a too narrow approach, done with inadequate engagement of local communities and inadequate capacity built for Environmental Sub committees to oversee the maintenance required for sustaining such efforts over time. The Project responded to this by i) conducting a participatory integrated assessment of both biophysical root causes to land degradation, as well as compounding socio-economic drivers to it; ii) designing and implementing viable soil rehabilitation pilots with clear impacts and accompanying livelihood activities iii) packaging and disseminating a Restoration Tool Kit for future use.

22. *Integrated assessment of biophysical and socio-economic drivers of land degradation*. Prior to the project, it was well known that root causes to land degradation included both soil composition and structure, continuous and increasing changes in land use by communities through primarily riverbank and hillside cultivation and that greater variation in rainfall patterns accelerated land degradation and gullying. What hadn't however been done was a thorough multi-pronged assessment on how these causes and drivers interlinked and how they could be addressed in a more integrated manner. By compiling and assessing both relevant biophysical data, including soil characterization, assessment of vegetation, climate impacts, identification of sources of runoff, analysis of patterns of excessive hydrological flows, as well as socio-economic data, including the reasons behind unsustainable land use practices by

communities, the Project managed to identify micro-catchment wide strategies and solutions that would be effective, simple and affordable to implement by resource managers, i.e. local communities. The selection of the most suitable interventions to be implemented was done through a risk analysis together with agencies and communities considering criteria for sustainability, affordability and livelihood alternatives – aspects that had inadequately been assessed in previous land rehabilitation interventions. This ensured that the technologies were safe, efficient and acceptable to the people.

23. *Soil rehabilitation pilots with clear land rehabilitation impacts and which also responded to livelihood needs.* The soil rehabilitation pilots and technologies implemented across the micro catchment had a visible and measurable effect on improving land degradation threats, and included the following:

- By constructing 31km of dead level contours with infiltration pits with planted grass, the project reversed previous practices of mechanical soil and water conservation works for in-situ harvesting that were reducing runoff volume, flow and velocity. The contours increased water infiltration and soil moisture to the arable lands nearby, also leading to a positive impact on increasing crop yields.
- By installing a network of 64 water harvesting tanks in in two schools and the Chireya hospital, the project reversed runoff volume, flow velocity and erosivity, while also providing a source of water both for gardens as well as communities and pupils using the schools and hospital;
- By fencing off and protecting 4 hectares of the gully micro-catchment from deforestation, overgrazing, trampling, and soil compaction by animals and people, the project managed to restore the severely eroded gullies where mechanical works were deemed unsuitable due to extremely fragile unstable soils and weak bedrock. By also planting grasses such as vetiver and indigenous trees, vegetation of the area increased and allowed for greater water infiltration, reduced runoff and abated soil erosion;
- Through an engineered terraced and gabion design with steps downslope, the gully head at the Chireya Hospital was controlled and a collapse of it avoided. This was also stabilized by planting vetiver and fruit trees that are used for consumption by communities;
- Through a mixture of ridged concrete structures pinned into the bank wall and flexible structures of gabion arrangements, the Ume River Bank Cliff was stabilized, reversing a concerning erosion trend and imminent risk of the bank collapsing, which was threatening one of the local schools.

24. The achievements of the project lie both in the actual introduction of these technologies in Chireya, and the participatory way in which they were designed and implemented, which clearly increased capacity of resource managers to implement and maintain them. First, all the construction work was done by community members who were mobilized and organized under the leadership of the local chief. This enhanced both their land use capacity and helped ensure ownership, commitment and sustainability. It was done by the community and traditional leadership first identifying and electing committees that would work to implement each intervention. These committees were elected, trained and empowered with skills to champion all gully and riverbank reclamation activities including gabion basket weaving, construction, troubleshooting, maintenance and monitoring. The Hospital was responsible for storage and safekeeping of the construction materials. Secondly, the rehabilitation pilots were complemented by alternative livelihood activities, including:

- Three fenced, solar-powered borehole irrigated community gardens for 120 households, which entailed opportunity for a more intensive production system that offered more economic benefits and cash incomes;
- A beekeeping program that equipped 300 households to engage in the honey value chain and thus keep them away from destructive practices;

- A cement brickmaking facility engaging 60 youth to produce bricks for the rehabilitation pilots, using a more sustainable and less intrusive methodology that allowed less fuel wood for burning bricks,
- A community driven nursery for vetiver grass and trees, which was used both for project interventions as well as for future usage.

25. Of the livelihood activities, the community gardens were especially successful and due to demand, the number of community gardens exceeded the originally planned target of one. The gardens allow these households (approximately 480 people) to not only grow maize and green vegetables, as done before the project, but also grow a wider variety of crops (tomatoes, onions, butternut, and cucumber), allowing for improved nutrition and food security and increased income. To sustain the gardens after the project, day to day by ward-based extension officers from the Department of Agricultural Technical and Extension Services AGRITEX were also involved to provide proper extension services on irrigation and to explore market linkages for the vegetables grown. In addition, the installation of a solarized pump enables the communities to reduce time in carrying watering cans up steep slopes to water their gardens and also ensured a sustained supply of water for another household usage.

26. The project also allowed EMA and local authorities, through the Chief, to put in place law enforcement mechanisms to ensure that people complied with the restrictions of unsustainable land use practices. By enforcing provisions under the *Environmental Management Act*, i.e. the *Traditional Leaders Act Regulations on Sustainable Land Management*, the village Chief restricted farming on stream banks, veld fires, deforestation and the use of sleighs.

27. Beyond the outcome of building capacity to implement the rehabilitation pilots, it is also important to note that the interventions successfully helped to address the crucial need of the Chireya community to save the hospital and two school buildings from destruction. The Hospital serves around 20,000 people. By seeing the results of such interventions, communities were not only capable, but more motivated to continue such erosion control measures in the future. Material that was left from the pilots, and by using skills learned from the original pilots, communities have in fact already replicated their experience by implementing gully reclamation action in three separate sites by themselves without external assistance and well before EOP, , alluding to the raised capacity and motivation of agencies and communities to continue this kind of work. Social cohesion in the community has also been strengthened, as described by community members and agencies in the ICR mission and Borrower report, as the rehabilitation pilots constituted a common goal of among the community to saving vital social infrastructure.

28. *Developing a scalable sodic soil Restoration Tool Kit for other areas in HSBC*. To solidify the capacity built during the soil rehabilitation pilots, the project supported the development of a sodic soil 'Restoration Toolkit'. The Toolkit disseminates the approaches, processes, and tested technologies in Chireya, including lessons learnt from failures. It was developed by collection of observations from all stakeholders involved, including RDCs, traditional leaders, religious institutions, schools and the community. It now serves as a guide to EMA officers on how to rehabilitate degraded ecosystems and reclaim gullies on sodic and non-sodic dispersive soils and is guiding rehabilitation in other areas in HSBC and Zimbabwe.

29. *PDO Indicator Achievement*. The overall achievement of this outcome is mainly reflected by the 491 hectares where sustainable land management practices were adopted as a result of the project activities (of which 275 hectares is arable land). This achievement represented 92% of the overall PDO target (500,00 ha). In addition, the area under successful management is expected to increase even after EOP, as the remaining materials are already being used in other gully hotspots identified by the project stakeholders before project closure.

Objective 2: To develop resource management capacity of managers and communities in HSBC

30. This outcome was substantially achieved by the project. The capacity to manage HNP and the Forest reserves had been challenging before the project, mostly due to inadequate research-based decision making and management of groundwater and fire management; increasing HWC between HNP wildlife and communities and lack of engagement with communities in management measures. The Project responded to this by i) improving management measures of HNP and its natural resource base; ii) investments in the Sidinda wildlife conservancy and iii) support to management of Sikumi and Ngamo, including capacity for REDD+.

Improving management measures of HNP and its natural resources base

31. *Hwange National Park Management.* The Project upgraded the assets and operational structure for park management, including purchasing patrol equipment, improving the digital communication infrastructure and setting up a VHF radio system that now covers around 60% of the park. It also helped develop and carry out an anti-poaching plan, which resulted in over 150 joint operations in HNP and its buffer areas together with other law enforcement agencies. The engagement of rangers was done through training them in the use of a new type of ranger-based wildlife monitoring system, SMART (Spatial Monitoring and Reporting Tool). This allowed HNP to map problematic areas and have rangers respond in a timelier manner – proving to be timely and strategic solutions for high profile poaching incidences such as cyanide poisoning (which had occurred prior to the project). Overall, poaching incidents reduced from 710/year at project start to 450/year at EOP, with a downward trend throughout the project. The intermediate indicator EOP target of 400 poaching incidents/year was thus achieved at 88%. The training on the use of SMART also helped build a stronger morale and pride among rangers, helping to ensure that the management measures can be sustained after the project.

32. *Ground water supply management.* To address the increasing challenge of ensuring sustainable groundwater supply for HSBC's migratory wildlife populations, especially elephants, the project supported a ground water study, co-financed by the TerrAfrica grant and led by the Geology Department of University of Zimbabwe together with ZIMPARKS. The results showed the need to drill further boreholes in HNP, mostly in the north part where drought conditions and risks were worse. Eight deep level boreholes (solar powered) were thus drilled and seven diesel powered boreholes were converted to solar power. The solarization of boreholes proved to be a more cost-effective option for ground water supply management and came with the benefit of being quieter than diesel generator, ensuring greater harmony with wildlife. While the project managed to finance the solarization upgrade of 15 boreholes, and thus ensuring an increase in game water supply, the study has helped HNP identify an additional 16 monitoring boreholes, so called water loggers, that ZIMPARKS is planning to drill in the future.

33. *Fire Management.* Uncontrolled fires with poorly understood ecological cost and benefits were one of the biggest concerns to HNP and had worsened in the years leading up to the Project. The project supported a fire ecological assessment of the Park and updated its Fire Management Plan, involving both communities in the revision and implementation of its measures. As a result, pre-suppression fire management activities were conducted, and 1150 km of fire guards were cleared and graded. The Project also upgraded the local community fire brigades with equipment and protective gear, which allowed them to be more effective and efficient in controlling fires and which also improved the relationship between HNP and surrounding communities, evidenced by the fact that communities were entrusted to keep the equipment with them, standing ready even for smaller fire incidents. HNP also shifted away from doing early and controlled burning without informing or including surrounding communities – measures that had previously put a strain on its relation to buffer communities. Regulated burning in the pre-fire season is now largely done jointly with communities, which constitutes clear evidence that a joint fire management capacity was built under the Project.

Actual results on the ground indicate a 90.04% decline in the total area burnt in HNP. Since the fire ecological assessment was done jointly between HNP, EMA and FC, the Project also contributed to strengthen coordination between these agencies, reversing the pre-project situation in which each agency conducted separate fire management measures.

34. *Human Wildlife Conflict (HWC) Mitigation.* HWC resulting from animals that originate in the HNP, principally elephants, was a major preoccupation of neighboring communities and an important source of conflict between the park and those communities before the project. The project supported research and implementation of selected HWC mitigation measures in the adjacent Tsholotsho district together with the local Rural District Council (RDC) and communities. HWC measures included construction of gum pole barriers with creosote and the use of chili guns, which proved both to be more effective and offered a long-term solution for 16,086 community members, compared to other methods previously used, such as night vigils around fields and drum beating. In the pilot site (Tsholotsho ward 7) the activities led to a reduction in HWC incidences, particularly with elephants, from 100 per year at project start to 9 per year at EOP, thus exceeding the EOP indicator target of 30 incidents per year. There was a continuous downward trend in incidents throughout the project. The reduction in HWC in the initial ward 7 led to that the Tsholotsho RDC could reduce reaction efforts and instead focus on other HWC hotspots in the district. The project also supported the RDC to invite exchange visits with community volunteers from three other wards to learn about the system and advance implementation of similar efforts. The project did not originally envision to expand the HWC efforts beyond Ward 7, hence the RDC's assistance to expand to two additional wards should be seen as evidence that capacity of the RDC to manage such measures was significantly enhanced. Benefits to the 16,086 community members included reduced crop raids and losses and time saving as time in the field guarding against animals at night was no longer needed.

35. *Community and youth awareness on natural resource management*. The Project did not only enable communities to be more engaged in core management measures of the park, but it also supported awareness raising activities, especially for youth. The community education and awareness campaigns for buffer communities consisted of conservation activities for primary school pupils, competitions for schools near HNP and the commemoration of international days for environment in local schools where EMA and FC were invited to conduct classes on relevant topics. These types of education and awareness campaigns are well proven ways of engaging communities and is considered best practice to engage youth. Engaging youth is beneficial since they can oftentimes be prone to poaching as a way of earning quick money in areas with otherwise limited opportunities.

36. *Linked PDO and intermediate indicators achievement.* The achievement of this outcome is evidenced by the achievement of the PDO indicator measuring the METT[2] score of HNP, which increased from 51 to 69.6 (the EOP target was 68), pointing to a clear improvement in the management effectiveness of the HNP. The main interventions that helped improve the METT score were support to anti-poaching activities, sustainable game water management, fire management and improved community participation. The project also almost achieved the intermediate indicator EOP target on reducing poaching incidents and exceeded the EOP indicator target for HWCs (discussed above).

Management of the Sidinda wildlife conservancy

37. *Wildlife restocking, improved law enforcement and communications infrastructure*. To improve income-generating potential of the HNP adjacent Sidinda Ward, the project supported an ecological study to define and set aside part of the ward for community-led wildlife production and utilization. Historically the area was known to be a rich wildlife area but over time most large wildlife species were eliminated or reduced to very low levels. The study led by CAMPFIRE identified an area of 20,000ha for the conservancy and helped determine the species composition and

[2] Management Effectiveness Tracking Tool

carrying capacity. The Project also trained a community-based scout patrol unit and equipped it with upgraded communication equipment. As for the wildlife restocking, it proved to be one of the Project's most challenging undertakings. First, logistical and procurement delays from CAMPFIRE and WWF resulted in late translocation of animals in year four rather than the planned year two, aggravating the ability to assess the impacts and benefits for communities. The translocation included 100 Buffaloes, 20 Kudus, 19 Waterbuck and 18 Zebras, which were introduced into a relatively small fenced area (roughly 7,700 ha in extent). While the translocation itself did not include any mortalities, a severe drought hit the area right after, which significantly reduced availability of forage, especially for buffaloes leading to a loss of approximately 50 at project end. A discussion on the adequacy of the ecological study for the conservancy was triggered, especially whether the fenced area was enough for targeted animal population and if droughts risks had adequately been factored in. The conclusion of CAMPFIRE and agencies involved was that the area indeed was adequate, especially since it is expected to be expanded periodically as wildlife adapts to it. Drought risks were however not properly planned for, leading not only to wildlife loss, but also unplanned spending on forage to sustain the animals during the dry season, which not only stretched limited project resources but also raised a potential concern of domestication of animals which would weaken their competitiveness in the wild. While this was a hard lesson learned for all agencies involved, the area did however received significant rains in the following season, reportedly leading to a recovery in the vegetation and the buffalo population, which is now at 85, with 12 buffalo calves born, and another 20 are expected in 2020.

38. *Business plan for the wildlife conservancy*. To ensure proper functioning and sustainability of the conservancy CAMPFIRE supported the development of a business plan for it and facilitated certain aspects for the establishment of a public-private community partnership. Although a partnership with a private safari operator was indeed established, the development of the business plan was only finalized in the Project's final year. This was since a number of steps needed to happen before the Plan could be concluded, including negotiations of institutional relationships, community mobilization and training as well as the ecological assessment that would inform the actual identification and demarcation for the conservancy. Hence important groundwork was laid during the lifetime of the project, yet due that the Business Plan was finalized late in the Project, it is too early to assess how much communities will benefit in the long run. Maximizing income generation potential would for example require the community to formally register as a Trust, to get long term ownership and user rights of ecotourism facilities in Sidinda. The business plan also underscores the need to expand the business portfolio of the community conservancy to include other quick turnaround livelihood opportunities such as fish-farming, beekeeping and seasonal vegetable production. While the Project only envisioned to finance the development of the Business Plan, CAMPFIRE has managed to secure additional resources from the KAZA TFCA to continue the work to properly register a Community Trust and support it in its private-community partnership.

39. *Linked indicators achievement*. The two indicators linked to Sidinda was the PDO indicator on number of beneficiaries and the intermediate indicator of new areas outside protected areas managed as biodiversity friendly. In terms of beneficiaries, approximately 1689 are in Sidinda, of which some include the ones trained as scouts and the rest those that were involved and trained on the wildlife restocking and business plan elaboration, and who are expected to also benefit from sustainable wildlife use in the future. As for the intermediate indicator, the target of having 10,000 hectares managed as biodiversity friendly was achieved due to the setting aside of a 20,000 hectares conservancy and upgrading it with wildlife restocking, partial fencing, law enforcement and communication infrastructure

Support to management of Sikumi and Ngamo, including capacity for REDD+

40. *Management of Ngamo and Sikumi forest reserves.* The Project enabled the forest reserves of Ngumi and Sikumi to revise and operationalize their management plans, including supplying necessary equipment, tools and training for anti-poaching, and upgrade their communication infrastructure by installing a new radio communication system,

allowing for enhanced real-time enforcement by forest rangers. An inventory study of the different invasive and alien species (IAS) in the forests was also conducted, allowing to for the first time incorporate appropriate IAS management strategies in the Management Plan. To address the increasing challenge of unorganized and unsustainable community extraction of forest resources and to also increase capacity of both communities and the Forestry Commission to reap further economic benefits from the Reserves, the following activities were done:

- Operationalized so called 'community resource-sharing committees' that do controlled forest harvests jointly between the Reserve and communities, which allows extraction of products such as grass, timber and mushrooms on selected days during the week. 22 community forest rangers were trained to oversee this. It also upgraded community fire brigades with material and training in fire management to 197 community members. By empowering these resource sharing committees and community fire brigades, the Project thus both built the capacity of communities during the lifetime of the project and provided them mechanisms and equipment to sustain such livelihood benefits and fire management efforts beyond the Project.
- Supplied beekeeping kits (hives, protective clothing, hive tools, etc.) and training to lead beekeepers and Forest officers from the Forestry Commission. This resulted in that 100 households were registered and organized into beekeeping Farmer Field Schools at project end.
- Installed a wood kiln to an established timber processing sawmill in Lupane, adjacent to Ngamo, as a way to increase FC's capacity to maximize wood value chain potential. The kiln was installed to allow production of air-dried timber to minimize damage from wood-boring pests and produce better-cured wood which would allow FC to seek higher market prices. Unfortunately, this activity was only finalized at the very end of the Project, mainly due to delays in finalizing the ESMP, hence the full impacts are not yet assessed.

41. *Linked PDO and intermediate indicators Achievement.* The overall achievement of this outcome is reflected by the achievement of one PDO indicator and one intermediate indicator. The PDO indicator of remaining stable carbon sequestration in the Reserves was achieved, as measured by the increase in NDVI[3] values in both Reserves over the life of the Project, pointing to an improvement in the condition and health of the two forests.

Figure 1. NDVI improvements in the two forest reserves

	2015	2017	2019
Ngamo	0.43	0.59	0.54
Sikumi	0.40	0.57	0.53

42. The project also achieved the intermediate indicator of bringing the total area of the two forests (157 300ha) under improved management, as both Reserves experienced more than a 15% improvement of the METT scores from project start to EOP: from 52.53 to 73.53 in Sikumi and 58.9 to 75.49 in Ngamo.

43. *Building capacity for REDD+ development*. The Project supported the first government-led REDD+ initiative in Zimbabwe. It did so through an initial study to identify the direct and indirect drivers of deforestation and forest degradation in the two forest reserves and by equipping and training staff at the Forest Commission GIS laboratory in Bulawayo on forestry measurement and remote-sensing techniques and supporting procurement of forest inventory equipment for individual forest offices. The detailed assessments of the "readiness" of the two forest reserves to implement REDD+ covered a range of issues such as land tenure arrangements of the forest, arrangements for benefit sharing with communities, institutional capacity to establish baselines and status of the presence of emission reduction

[3] The normalized difference vegetation index (NDVI) is a graphical indicator used to analyze remote sensing measurements, assessing whether or not the target being observed contains live green vegetation.

accounting capability (i.e. monitoring, reporting, and verification framework). This enabled the FC to work jointly with stakeholders to set up and train a REDD+ technical working group comprising partners from government and NGOs and to ultimately develop a Project Design Document (PDD) for a future REDD+ pilot. A policy brief to inform the planned development of the national REDD+ Strategy was also developed. The final PDD is complete enough to fully develop, register and implement a project level REDD+, conditional on securing additional resources, which is still ongoing. This positions Zimbabwe to potentially participate in international carbon reduction purchase efforts, in addition to its current involvement with UN-REDD.

Corridor-level scaling up of land use and natural resource management tools

44. While the above sections outline how the project performed in relation to building capacity for *land use* and *resource management* in selected areas of HSBC, it is also important to review the project's performance in facilitating *corridor-level* knowledge sharing and scaling-up of such measures, as was expected from the third component of the project. As envisioned at project design, the project would both use corridor-level coordination, including with the KAZA TFCA to design measures, as well as to promote the ones that were proven successful under the project. The nature of this task is therefor still ongoing. One of the more tangible achievements of the project was the successful organization of the Northwestern Zimbabwe Symposium in 2017, which brought together the most important stakeholders to share experiences on current landscape wide initiatives and identify gaps necessary for the long-term issues of corridor sustainability. The symposium provided valuable input and guidance to the activities that the project was conducting, including for HWC mitigation, the fire ecology study and fire management measures in HNP and Forest reserves and guiding principles for the set-up of the Sidinda wildlife conservancy. Lessons generated in the project were also subsequently scaled up within the corridor, one example being the Chizarira National Park, also part of the KAZA TFCA, where the capacitated ZIMPARKS are making use of SMART, based on its initial experience in HNP. Transboundary collaboration among countries in the KAZA TFCA was also strengthened as the project supported government and WWF representatives to participate in KAZA meetings. Lastly, as most of the activities described in the previous sections included collaboration between Zimparks, EMA and the FC, the project achieved meaningful enhanced coordination amongst Zimbabwe's key government agencies mandated with biodiversity and natural resources management. A similar coordinated 'landscape approach' is in fact already underway in other GEF 6 and 7 projects implemented in different parts of Zimbabwe, eluding to that the project entities are continuing collaborative efforts.

Project Beneficiaries

45. Overall project interventions benefitted a total of 20,134 direct beneficiaries, of which 52% were women, hence achieving the PDO indicator of 20,000 direct beneficiaries and the target of reaching 50% women. Beneficiaries included 1740 people in Chireya that benefited from restoration pilots, community gardens, brick making machine projects and bee keeping equipment; the 1689 community members in Sidinda Ward that benefitted from wildlife restocking, the 400 community members in Ngamo and Sikumi that benefited from bee-keeping equipment and training, 22 forest rangers and 197 community members in community fire brigades; and 16,086 people in Tsholotsho benefiting from HWC mitigation measures.

Justification of Overall Efficacy Rating

46. Based on the quantitative and qualitative assessment of project outcomes and outputs, the Project achieved a wide scope and depth of capacity building for EMA, ZIMPARKS, FC, RDCs, ESCs, CAMPFIRE and communities, which brought about the desired, visible and measurable impacts in land use and natural resources management in HNP, Chireya, Sidinda and the forest reserves. Consequently, the rating is Substantial.

C. EFFICIENCY

Assessment of Efficiency and Rating

47. The PAD did not include a quantitative cost-benefit analysis, yet it qualitatively outlined the project's expected stream of economic and environmental benefits. In addition, a GEF incremental cost analysis was conducted in qualitative terms, estimating Global Environmental Benefits (GEB) that would be achieved by the project interventions and outcomes. This ICR efficiency assessment is built up by: a) a qualitative assessment of the economic benefits (mostly assumptions based, considering actual area covered by the project direct interventions); (b) a Net Present Value (NPV) analysis of benefits generated by the project, examining two monetary values that were available for analysis, i.e. the value of the carbon sequestrated through improved forest management and the value of the timber kiln developed; (c) discussion of the project implementation efficiency; and (d) assessment on the contributions to GEB. More details are also available in Annex 4.

a) Economic analysis: qualitative assessment of economic benefits

48. The project generated a suite of considerable local economic benefits outlined below.

- *Greater efficiency in administration and wildlife management efficacy in HNP*: The investment into protected area administration and wildlife management lead to greater antipoaching efforts and efficiency, with in turn resulted in greater wildlife populations, greater opportunities for ecotourism and elevated opportunities for wildlife translocations.
- *Reduction in crop losses due to elephant damage*: The interventions (such as solarized bore holes within the HNP) also led to a reduction in elephants leaving the protected area and entering communal land containing croplands, which resulted in avoided loss of crop to elephants, which in turn support the maintenance of food security and income earning opportunities within adjacent communities.
- *Reduced incidence of bush fires*: Firefighting capabilities were enhanced within adjacent rural communities, resulting in a reduction in the incidence of bush fires, avoided damage to communal croplands, avoided damage to communal woodlands (thereby conserving high value plants (poles, thatch, fruit, nuts,) and animal (bushmeat, honey, insects) products for human use, and avoided damage to protected woodlands and forests (thereby conserving woodland ecology and associated wildlife populations).
- *Greater forest/woodland productivity*: As a result of elevated fire management and elevated capacity to manage woodlands and forest in communal lands and protected areas, forest productivity improved (monitored by remote sensing). This resulted in increased production of high value timber (due to more sustainable harvesting and fewer destructive fires), increased production of non-timber forest products associated with improved forest health, avoided carbon losses (due to less forest being burnt) and associated climate change mitigation. Furthermore, the elevated catchment vegetation cover and associated elevated groundwater recharge, would result in greater dry-season stream flows and elevated water security in dry periods.
- *Emissions reduction pilot project development*: A project development design was developed for a REDD+ scheme for the Ngamo and Sikumi forests. The avoided carbon losses offer significant carbon sequestration value and financial gains to the community for ongoing forest management, if the carbon trade is completed, reinforcing the benefits associated with elevated forest management. The annual net avoided emissions is estimated to be 238 550 tCO2e.
- *Establishment of a timber kiln*: A timber kiln is adding value to the forest products sustainably harvested, generating job creation at the sawmill and incentives to support forest conservation. The annual production of cured timber is estimated at 600 m^3.
- *Elevated food security* - The project supported over 20 000 people involved with rural food production (in terms

of vegetables or bees) and promoted soil conservation, resulting in increased rural household food security in the short and medium term and increased income earning opportunities for rural households.

- *Greater communal lands' wildlife productivity*: The investment made into developing the Sidinda communally owned wildlife game reserve, for the purposes of tourism and hunting, will lead to associated jobs and income generation for the community projects, providing incentives for supporting adjacent HNP.

b) Economic Analysis: The Net Present Value (NPV) of Benefits

49. A calculation on the economic rate of return in the context of a cost-benefit analysis was not conducted at project preparation, as it wasn't deemed to adequately capture the project's value. As such, in terms of NPV of benefits generated by the project, this ICR only examines two monetary values that were available for analysis, i.e. the value of the carbon sequestrated through improved forest management and the value of the timber kiln developed.

50. The carbon benefits can be considered from two perspectives, that is, the value of the carbon traded as an income generated to the communities (assuming the REDD+ trade and associated forest management is implemented) , and the associated value of the avoided emissions to society (valued using the World Bank shadow price for carbon). While the Project Development Design incorporates 30-year project life span, the HSBC project is assuming that it is directly responsible for the first 5 to 10 years of the project benefits, due to the forest management capacity building and investment in the PDD. The NPV is based on the either a 5- or 10-year stream of benefits. See Table 3.

51. The kiln values are derived from the anticipated trade in cured timber on the local market and based on the capacity of the kiln. The lifespan of the kiln is also assumed to be mirror the carbon assumptions (5 to 10 stream of benefits) for ease of analysis. See Table 3.

Table 3: NPV of avoided carbon emissions and cured timber

NPV of benefits for a 5-year period			
NPV of carbon (net annual market value at $4 per tCO2e)	NPV of carbon (net annual value with a shadow price of $40 per tCO2e)	NPV of kiln (net annual market value at $550 per m^3)	Total NPV of carbon (WB shadow price) and kiln timber
$ 2 660 160	$ 40 966 464	$ 1 392 857	$ 42 359 321
NPV of benefits for a 10-year period			
NPV of carbon (net annual market value at $4 per tCO2e)	NPV of carbon (net annual value with a shadow price of $40 per tCO2e)	NPV of kiln (net annual market value at $550 per m3)	Total NPV of carbon (WB shadow price) and kiln timber
$ 5 320 320	$ 81 932 927	$ 2 785 714	$ 84 718 641

52. These monetary benefits only illustrate the value of two project benefits, whilst numerous other benefits have not been quantified. In terms of the project costs, the Project managed to raise significant amount of co-financing (see Page 2 of Data Sheet and Annex 4 for details).

53. A comparison of costs and benefits shows that for a five-year stream of benefits, a project dollar generated a US$7.50 return to the Bank and a US$1.86 return to society. For a ten-year period, a project dollar generated a US$15.01 return to the Bank and a US$3.73 return to society. Using the total project costs (and assuming a 30-year project lifespan), the Internal rate of Return for the carbon at market prices (US$4) and timber is 1% and for carbon with WB

shadow prices (US$40) and timber is 37%.

c) Implementation Efficiency

54. The project had a considerable degree of efficiency in its implementation. It achieved nearly all PDO indicators and intermediate indicators and did so by only a six-month no-cost extension. The project fully disbursed the available funds, and disbursement rates were in line with the projections made at project preparation. The significant co-financing leveraged, discussed under Factors that affected implementation and in Annex 4, also contributed to improving efficiency and quality of meeting objectives of the Project. Overall, the PIU at WWF coordinated the project well, with regular oversight and inputs from the Project's Steering Committee. Required financial management and procurement systems were put in place and financial management followed standard procedure as shown by the audited reports. The implementation model, in which key entities were responsible for specific component activities, was beneficial from an efficiency point of view as it ensured technical soundness, increased buy-in and clear ownership. There was limited use of service providers to conduct work, which usually tend to drive up project costs for similar activities in projects in the region. The need for stronger than anticipated technical supervision to project coordination, M&E and knowledge sharing by WWF was identified during project implementation. As a result, the cost of component 4 increased by 6% against than anticipated at project start. The costs included M&E support to implementation agencies and the organization of knowledge sharing events and communications material through various channels including TV and radio. The technical guidance costs included the hiring of an additional senior forestry specialist to support FC in advancing implementation of the REDD+ work and stakeholder engagement. The main limitations in efficiency related to the procurement delays of wildlife fencing in Sidinda and forest inventory equipment to FC in Bulawayo, which led to temporarily delays in implementation.

Global Environment Benefits

55. The GEF resources project in complement with associated co-financing leveraged GEF resources to overcome incremental costs of supported the achievement the planning GEBs. The support to HNP management contributed to protecting globally important biodiversity, including one of Africa's most important elephant populations and contributed to the long-term sustainability of HNP and thus one of the most important faunal reservoirs of southern Africa. Enhanced protection of the forest reserves will result in incremental protection of the globally important biodiversity of the HSBC. The contribution of the project to sequester carbon, also brings about a GEB of reduction in atmospheric carbon dioxide levels. The Project's support to further the KAZA TFCA, helped consolidate efforts on global biodiversity benefits as noted above. The development of transboundary applicable tools for land and biodiversity management and the promotion of long-term approaches for the HSBC will bring benefits extending beyond the boundaries of Zimbabwe.

D. JUSTIFICATION OF OVERALL OUTCOME

56. The project demonstrated i) a highly relevant PDO, ii) a substantial project performance against the objective to develop land use and resource management capacity of resource managers and communities, with almost full achievement of PDO and intermediate indicators and iii) a substantial level of efficiency in project implementation as well as generation of societal benefits and monetary values of carbon sequestrated and timber production. Despite minor shortcomings of finalizing activities late, such as the restocking and business plan in Sidinda and wood kiln installation in Lupane, the achievements in building wide and deep community and resource managers capacity means that the outcome rating is considered Satisfactory.

E. OTHER OUTCOMES AND IMPACTS

Gender

57. The project benefitted 20,134 people of which 52% were women (10,536 women), thus exceeded its PDO target of 50% female beneficiaries. The project was able to successfully support women's participation in creating alternative livelihoods that reduce pressure on the environment, while contributing to increasing women's income earning and meaningful participation in managing natural resources and project activities. In Chireya 905 of the 1740 beneficiaries were women, including that 75% (90) of the households that benefitted from the gardens are female headed. In Tsholotsho District 57% (9,309) are women who benefited from the HWC interventions, which led to significant increase in crop harvests due to less crop raiding incidents. In Sidinda 51% (862) women are beneficiaries of the wildlife restocking and nature-based tourism that come from them from them. In the forest reserves, (52%) 322 of women were beneficiaries, mostly in the bee keeping initiatives. The Borrower Completion Report and ICR mission provided anecdotal evidence that these impacts to women were important, providing further resources for education for children and improved nutrition to women and children. No gender-based violence (GBV) risk assessment was done, and there is no indication that the project increased such risks.

Institutional Strengthening

58. Extensive training and capacity building of staff in ZIMPARKS, EMA, FC, RDCs and ESCs has helped strengthen the institutional capacity on land use and land degradation, sustainable forest and land management and climate adaptation measures from central to local level institutions. The choice to work with each of the institutions per component also helped ensure that those capacities are embedded institutionally, which will benefit future projects of similar nature, both from the Bank and/or from other donors. For example, the REDD+ capacity developed within FC and the Government is the first step for the government to be able to engage in REDD+ activities. It also contributed to helping the FC achieve its mandate, i.e. capacity enhancement for the sustainable utilization and management of Zimbabwe's forest resources and build linkages across relevant institutions for the forest sector. As an example, involvement with the Climate Change Management Department on REDD+ policy issues have improved the role of REDD+ schemes as potential tools for Zimbabwe's climate change strategy and goals. As for ZIMPARKS in HNP, they were significantly trained to better implement and make use of monitoring tools such as SMART and the METT, which is going to have an important and sustained impact beyond the Project, since they are already being used in another park under ZWPMA (as previously mentioned). In regard to EMA, the Sodic Soil Land Rehabilitation Toolkit is also being used for other operations. By working through the Local Chief in Chireya, and the RDCs and ESCs at local level, the capacity built throughout the project will have a sustained impact beyond the project, one example being how the Traditional Leader's Act to prohibit streambank farming was enforced, and put into practice by directing people to other livelihood activities.

Poverty Reduction and Shared Prosperity

59. The project had a positive economic and social impact at the beneficiaries' household level through various activities. In Chireya, the project raised incomes, reduced erosion that was threatening vital social infrastructure, reduced malnutrition by improved crop variation and yields from the community gardens and reduced poverty among women who were engaged in alternative activities such as bee keeping. The hospital in Chireya serves around 20,000 people in the district, who would have been at risk of losing partial access to health care if the erosion control meausres had not been taken. Interviews in the ICR mission also confirmed that project beneficiaries were indeed already advocates for the need to reduce streambank farming and were helping community members who hadn't been directly participating in the project to also change agricultural practices. Community garden participants also now have access to extension services and additional markets through AGRITEX, which is promising for future food security and income earning. Interviews during the ICR mission also found that the erosion control measures entirely done by workers from

communities have contributed to strengthen social cohesion among the communities in Chireya. According to the Chief Warden, and environmental sub-committees' members, the collective action to save the hospital has created a greater sense of community engagement and reduced petty crime. While there is no hard data to verify it, it is a highly interesting observation and creates the argument that even within conservation and NRM, working on social assets, such as a school or clinic, can be a successful entryway to build community engagement, ownership and willingness to engage (see section on Lessons Learned). Further evidence from the ICR mission also found that the revenues generated from livelihood activities would be reinvested in continuing and improving farming etc. and used to continue gully management.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

60. *Realistic Objectives*. The PDO was clear and reflected appropriately the level of ambitiousness for funds available. The PDO was defined to address the need for management tools and capacity building that could lead to improved and more comprehensive efforts related to land and forest management. The PAD clearly outlined that activities would be implemented in selected sites in HSBC, but with the intention that these tools and experiences could be replicated in other parts of HSBC beyond the Project. It could be discussed whether having an even simpler PDO, that did not entail building capacity at the corridor level – but rather in the selected sites within the corridor would have been desirable. Yet the framing of the PDO to increase capacity *in* HSBC and not *of* HSBC can be considered as the way to manage the expectations that capacity was supposed to be built in selected areas and not *of* the entire corridor.

61. *Simple Design*. The PDO and related outcome targets were clear and framed with a focus on measurable outcomes and outputs. The RF was aligned with operational objectives at the outcome level, although baselines were missing for key indicators, such as vegetation cover, at the time of project preparation and were deferred to the implementation phase. Missing baselines were set in year 2 of the project.

62. *Commitment and stakeholder engagement during Project Preparation*. Evidence from early ISRs and AMs during preparation demonstrate a significant involvement of actors and that the PDO was designed in a way to meet the various management needs of all relevant stakeholders. At the technical level, there was strong coordination between the different agencies involved in the project under the leadership of the Ministry of Water, Environment and Climate Change (MoWEC) and under coordination of WWF. A common information platform for the project with all relevant documents and reports was also created to share information and relevant documents. The role of each stakeholder was clearly identified, with the help of the Project Steering Committee, eluding to national ownership of the project.

63. *Adequacy of implementation arrangements*. The project was designed with WWF-Zimbabwe in mind as implementing agency, which was indeed a capable and appropriate choice, especially considering that the Government was in arrears. This was a practical solution for the Bank to channel financing to a much needed area of intervention. WWF was also implementing other projects related to environmental management with the MoEWC, thereby harmonization and complementarity between HSBC Project and other country initiatives could be ensured.

64. *Difficulties in designing Component 3*. Due to its cross-sectoral nature, there were difficulties in designing the activities and overall responsibility for the component, and so instead of having one single responsible agency for the component, specific agencies were assigned to specific activities under the component. While not having one single entity responsible for the component enabled a collaborative implementation effort from all agencies on larger

landscape-based approaches, further prioritization of the many component activities brought out in the PAD, could have made the component more focused and easier to asses from a performance point of view. There was for example no indicator linked to its activities.

65. *Adequacy of risk and mitigation measures*. The overall project risk was rated as High due to risk at the country and sector levels, in capacity, governance, design, and sustainability. The preparation phase adequately assessed the risks, including community engagement, sustainability and technical capacity to coordinate project implementation as well as deliver on tasks and incorporated mitigation measures for this in project design.

Table 2: Risk Rating Summary

Risk Category	Rating at Design Stage	Rating at End of Project
Stakeholder Risk	High	Moderate
Implementing Agency Risk		
- Capacity	High	Low
- Governance	High	Moderate
Project Risk		
- Design	High	Moderate
- Social and Environmental	Moderate	Moderate
- Program and Donor	Moderate	Low
- Delivery Monitoring and Sustainability	Moderate	Moderate
Overall Implementation Risk	**High**	**Moderate**

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to the control of the Government/Implementing agencies

66. *Slow start*. The Project had a slow start due to project coordinator and technical staff not being on board until early 2015 after the project became effective.

67. *Project Steering Committee (PSC).* Overall the PSC was effective in providing governance oversight and creating the policy linkages for the project. The PSC was composed by the various relevant stakeholders, including MoEWC, the Ministry of Local Government, Ministry of Agriculture, WWF, FC, CA, ZIMPARKS, EMA and CCMD. The main function of the PSC was to monitor project implementation through review and approval of work plan budgets and progress reports. A total of six meetings were held during the project and there were no major challenges that were incurred in fulfilling their mandate. Effective coordination of the PSC ensured that all project partners were conversant with progress in project components and it created synergies and cohesion amongst the partners especially the three government agencies (ZIMPARKS, EMA, FC) which were not evident before the project.

68. *Sustained Government commitment*. In general, the Government of Zimbabwe (GoZ) showed strong commitment to the project and to strengthening capacity at the institutional level. This was demonstrated through their leadership in the PSC and their timely provision of counterpart funding, which supported training and capacity building

for core team staff members on relevant aspects of project management. This had a positive effect on implementation and helped to embed stronger capacities for donor-funded projects at the institutional level.

69. *Parallel co-financing*. The project benefited from US$17,092,645,000 in co-financing, bringing the total financing for the project to US$22,732,000 (See page 2 of Data Sheet). Of the total amount committed from the start 92% was contributed at project end. Government through its various participating entities increased its anticipated co-financing from $13,215,000 to $14,180,000 which is an increase of 9.3%. The greater part of this contribution was in form of government staff working on the project, office space, equipment and use of non-project vehicles. The Government also financed a food-for-work program in support of project efforts during gabion construction in Chireya. The envisaged co financing from the private sector did not fully materialize, only 5.8% of the anticipated, as only one private sector partner became engaged in Sidinda. The TerrAfrica grant[4] provided support for technical consultation work that needed to be done for this project, especially for the groundwater study and forest management, which enabled a significant increase in quality.

70. *Communication and knowledge management.* WWF together with MoEWC were responsible for communication aspects of the project. A communication strategy, that outlined key activity and outputs was developed between WWF and the implementing agencies' education and awareness managers. The range of materials developed as part of the strategy[5] managed to disseminate key project activities and results through various platforms and contributed to awareness-raising of stakeholders to build commitment to action. These products, such as documentaries, radio programs, brochures and radio programs were thus a positive factor to advance implementation. WWF maintained communication personnel throughout the project to ensure the coordinated communications approach of all agencies under the framework of the project.

71. *Procurement capacity of WWF*. WWF-Zimbabwe was responsible for all fiduciary aspects of the project including those of procurement. At a global level, WWF has established policies and guidelines for procurement and has experience in procurement under World Bank and various other bilateral and multilateral agencies. Their procurement policies are however delegated to the field offices, where capacity can vary, and documented in a Field Operations Manual (FOM). Accordingly, a procurement capacity assessment of WWF-Zimbabwe was undertaken in accordance with the Bank's Procurement Risk Management System to assess overall project risk and identify mitigation actions. Despite that Procurement risk was assessed as low, the Project faced a range of procurement related delays in the two first years of implementation, mostly due to that WWF lacked enough local capacity. Challenges included challenges in accessing STEP (Systematic Tracking of Exchanges in Procurement) when it was first introduced, leading to delays in submitting requests as well as inadequate evaluations. More procurement support than anticipated was needed from the Bank Task and upon recommendation from the Bank, WWF hired a local procurement officer in mid-2016 who was also trained at the Ghana Institute of Management and Public Administration (GIMPA). While performance subsequently improved, certain target timelines for purchase of good and equipment were delayed and affected implementation (fencing for Sidinda and GIS and office equipment for FC in Bulawayo). Further details on procurement is found in paragraph 84.

Factors subject to the control of the World Bank

72. *Low turn-over of TTLs*. The project only went through one TTL turn-over, which helped ensure continuity in supervision throughout project implementation. Neither of the TTLs were based in Zimbabwe, yet at least one team member was maintained at the level of the CO throughout the project to provide day-to-day support.

[4] https://www.nepad.org/programme/terrafrica
[5] Links to materials produced (documentaries, videos, radio programs, brochures) found in Annex 8

73. *Task Team composition*. While the Bank team had strong technical knowledge of the issues at hand, dedicated safeguards and M&E expertise was limited until MTR, which led to delays in monitoring the implementation of safeguard frameworks and finalizing missing baselines and the M&E manual until 2016. At MTR, a social specialist and environmental specialist were brought on board the Task Team, which significantly improved implementation. More details are provided in the Safeguards section of this ICR.

74. *Follow up and resolution of implementation issues*. Information from ISRs/AMs shows that the Bank Task Team overall responded to the needs of the Client in a timely manner. Examples of this included the comprehensive MTR in which dedicated safeguards and M&E expertise was brought in to assist WWF in refining safeguards implementation and its M&E methodology, as well as the pre-empted extension of the Project in 2019 to close out outstanding key activities.

Factors outside the control of government and/or implementing entities

75. *Climate change*. Although there was important recognition at project preparation that climate change was a growing risk and that building resilience is key to overcoming unsustainable land and water use, it was not properly calculated for in implementation. The drought conditions and reduced precipitation led to loss of forage for wildlife in Sidinda and entailed extra costs to the Project to buy feed for the animals. The reduced rainfall also led to the need to purchase fuel for solar powered boreholes in HNP so that they could be powered by diesel and pump even at night. Lastly, it made it more difficult to properly plant vertivar grass in all gabion construction in Chireya, which may have an impact on its durability post project, especially if conditions to plant the grass don't improve.

76. *Overall national reduction in tourism*. A steep reduction in overall tourism to Zimbabwe challenged certain aspects of the Project. An example of this relates to how a reduction in tourism, including for trophy hunting, negatively impacted the possibility for communities to derive substantial economic benefits from wildlife management. If the trend continues wildlife poaching from communities could increase. Without proper implementation of the business plan for the Sidinda community conservancy, such risks will pertain beyond the Project. The Project could have foreseen some of these challenges and could have considered exploring further alternative livelihood activities for wildlife dependent communities, as indeed identified in the Business Plan.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

Rating: Substantial

M&E Design

77. At preparation stage, the team identified the activities, desired outputs and critical assumptions underpinning the ToC of the project. The project indicators were clear, measurable and time-bound and linked well to the two overall project outcomes as they measured the desired results/short-term outcomes of activities, such as stable carbon sequestration due to investments in forest reserves; increased area under improved management as a result of properly designed and implemented land rehabilitation pilots; reduction in poaching incidents due to management improvements in the form of equipment and tools; reduced HWC incidents due to properly designed and community

implemented HWC measures; and improved Management Effectiveness of HNP and Forest Reserves as a result of investments in management structures, tools and equipment. The RF lacked some of the key baseline data in the beginning of the project, such as NDVI of forests and METT scores for the forest reserves, and the establishment of the baseline was included as activities in the Project, which were formalized in 2016. All components but component 3 had clear indicators linked to it, which according to this ICR demonstrates a lost opportunity for tracking progress of corridor-wide sharing of tools and capacity. No changes needed to be made in the RF throughout the lifetime of the Project, which speaks to the overall adequacy of it.

M&E Implementation

78. Indicators were monitored by WWF together with partners and reported on in quarterly progress reports submitted to the World Bank. The reports received in the first year of the Project were rather scarce on information, partly due to that WWF did not have adequate dedicated M&E staff for the project and that the M&E manual had not been elaborated. The quality of data from the various implementing agencies also varied and cross-verification was limited. At Mid-term Review (MTR), the outstanding M&E methodology was completed by WWF with support from the Bank, which led to improved cross-verification and quality of reports and data reporting. The Bank did not have a dedicated M&E Specialist on board the task team, which could have been one of the factors to limited M&E support to WWF and agencies. In terms of progress towards meeting the GEF Biodiversity goal, it was captured and reported in the tracking tools updated at mid-term and completion.

M&E Utilization

79. Due to the above-mentioned challenges of M&E up until MTR, it was not sufficiently used to inform project management in the first year of implementation. The support provided by the Bank to WWF and partners at MTR helped however to substantially improve this and to help WWF develop more consistent and candid reporting on key aspects of project performance. This helped improve prioritization of activities and overall management of the project.

Justification of Overall Rating of Quality of M&E

80. An overall Substantial rating of M&E quality is justified by the appropriately selected indicators for measuring the PDO, with adequate targets that were indeed reachable at EOP and with a RF that did not need to be revised throughout the project. The shortcomings to M&E were only minor and at early phases of the project, including the delay in the preparation of the M&E Manual, which was subsequently finalized in 2016.

B. ENVIRONMENTAL, SOCIAL AND FIDUCIARY COMPLIANCE

Environmental and Social

81. The project was considered a social and environmental category "B" project since the anticipated impacts were small scale, site-specific, and could be mitigated. There were no large scale, significant, or irreversible impacts. The project triggered six safeguard policies: Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Forests (OP 4.36), Physical Cultural Resources (OP 4.11), Indigenous Peoples (OP 4.10), and Involuntary Resettlement (OP 4.12). The Project prepared the required Environmental and Social Management Framework (ESMF), Process Framework (PF) and Indigenous Peoples Planning Framework (IPPF) in line with the World Bank and national policies standards.

82. *Limited safeguards implementation before MTR*. Adequate supervision on safeguards implementation was only secured by the Bank team following MTR in early 2018, when two dedicated safeguards specialists joined the Task Team. It was the first mission that included detailed attention and review of safeguards implementation and it concluded with a moderately unsatisfactory rating for safeguards, explained by the limited capacity of WWF to follow the procedures

laid down in the Project's safeguard frameworks and insufficient reporting. With the increased support including training on safeguards policies and instruments from the Bank team, the Project managed to significantly improve the due diligence, including agreed screening subproject activities for safeguard implications and at project end it was rated satisfactory. The project complied with all applicable/triggered safeguards policies.

83. *HNP Incident*. In November 2019, the Bank learned that during a skirmish, Park rangers killed a poacher on April 22, 2019. While the Project supported wildlife protection and anti-poaching through training and equipment, no weapons, bullets or ranger salaries were financed by the project. No project activities were directly involved in the incident. The national authorities investigated and found no wrongdoing by the rangers. The case was closed. The Bank team applied the Environmental and Social Incident Reporting Tool (ESIRT) to record this incident. This was the only ESIRT case registered during the project implementation.

84. *Environmental safeguards*. The project involved only one physical structure (for the installation of a wood drying kiln) for which an adequate Environmental and Social Management Plan (ESMP) was developed. Due to delays in finalizing the ESMP, installation of the kiln could however only be done at the very end of the project, limiting the opportunity to fully assess the resulting social and economic results and outcomes. Despite early reporting challenges, many project activities were supported by ecological assessments such as a June 2016 Aquifer Study which confirmed there was enough water for the boreholes drilled. Similarly, the November 2015 Ecological Study Report for Wildlife Restocking in Sidinda Ward confirmed the ability of the existing resources in the area to support the recommended founder animals without significant negative consequences to the habitat or the re-introduced animals. These studies were co-financed by the World Bank-managed TerrAfrica trust fund.

85. *Social safeguards.* At MTR in 2018 CAMPFIRE, WWF and the World Bank undertook a review of the inclusion of Tshwa community members in the HWC mitigation activities in Tsholotsho, guided by the Project's Indigenous Peoples Planning Framework (IPPF). The review was necessitated, as an Indigenous People's Development Plan was not developed in accordance with the IPPF. The review concluded that the approach engaged in the initiative was materially consistent with OP4.10 and the Project IPPF. The review received final approval by the World Bank mid-2019. No other activities within the Project included affected or beneficiary communities with Tshwa members. However, the Tshwa community in Tsholotsho were instrumental in sharing lessons learned in effective human-wildlife-conflict mitigation in neighboring communities.

86. *Resettlement*. Implementation was guided by a Project Process Framework, which provided guiding principles for community engagement and benefit sharing which has been enhanced through the Project implementation activities. For example, scheduling with communities of cattle grazing in forest areas and collection of grass, mushrooms, poles and other materials. The scheduling ensured that community members were protected against wildlife by park rangers or Forest Commission staff. In addition, in Chireya, voluntary agreements were implemented for persons benefitting from the garden project guided by a framework for voluntary land adjustments to facilitate improved land management. The agreements facilitated the move from destructive farming on riverbanks to improved community garden areas.

87. *Physical Cultural Resources (PCR*). PCR were considered to be possible (however unlikely) whenever excavation work was involved such as in the drilling of boreholes and gabion construction. The project mitigated the possibility of any PCR finding through establishing chance-find procedures which would have been followed if any PCR were found unexpectedly.

88. *Grievance Redress Mechanism (GRM).* A GRM for the project was developed where complaints were received,

recorded and feedback given at component level and by the respective institutions. Examples of the functioning of the GRM includes; i) the revision of the initially gender-disaggregated access modality to collect forest products in the gazetted forests, which was revised to include both women and men, after feedback from several community members (men and women) and ii) the improvements in quality of protective clothing for the gulley rehabilitation in Chireya as communities raised concerns of the original product.

Financial Management (FM)

89. The project complied with FM procedures during its duration, with FM always rated as satisfactory. FM arrangements were adequate in terms of being capable of recording correctly all transactions and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entity's assets and its auditing arrangements maintained acceptable to the Bank. Mid-way through the project cash management for the project started becoming a challenge, due to country-wide liquidity issues. The issue was successfully addressed by reducing the payments thresholds from US$ 50,000 to $3,000 to allow the project to make direct payments to foreign suppliers. The project managed to maintain compliance with all the FM covenants, as it submitted the financial reports and audit reports on time.

Procurement

90. Procurement was a major project management activity as significant number of items were procured. The World Bank Guidelines: Procurement under IBRD Loans and IDA Credits dated January 2011 and Guidelines: Selection and Employment of Consultants by World Bank Borrowers were used and so was the World Bank Systematic Tracking of Exchanges in Procurement (STEP) system. In the first half of the Project (2015/16) there were delays in procurement, leading to certain delays in project implementation and it was rated as Moderately Satisfactory. Some of the findings from the June 2016 Procurement Progress Review (PPR) included for example that (i) deficient specifications had been submitted by WWF partners leading to equipment being bought that could not perform the intended function; (ii) equipment procured through the project had not been entered into Asset registers; (iii) there was no clear recording system for goods issued out to beneficiaries; (iv) In some cases vehicles were not being used for project work; (vi) the record management system for procurement needed to be improved. These issues were duly discussed and subsequently addressed, mainly by the hiring of a procurement consultant at WWF. Through training, both by the Bank and at the GIMPA, procurement performance improved, and no major challenges were experienced up to project end.

C. BANK PERFORMANCE

Rating: Satisfactory

Quality at Entry

91. The project was designed to meet Zimbabwe's development challenges and supported the Bank's engagement strategy in the region as well as the ISN 2013-2015. The project was the first of its kind for the World Bank in Zimbabwe. The team drew on the Bank's extensive knowledge to address land degradation and deforestation and incorporated key lessons learned from other projects, especially for protected areas. The Bank also managed to leverage Bank- executed Technical Assistance (BE TA) with funding from the TerrAfrica Fund, which was critical for the buy-in and kick-start of the project, as well as for undertaking technical analysis during implementation of the project, that were deemed essential, especially for the groundwater study in HNP. Such BE TA was thus an important contribution to enhance quality of the project, but also to build linkages to other WB projects in the region. Provisions for safeguards, procurement, and financial management were adequate at entry. While the team paid adequate attention to technical issues related to land degradation and forest and protected area management, community benefits from wildlife

management could have been better analyzed at Project design, especially how to improve the benefit sharing to communities from wildlife in Sidinda, which had been an apparent issue of concern, even for CAMPFIRE in the years leading up to the project.

Quality of Supervision

92. The Bank provided a total of eight bi-annual supervision/implementation support missions, including a comprehensive mid-term review (MTR) mission in January 2018. With just one change in task team leadership after the MTR, the project enjoyed stable project management. The MTR mission included a proper overlap of the two TTLs and sufficient communication and collaboration were done between the TTLs and WWF to ensure continuity. Internal WB documentation demonstrated that communication between the two TTLs lasted for at least a year after the official handover was done. Supervision missions included field visits to observe certain progress on the ground, but the Task team relied quite extensively on the project implementation agencies to monitor and report on project implementation. A local consultant was however based in the CO, which also ensured regular follow-up, especially towards the end of the project to ensure completion of activities and swift attention to implementation issues. ISRs and AMs were candid and of high-quality reporting. They systematically recorded challenges encountered, critical milestones, key decisions and next steps including timelines for implementation and information on project field visits and stakeholders met. Fiduciary aspects were regularly supervised by the FM and Procurement specialist who also supported the PIU with guidance and technical assistance. The challenges that were hindering the project to move forward were addressed in a timely manner such as the disbursement challenges previously mention. The Borrower Completion Report provided evidence that the implementing agencies were satisfied with the Bank's performance.

93. The Bank team also facilitated relevant cooperative working relationship with the PIU and Government Agencies, which was one of the reasons for the eased relationship between the HSBC project and the broader Climate Change and Environment Agenda. The Bank, through the Global Wildlife Program, also enable Zimbabwe to share experiences with other countries facing similar challenges in terms of Protected Area Management.

Justification of Overall Rating of Bank Performance

94. The overall rating of Bank performance is Satisfactory, justified by that i) project design was based on a solid analysis and with realistic targets and there was proactivity in finding a viable solution to channel funds to the sector in Zimbabwe despite government arrears to the Bank; ii) supervision was conducted regularly and proactively, with a smooth TTL change and a local consultant hired in the CO to perform day-to-day follow up; iii) proactive engagement by the Bank team during implementation that enabled BE TA to complement and improve project activities and which facilitated knowledge sharing within Zimbabwe and the region. The Bank's shortcomings in supporting WWF on safeguards and M&E up until the MTR were subsequently improved, as demonstrated by compliance with safeguards frameworks and satisfactory M&E implementation and achievement up until project closing.

D. RISK TO DEVELOPMENT OUTCOME

95. The overall macroeconomic situation in Zimbabwe has worsened over the lifetime of the project, with high inflation, currency shortages and budget and current account deficits continuing to beset the economy. This imposes a risk to reduced public funding for the environment and conservation sector. While activities initiated by the project are aligned to the mandates of the coordinating agencies (ZIMPARKS, FC, EMA, CAMPFIRE Association, WWF, and METHI) they are dependent on receiving budgetary and policy support from the respective agencies to sustain and advance activities. The utilization of local structures such as the ESC) and community fire brigades, who are supposed to ensure continuity of project activities, are also dependent on government funding. Despite the level of co-financing (US$14,18 million) during implementation, which demonstrates willingness of the government to continue supporting these

agencies, the economic situation could pose the risk that public funding for this could be limited.

96. The viability and long-term sustainability of certain community-led activities that were implemented late in the project also remains uncertain, including whether the business plan of the Sidinda Community conservancy can be implemented successfully and whether the community gardens in Chireya can continue to work, i.e. that people do not return to riverbanks and they are intended for their purpose. Unreliable perception patterns and prolonged droughts, exacerbated by climate change also pose a risk, as it may lead to further forage shortages for wildlife, posing a risk to the sustainability to the Sidinda wildlife conservancy, which is already situated in a drought-prone area. An overall reduction in tourism in Zimbabwe also poses a risk. The current crisis of the COVID-19 pandemic has indeed already brought down the tourism in Zimbabwe and the region, which has adverse implications for the short and medium-term prospects of the Sidinda Conservancy.

97. A commercial agreement for the piloting of REDD+ is still needed to initiate implementation. While this not pose a risk to the achieved outcome of building capacity to REDD+, it may risk that the capacity built is not capitalized on to the extent that it could. Discussions between the government and an interested organization is underway but requires sustained and detailed follow-up. Given the World Bank's vast experience in such schemes regionally and globally, it could play an important role in continuing to facilitate these discussions.

V. LESSONS AND RECOMMENDATIONS

98. **Selecting and implementing land rehabilitation pilots in a participatory manner where it visibly threatens a common social asset can generate both community ownership and long-term environmental improvements.** The gully prevention measures and soil rehabilitation around the hospital and schools in Chireya proved effective to truly engage, motivate and maintain communities in land restoration efforts. Since it was in the interest of the entire ward to save these socially important infrastructures, the pilots were selected and implemented with virtually no resistance and buy-in from communities was ensured. ***Recommendation:*** EMA and RDCs should continue to engage communities to select intervention areas where they deem most critical. Soil rehabilitation around social assets allows to engage communities in the design and the implementation (through community labor) and helps build the capacity of communities (which was the desired outcome of HSBCP), and it contributes to install a sense of pride and unity. This cohesion is critical for maintaining the long-term sustainability of the land restoration efforts. This approach would be applicable to other natural resource management projects of the Bank, since they usually grapple with how to effectively engage and maintain communities' time and interest in restoration, especially if benefits will only be visible or achieved later and benefit a few number of people.

99. **Business development around community conservancies requires close supervision from the onset and should consider promoting livelihoods beyond wildlife tourism, preferably through community-private partnerships.** By only finalizing the business plan for the Sidinda conservancy in the last year of the project, due to the several steps needed for community capacity building, and by limiting capacity to only focus on wildlife management for tourism, the Project did not maximize the full potential to generate benefits to the community in the future. ***Recommendation 1*:** Since building community capacity is well known to require time, projects need to ensure to prioritize such activities early in the project and a clear methodology for it, acceptable to all stakeholders, should be agreed at project design, or in the first year of implementation. A specific step-by-step project implementation manual for how the project will work on addressing the issues, such as defining governance structures, stakeholder roles and benefit sharing rules, can be a useful tool for both borrowers and clients to minimize delays and to assure sustainability of community capacity building**.** ***Recommendation 2****:* In the case of Sidinda, and community conservancies alike in Zimbabwe and the region,

further livelihood opportunities beyond wildlife tourism is needed, especially considering the downward trend of tourism in Zimbabwe and shocks like the COVID-19 pandemic. Several other income generating activities (fish-farming, beekeeping and seasonal vegetable production) were suggested in the business plan, and future projects that aim to promote business development around a community conservancy should consider expanding other livelihood activities that are not entirely dependent on tourism. Promoting community-private partnerships is a way to leverage financial and technical resources for such business promotion.

100. **Innovative alternative livelihood options introduced in remote rural areas should be considered from a value chain perspective.** Several of the livelihood activities such as community gardens, beekeeping and brick molding were introduced late in the project, which makes monitoring of their long-term viability difficult. One way of addressing this is to ensure that there are viable market linkages to sustain the expected income streams from these alternative activities. ***Recommendation:*** While the project provided certain support from AGRITEX (Zimbabwe's Department of Agricultural Technical and Extension Services) in Chireya, an increased support to facilitate market linkages for new and increased crops, is advisable for future similar projects to provide greater certainty on their long-term sustainability.

101. **Project implementation delays could have been reduced by stronger safeguards and procurement capacity of WWF and the Task Team.** Stronger implementation support from the Bank on social and environmental safeguards in the first years of the project could have mitigated the delayed installation of the wood drying kiln. Earlier training and capacity building to WWF on Procurement could have enabled less delays in key activities, such as the fencing for Sidinda. ***Recommendation:*** From the onset, Task Teams should apply the type of proactive measures taken at MTR of this project to build safeguards capacity, including intensified implementation support and trainings, as a way to ensure compliance with Bank frameworks, more timely preparation of safeguards reporting, and enhanced overall quality of project activities, especially on effective community engagement. Dedicated technical assistance on procurement is also needed on a continuous basis, especially for non-government implementing partners and when the Bank sets up new systems for use (such as STEP during the lifetime of this project).

102. **Climate change risks should be assessed and managed on a continuous basis during project implementation.** While the risks of climate change were considered during preparation, the drastic changes in precipitation patterns during the project proved to pose challenges and spending that had not been adequately foreseen in project design, such as the drought which resulted in insufficient grazing for wildlife in HNP and difficulties in wildlife restocking in Sidinda**.** ***Recommendation:*** Review of climate risks should be included as core part of Project supervision and teams should consider bringing in additional technical support for activities where risks are deemed higher (such as for wildlife translocation and management). This also calls for the need to build stronger capacity for sectoral mainstreaming of climate change in Zimbabwe's institutions and community systems, which the Bank is supporting.

103. **Preserving transboundary ecosystems requires long-term commitment and is preferably done through a regional TFCA program.** To ensure corridor level sharing and use of the interventions spearheaded under the project within Zimbabwe and in the greater KAZA TFCA, significant more funding for *the region*, and over a long period of time, is needed. ***Recommendation:*** A regional program on the KAZA TFCA would allow this transboundary area to achieve goals of connectivity, trade and market integration, human capital, and resilience, and contribute to ensuring sustainability of interventions. With its experience on TFCAs and commitment to regional integration, the Bank would be well positioned to pool resources for such a Program from various sources, as some are already available (such as f the mentioned support from the KAZA TFC to Sidinda, which is co-financed by KfW). Such a program would complement the Bank's current priorities under its ISN and ZIMREF in Zimbabwe and its regional priorities under the Southern Africa Drought Resilience Program and Cooperation in International Waters in Africa Program.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Improved land use and resource management capacity of managers and communities in HSBC

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Direct project beneficiaries	Number	0.00 01-Jul-2014	20000.00 01-Jul-2014		20134.00 17-Dec-2019
Female beneficiaries	Percentage	0.00	52.00 29-Dec-2017		52.00

Comments (achievements against targets):
Achieved (102%). Direct beneficiaries are those individuals benefiting from project activities, including 1740 people in Chireya that benefited from restoration pilots, community gardens, brick making machine projects and bee keeping equipment; the 1689 community members in Sidinda Ward that benefitted from wildlife restocking, the 400 community members in Ngamo and Sikumi that benefited from bee-keeping equipment and training, 22 forest rangers and 197 community members in community fire brigades; and 16,086 people in Tsholotsho benefiting from HWC mitigation measures. The target for women as a percentage of beneficiaries was achieved (52%). Data source/methodology: Project activity reports, compiled by WWF.

Objective/Outcome: Improved resource management capacity

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improved management of Hwange National Park	Number	51.00 15-Jan-2014	69.60 17-Dec-2019		69.60 17-Dec-2019

Comments (achievements against targets):
Achieved (100%): The indicator was measured through the Management Effectiveness Tracking Tool (METT). The basket of interventions to achieve the indicator included anti-poaching, sustainable game water management, fire management and enhanced community participation. Use of METT is required for GEF-financed projects related to Protected Areas. Data source/methodology: METT survey. Data collected by: ZPWMA (ZIMPARKS)

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Stable carbon sequestration in project forest reserves.	Percentage	0.00 01-Jul-2014	0.00 17-Dec-2019		0.00 17-Dec-2019

Comments (achievements against targets):
Achieved (100%): The target for stable carbon sequestration was measured using the normalized difference vegetation index (NDVI) with 2015 as the base year. From a total of fifty randomly selected points in the two forests, NDVI values for 2015, 2017, and 2019 were calculated per year per forest. Both forests experienced an increase in NDVI between 2015 and 2017. The following gives the NDVI for both forests as a measure for forest health index: **Ngamo**: 2015: 0.43; 2016: 0.59 and 2019: 0.54 and **Sikumi:** 2015: 0.40; 2016: 0.57 and 2019: 0.53

Objective/Outcome: Improved land use capacity

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Land area where sustainable land mgt. practices were adopted as a result of proj	Hectare(Ha)	0.00 01-Jul-2014	500.00 17-Dec-2019		491.40 17-Dec-2019

Comments (achievements against targets):
Partially achieved (98%). The land areas includes: 275 ha of land protected by dead level contours and minimum tillage in arable lands; 46.4ha of land protected along the stream bank as a result of the consolidated community gardens, 20ha protected from brick moulding, 150ha in the immediate gully catchment protected by culverts, landscaping (bevelling), rainwater harvesting on rooftops, gabion construction, grass planting, silt traps, splash drains, backfilling and isolation of the gully area to allow for natural healing.

A.2 Intermediate Results Indicators

Component: Protected area management and community livelihoods

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Areas brought under enhanced biodiversity protection (ha)	Hectare(Ha)	0.00 01-Jul-2014	0.00 17-Dec-2019		0.00 17-Dec-2019

Comments (achievements against targets):
Achieved (100%): The expected target was set at 0 ha, because the METT score for Hwange National Park was never expected to change from one major METT category to another. This indicator is included in the project because it is mandated by the GEF who are interested in consolidating results globally for this indicator, even if in certain projects the target is set at zero. Source: METT score, ZPWMA (ZIMPARKS)

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Reduced poaching incidents	Number	710.00 01-Jul-2014	400.00 31-May-2019		450.00 31-May-2019

Comments (achievements against targets):
Achieved (88%): The baseline for this indicator was revised downward from 858 in the PAD to 710 at MTR to reflect the reality on the ground. A poaching incident was classified as an observed infraction (e.g., a poached animal, a poacher's camp, an arrested poacher). Data source: HNP Reports, ZPWMA (ZIMPARKS)

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Reduced human-wildlife conflict	Number	100.00 01-Jul-2014	30.00 17-Dec-2019		9.00 17-Dec-2019

Comments (achievements against targets):
Achieved (130%): Incidents of Human Wildlife Conflict (HWC) were measured through reported incidents of significant damage to crops, property, or people caused by wildlife (such as elephants or lions) in Tsholotsho wards. It should be noted this is an annual indicator for 2019 and the results for 2017 and 2018 were at the same level or lower, indicating a downward trend from the baseline. Source: CAMPFIRE and RDC reports.

Component: Land and forest management

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
New areas outside protected areas managed as biodiversity-friendly (ha)	Number	0.00 01-Jul-2014	10000.00 17-Dec-2019		10000.00 17-Dec-2019

Comments (achievements against targets):
Achieved (100%): Achieved through the setting aside of 20,000 ha for the Sidinda conservancy, and upgrading it with wildlife restocking, partial fencing, law enforcement and communication upgrade. Source: CAMPFIRE reports.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Forest area brought under management plans	Hectare(Ha)	0.00 01-Jul-2014	157300.00 19-Dec-2019		157300.00 19-Dec-2019

Comments (achievements against targets):
Achieved (100%): Achievement of this indicator required at least a 15% improvement in the METT scores for the two forest reserves of Sikumi and Ngamo, which covered a total area of 157 300ha. The METT scores for both Sikumi and Ngamo achieved this, by moving from fair(52.53 in 2015) to good (75.5 in 2019) and Ngamo management effectiveness rated from a fair(58.59 in 2015) to a good category (75.4 in 2019).

Component: Corridor sustainability

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Capacity building of beneficiaries	Percentage	0.00 01-Jul-2014	80.00 17-Dec-2019		90.00 17-Dec-2019

Comments (achievements against targets):
Achieved (110%): The project envisioned to build capacity of at least 80% of 900 people targeted for such activities. At EOP a total of 808 (i.e 90%, and thus above the target of 80%) beneficiaries were considered trained over the project duration. The beneficiaries include: trained forest rangers, Park rangers, fire brigades, Environmental sub-committees in Sidinda and Tsholotsho; the people involved in gabion construction; Capacity building to the Problem Animal Control (PAC) staff that monitors HWC, the REDD+ implementation Training of Trainers; training of village heads in Chireya; beneficiaries of bee keeping, brick making and community gardens.

B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Improve land-use capacity of resource managers and communities in HSBC	
Outcome Indicators	1. Land area where sustainable land mgt. Practices were adopted as a result of the project 2. Direct project beneficiaries 3. Female beneficiaries
Intermediate Results Indicators	1. Capacity building of beneficiaries (Component 2)
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	1. Study to determine the scope of Ume sub-catchment wide measures to reduce land degradation 2. Participatory socio-economic study to determine underlying drivers of land degradation 3. 64 water harvesting tanks and water delivery system installed at Chireya Secondary and Primary Schools and Chireya Hospital 4. 34km of gabions constructed at 3 gully heads 5. Rehabilitation of one culvert along Chireya Hospital Road 6. Soil erosion monitoring plots and weather measuring stations installed at 6 schools in Chireya 7. A geotechnical study undertaken to determine the stability of the soil structure around Chireya Hospital and fencing off gully perimeter at the hospital 8. Formation and training of ESCs in three wards **9.** Awareness raising on contribution of stream bank cultivation to land degradation **among communities** and inputs and training for livelihood activities in Chireya, identified by the communities as necessary to maintain land degradation remediation measures, including beekeeping, community gardens and brick molding production. More specifically: • Establishment of three community gardens with solar powered boreholes and water tanks, benefitting 120 Households • Purchase of a brick molding machine for using cement and river sand and sun dried to reduce deforestation from brick molding using clay and firewood, benefitting 60 youth. • Beekeeping as a tool to promote sustainable forest management introduced with the training of lead beekeepers in Farmer Field Schools, benefitting 300 households.

	10. Institutional arrangements set up and multi-sectoral technical committee for the management, maintenance and continuation of the gabion construction within the catchment put in place through the Technical committee
Objective/Outcome 2: Improve resource management capacity of resource managers and communities in HSBC	
Outcome Indicators	1. Improved management of Hwange National Park 2. Stable carbon sequestration in project forest reserves 3. Direct project beneficiaries 3. Female beneficiaries
Intermediate Results Indicators	1. Areas brought under enhance biodiversity protection (ha) (Component 1) 2. Reduced poaching incidents (Component 1) 3. New areas outside protected areas managed as biodiversity friendly (ha) (Component 2) 4. Reduced human-wildlife conflict (Component 1 and 2) 5. Forest Area brought under management plans (Component 2) 6. Capacity building of beneficiaries (Component 1, 2 and 3)
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	1. Training in the use of METT for monitoring HNP management and completed the targets for Mid Term Review and at End of Project results 1. Purchase of patrol equipment, digital communication infrastructure (4 base stations & 6 repeater links), 1 vehicle 2. Anti-poaching plan developed and implemented, by carrying out of 150 joint operations with other law enforcement agencies in HNP and its buffer zones. 3. Installation of a new VHF radio system covering 60% of the park 2. Development of a ranger-based wildlife monitoring system (SMART), cyber tracker units procured, and 40 rangers trained to enhance the implementation of the standardized ranger based monitoring system 3. Conducted community awareness campaigns for buffer communities of HNP 4. Supplied fuel for anti-poaching patrols and for borehole operations 5. Fire ecology study undertaken in HNP and revision of HNP and Forest Reserves Fire Management Plans 6. Purchase of fire management equipment and protective wear, and conduction of pre-suppression fire management activities in and around HNP and 1150km of fire guards were cleared and graded, with the support of community contract workers

	7. Conducted fire drills with community fire brigades in Hwange Districts- Mabale Ward 15 and 17 and Tsholotsho ward 3. 8. Ground water study for HNP conducted and installation of water table measurement units and a water table level monitoring model was developed. 9. Drilled eight deep level boreholes (solar powered), converted 5 diesel powered boreholes to solar power. Total of 15 boreholes upgraded to solar powered. 10. Initiation and support to the Junior Ranger program consisting of various activities on conservation for primary school pupils including clubs' formations and quiz competitions for schools from Hwange Communal and Tsholotsho that are in close proximity to Hwange National Park 11. Vegetation monitoring baseline survey in HNP undertaken at the beginning of the project (yet not at EOP) 12. Establishment of a community-based scout unit in Sidinda wildlife conservancy and provision of patrol equipment 13. Electrified temporary release enclosure fence installed 14. Translocation of 100 Buffaloes, 20 Kudus, 19 Waterbuck and 18 Zebras to Sidinda wildlife conservancy 15. Provision of game water and stock feed by the community, private sector partner and the project to the translocated wildlife during drought 16. HWC research undertaken which provided basis for selection of initial sites to implement the HWC mitigation measures 17. HWC Mitigation measures, awareness raising and community capacity in the construction of gum pole barriers with creosote, use of chilli guns undertaken in the Tsholotsho district, benefitting 16086 people. 18. 197 members of Community Fire brigades around the two Forest Reserves trained and fire suppression activities conducted with 360km of fire guards opened and cleared up and 245km graded. 19. Land cover maps for REDD+ for Sikumi and Ngamo Forest reserves produced and a AIS desk study produced 20. Set up of a REDD+ Reference Group comprising experts from various sectors in the forest industry and set up of a technical working group comprising partners from government and NGOs trained on REDD+ implementation 21. A REDD+ policy brief developed to inform REDD+ Strategy 22. Community engagement plan for REDD+ was initiated through training of beekeepers from buffer communities, beekeeping kits purchased (8 KTB hives, 2 Frame hives, 2 catch boxes, protective clothing, hive tools, bee brush, 2 by 28 kg plastic buckets, and a smoker), and training provided to 100 Beekeeping households.

	23. Development of the Project Design Document for the REDD+ pilot, including; defining boundary of project area and confirming carbon stocks in the project area 24. Ten project Steering Committee Meetings held for strategic discussions and lessons learned 25. Production of a communications strategy for dissemination of activities, including videos and TV documentaries, radio and newspapers 26. North Western Zimbabwe symposium conducted to share lessons from project activities 27. Ministry officials participated at all KAZA TFCA Coordination meetings 28. Co-financing leveraged in the amount of US$23,165,000

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Douglas J. Graham	Task Team Leader(s)
Wedex Ilunga	Procurement Specialist(s)
Daniel Yaw Domelevo	Financial Management Specialist
Kristine Schwebach	Social Specialist
Amadou Konare	Social Specialist
Moses Yao Duphey	Social Specialist
Angela Nyawira Khaminwa	Social Specialist
Supervision/ICR	
Pablo Cesar Benitez Ponce	Task Team Leader(s)
Chitambala John Sikazwe	Procurement Specialist(s)
Lingson Chikoti	Financial Management Specialist
Kudakwashe Dube	Social Specialist
Cheryl Khuphe	Team Member
Esther Bea	Team Member
Majbritt Fiil-Flynn	Social Specialist
Nikolai Alexei Sviedrys Wittich	Procurement Team
Jorge Luis Alva-Luperdi	Counsel
Nicole Andrea Maywah	Environmental Specialist
Gibson Guvheya	Team Member
Chenai Laureen Mangezi Chenga	Team Member
Janet Chido Bvumbe	Team Member

Blessing Manyanda	Procurement Team
Yesmeana N. Butler	Team Member
Wedex Ilunga	Procurement Team

B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US$ (including travel and consultant costs)
Preparation		
FY11	3.625	23,469.50
FY12	13.978	70,597.85
FY13	9.145	61,017.98
FY14	8.885	56,821.85
FY15	0	0.00
Total	**35.63**	**211,907.18**
Supervision/ICR		
FY15	7.493	51,919.09
FY16	3.039	132,337.60
FY17	9.462	139,489.61
FY18	5.875	65,720.45
FY19	2.575	50,048.64
FY20	4.325	90,644.71
Total	**32.77**	**530,160.10**

ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US$M)	Actual at Project Closing (US$M)	Percentage of Approval (US$M)
Protected area management and community livelihoods	1.80	1.26	70
Land and forest management	3.24	2.01	62
Corridor sustainability	0.33	1.66	503
Project coordination	0.27	0.71	262
Total	**5.64**	**5.64**	**100**

ANNEX 4. EFFICIENCY ANALYSIS

The PAD did not include a quantitative cost-benefit analysis, yet it qualitatively outlined the project's expected stream of economic and environmental benefits. In addition, a GEF incremental cost analysis was conducted in qualitative terms, estimating Global Environmental Benefits (GEB) that would be achieved by the project interventions and outcomes. This ICR efficiency assessment is built up by: a) a qualitative assessment of the economic benefits (mostly assumptions based, considering actual area covered by the project direct interventions); (b) a Net Present Value (NPV) analysis of benefits generated by the project, examining two monetary values that were available for analysis, i.e. the value of the carbon sequestrated through improved forest management and the value of the timber kiln developed; (c) discussion of the project implementation efficiency; and (d) assessment on the contributions to GEB.

In addition to the findings presented in the main section of the ICR, below are found the calculations for the two monetary values available; the carbon sequestrated and the installation of the kiln, as well as the Table of co-financing.

I) Inputs and calculations for the carbon sequestration:

Inputs	
Discount rate	12%
Project term - years	30
Carbon Credit Price in 2019 $3 to $5	4,0
WB Carbon shadow price $40 or $80	40
Annual hectares not deforested	88,6
Total area	2 659
Management costs tCO2e	1,5

Year	tCO2e avoided loss	Market value	Management costs	Shadow price value
2020	-	-		
2021	199 290	797 160	298 935	7 971 600
2022	202 235	808 940	303 353	8 089 400
2023	205 717	822 868	308 576	8 228 680
2024	209 143	836 572	313 715	8 365 720
2025	213 155	852 620	319 733	8 526 200
2026	215 799	863 196	323 699	8 631 960
2027	219 065	876 260	328 598	8 762 600

2028	222 226	888 904	333 339	8 889 040
2029	226 010	904 040	339 015	9 040 400
2030	228 247	912 988	342 371	9 129 880
2031	231 198	924 792	346 797	9 247 920
2032	233 991	935 964	350 987	9 359 640
2033	237 442	949 768	356 163	9 497 680
2034	239 171	956 684	358 757	9 566 840
2035	241 706	966 824	362 559	9 668 240
2036	244 033	976 132	366 050	9 761 320
2037	247 051	988 204	370 577	9 882 040
2038	248 177	992 708	372 266	9 927 080
2039	250 210	1 000 840	375 315	10 008 400
2040	251 981	1 007 924	377 972	10 079 240
2041	254 478	1 017 912	381 717	10 179 120
2042	254 924	1 019 696	382 386	10 196 960
2043	256 380	1 025 520	384 570	10 255 200
2044	257 526	1 030 104	386 289	10 301 040
2045	259 433	1 037 732	389 150	10 377 320
2046	259 141	1 036 564	388 712	10 365 640
2047	259 969	1 039 876	389 954	10 398 760
2048	260 444	1 041 776	390 666	10 417 760
2049	261 713	1 046 852	392 570	10 468 520
2050	260 655	1 042 620	390 983	10 426 200

Total period in years	Net emission reduction tCO2e	Total market value USD	Total management costs USD	Total value WB shadow prices USD
30	**7 150 510**	**$ 28 602 040**	**$ 10 725 765**	**$ 286 020 400**
Average net annual value USD	Average annual reduction tCO2e	Average annual market value USD	Average annual costs USD	Average annual value with WB shadow prices USD
$ 595 876	**238 350**	**$ 953 401**	**$ 357 526**	**$ 9 534 013**

II) Inputs and calculations for the installation of the kiln:

Inputs	Units
Discount rate	12%
Project term – years 5 or 10 yrs	5 or 10
Timber price m^3	$ 550
Annual production m^3	600
Establishment costs	$ 80 000

Running costs per year	$	18 000
Annual revenue	$	330 000
Net annual revenue	$	312 000

NPV of kiln 10 yrs	NPV for kiln 5 yrs
$ 2 785 714	**$ 1 392 857**

Cost Benefit:

Cost benefit for 5 years - for every $1 invested

World Bank benefits	Society benefits
$ 7,50	$ 1,86

Cost benefit for 10 years - for every $1 invested

World Bank benefits	Society benefits
$ 15,01	$ 3,73

IRR:

Year	Shadow price carbon & timber	Market value carbon & timber
2020	-22 732 000	-22 732 000
2021	7 984 665	810 225
2022	8 098 048	817 588
2023	8 232 105	826 293
2024	8 364 006	834 858
2025	8 518 468	844 888
2026	8 620 262	851 498
2027	8 746 003	859 663
2028	8 867 701	867 565
2029	9 013 385	877 025
2030	9 099 510	882 618
2031	9 213 123	889 995
2032	9 320 654	896 978
2033	9 453 517	905 605
2034	9 520 084	909 928
2035	9 617 681	916 265
2036	9 707 271	922 083
2037	9 823 464	929 628
2038	9 866 815	932 443
2039	9 945 085	937 525
2040	10 013 269	941 953
2041	10 109 403	948 195
2042	10 126 574	949 310

2043	10 182 630	952 950
2044	10 226 751	955 815
2045	10 300 171	960 583
2046	10 288 929	959 853
2047	10 320 807	961 923
2048	10 339 094	963 110
2049	10 387 951	966 283
2050	10 347 218	963 638
	IRR Shadow price carbon & timber	**IRR market value carbon & timber**
	37%	**1%**

Table 3: Co-Financing Table

Sources of Co-financing	**Name of Co-financer**	**Type of Co-financing**	**Amount Confirmed at CEO endorsement / approval**	**Actual Amount Materialized at Midterm (USD)**	**Actual Amount Materialized at Closing**
Multilateral Agency	SADC	Grant	550,000	$513,000	$513,000
Multilateral Agency	TerrAfrica	Grant	250,000	164 000	164, 000
Private sector	Participating Safari and Lodge operators	Other (Investments)	3,450,000	100,000	$200,000
Other (NGO)	WWF	Grant	1,500,000	1,850,000	$1,850,000
National Government	ZPWMA (ZIMPARKS)	In Kind	3,380,000	$2,636,400.00	$3,500,000
National Government	FC	In Kind	2,750,000	$1,045,000.00	2,850, 000.00
National Government	EMA	In Kind	2,885,000	$1,413,650.00	$2,930,000.00
National Government	MoEWC	In Kind	4,200,000	$2,520,000	4,900 ,000.00

Association of Councils	CAMPFIRE	In Kind	200,000	162,000	$180,000.00
		TOTAL	**24,810,000**	**10,240,050.00**	**17,087,000.00**

ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

1. The World Bank received a detailed Completion Report from the Borrower in March 2020 (listed as supporting document in Annex 6), which was prepared by a consultant specifically recruited for that purpose. The Executive Summary of this report is included below.

2. The Borrower provided inputs to the World Bank during the ICR mission (which took place in November 2019) as well as on a continuous basis throughout the elaboration of this ICR. In response to reviewing the post Decision-Meeting Draft of the ICR, the World Bank received a few specific editorial edits and corrections and a comment include more sector or organization specific recommendations that could inform policy and future action. The ICR team addressed these in the final version as appropriate and responded to the remaining questions by email.

HWANGE SANYATI BIOLOGICAL CORRIDOR PROJECT (HSBCP)

PROJECT COMPLETION REPORT
Executive Summary

The conclusion of the Project Conclusion Report assessment is that the project development objective of developing the capacity in land use and resource management of managers and communities in the Hwange-Sanyati Biological Corridor (HSBC) of Zimbabwe was achieved.

The improvement in capacity of Hwange National Park through project support of equipment for anti-poaching, fire management and improved game water provision and training of manpower in law enforcement and monitoring resulted in an increase in the METT scores from 51 at baseline to 69.6 at end of project. For the gazetted forests improvement in management through support to fire management, game water provision, community engagement and law enforcement resulted in an overall decrease in hectares affected by fires as well as NDVI increase for Ngamo from 0.43 in 2015 to 0.54 in 2019 and for Sikumi from 0.40 in 2015 to 0.53 in 2019.

A total of 464ha against a target of 500 hectares where the project introduced SLM practices and/or remediation of sodic soil areas that were subject to major gullying problems was achieved through the land rehabilitation support from the project in the Ume sub catchment in Gokwe North. The target number of direct beneficiaries of 20,000 across the four districts was achieved, with a total of 20 134 direct beneficiaries of which 10,300 were female. Thus about 52% of the beneficiaries were women.

Overall, the project completion rating of the project is that it was successful. The ratings of other aspects of the project are also shown in the Table below.

Evaluation Criteria	Rating	Justification
Relevance	Relevant	The project remains relevant to key National development priorities such

		as the country's obligations under the KAZA TFCA, obligations in meeting NBSAP Aichi Targets and the thrust towards tourism development and Zimbabwe's contribution towards Land Degradation Neutrality. Its contribution to poverty reduction through building resilience of communities in community livelihoods components under Protected areas management, forest management and land rehabilitation maintain its relevance. Project design and outputs contribute towards the mandates and strategic thrusts of the key partners.
Effectiveness	Satisfactory	The project has undertaken most of the planned activities under all components. Where activities were not undertaken (e. g aerial survey) there is adequate justification. Total of US$5,450,682.00 has been spent against US$5,650,000.00 of the GEF grant as at 30 December 2019.
Efficiency	Satisfactory	The project Implementing Unit and Steering Committee coordinated the project well. All required systems by World Bank were put in place. Relevant operational policies guided the safeguards implementation. Financial management followed standard procedure as shown by the audited reports and disbursement rates by component. Generally, all partners were satisfied with the coordination of the project.
Impact	Highly Satisfactory	The project impacts have been clearly seen in the HNP and gazetted forests through reduction in illegal activities and fire incidences as well as for land rehabilitation at Chireya in the gully advancement being stopped. Increased community participation in land use planning and resource management as well as the development of tools, frameworks for integrated landscape management. Other impacts of the project will be seen in the long term.
Sustainability	Likely	Sustainability of some components which were implemented late in the project is questionable if the government partners do not provide significant support for a two or more years. These include the Sidinda Community conservancy, the community gardens (though EMA mentioned continued support with AGRITEX) and the HWC mitigation initiatives in Tsholotsho. Overall components initiated by the project will be sustained given their relevance to the core mandates of the government partners (FC, PWMA, EMA) who were implementing on the ground such as the land rehabilitation, protected area management activities in HNP, Sikumi and Ngamo.

Conclusions

The project fulfilled its project development Objective of, "developing land use and resource management capacity of managers and communities in the Hwange-Sanyati Biological Corridor (HSBC)". The capacity of resource managers from PWMA, EMA, Forestry Commission and CAMPFIRE Association in the management of resources under their mandate was developed during project implementation.

PWMA capacity was enhanced through technical support and training in anti- poaching and monitoring (SMART) and METT tools. The impact of this capacity enhancement was noticeable in the changes in METT

scores from a baseline of 51 to 63 at MTR and 69.6 at end of project for Hwange National Park.

FC capacity in managing the gazetted forests was also enhanced through similar support and the impact was also seen in the improvement of their forest health through the NDVI values which were calculated for 2015, 2017 and 2019 per year per forest. Both forests experienced an increase in NDVI between 2015 (Ngamo: 0.43; Sikumi: 0.40) and 2017 (Ngamo: 0.59; Sikumi: 0.57). In 2019 (Ngamo: 0.54; Sikumi: 0.53) the NDVI value dropped for both forests although the figure was above that of the base year 2015. The end of project METT scores for the two gazetted Ngamo & Sikumi improved from the mid-term score of 66 to 73.53 for Sikumi and 67 to 75.49 for Ngamo given the investments towards effective fire and game water management, anti-poaching and community livelihoods initiatives like beekeeping and improved access to the forests for non timber forestry products. Overall, the two gazetted forests (157 300ha) have been brought under improved management from a fair to good category in both cases.

HNP, Sikumi and Ngamo are adjacent to each other and should ideally be managed as a contiguous block. Fire management activities for the landscape were coordinated jointly with communities through the fire management plan. This resulted in a significant decrease in fire incidences for the area.

Sustainable land management practices were implemented and capacity of managers built in this area through activities undertaken in the Ume sub catchment. This resulted in an increase in area under sustainable land management to 464.4 hectares at end of project from a baseline of 0.

The number of beneficiaries targeted (20 000) by the project was reached. New area in communal areas was set aside for biodiversity conservation with 7,000 acres of the 20 000ha fenced off in the Sidinda Community conservancy. The technical support provided by WWF through its team of in house thematic experts for each component was useful in improving the coordination of activities by the partner organisations.

Additional support provided by World Bank through additional funding and expertise from its network including the TerraAfrica grants for the various studies was important in bringing important resources for project implementation in activities that the country may not have had the required expertise.

The stringent fiduciary requirements by World Bank for financial management, procurement, M&E and safeguards enhanced the capacity of all partners in terms of good governance and accountability. Community livelihoods activities that were supported under the three components of protected area, forestry management and land rehabilitation showed the importance of linking provision of alternative livelihoods to conservation activities in the short term to achieve long term gains.

Challenges

Late disbursement of funds by some of the accounts departments of government partners resulted in delayed implementation of time bound activities such as fire management.

Although there are local level structures established to maintain the land rehabilitation and community garden infrastructure, the possibility of theft and vandalism is a concern.

Natural climatic conditions created challenges which had not been foreseen in project design such as the drought which resulted in insufficient grazing for the wildlife.

Late application of the safeguards screening tools and frameworks affected completion of some project sub- activities.

Recommendations

Innovative alternative livelihood options introduced in remote rural areas should be considered from a value chain perspective to ensure that there are viable market linkages to sustain the expected income streams from the alternative.

Recommendation 1: That EMA and Forestry Commission facilitate establishment of market linkages for the honey value chain, community gardens and brick moulding.

Institutional arrangements for community initiatives should be further strengthened for sustainability. Given the late implementation of community livelihood components in the project (Sidinda translocations and Chireya community gardens), there is need for follow up support for institutional strengthening by the project partners to ensure sustainability.

Recommendation 2: That for Sidinda, CAMPFIRE Association and Hwange RDC support the establishment and nurturing of a legal and formal Sidinda Community structure with clear management and contractual arrangements for the Sidinda conservancy with the private sector partner. For Tsholotsho HWC initiatives, there is need for CAMPFIRE Association and the RDC to formalise the operation of HWC mitigation teams into existing CAMPFIRE local level structures. The community gardens in Chireya require support from EMA and AGRITEX for water conservation techniques, market linkages and capacity building for community management.

The REDD+ initiative that the project supported requires significant follow up and support at national level from Forestry Commission and MECTHI for the finalisation of the PDD in order to sell the carbon credits. Lessons learnt and tools developed to be replicated in other areas within the country. Human resources capacity now exists within FC although continuous strengthening to ensure compliance is required, including through knowledge exchange with other countries..

Recommendation 3a: That MECTHI and Forestry Commission maintain a database of people with skills in REDD+ that can support in replication. Recommendation 3b: The Goz should prioritise the development of a full PDD to allow for carbon trading.

The land rehabilitation toolkit that the project developed is applicable in all the provinces of the country that experience land degradation. It is also an important tool for the country to meet its LDN TSP targets under its commitment to UNCCD. This can be taken up by EMA as the lead agency for UNCCD as well as other agencies involved in LDN activities.

Recommendation 4: EMA as the implementing agency for UNCCD as well as the lead agency for land rehabilitation under HSBC should continuously promote replication and use of the Land Rehabilitation

Toolkit.

The HSBC was a supported with funding under GEF 5, subsequent GEF funding for GEF 6 and 7 target the same focal areas of biodiversity, land degradation, climate change. Lessons from GEF 5- HSBC should be taken up by the subsequent GEF projects under MECTHI. MECTHI as the focal agent for GEF in Zimbabwe should continue to ensure that these tools, techniques and approaches are replicated in the landscapes in which GEF 6 and 7 are being implemented.

Recommendation 5: That MECTHI as the GEF focal for the country should promote the key lessons, innovative tools and approaches from the various GEF cycles for replication in subsequent cycles such as GEF 6 and 7.

Lessons Learnt

Protected Areas
Ideally focus of interventions should be on one park until adequately equipped with resources before moving onto the next park to avoid piecemeal approach resulting in spreading resources thinly. A case in point is HNP with three administrative blocks (Main Camp, Sinamatella and Robins Camp), most of the project investments were in Main Camp and did not cover the whole area of the park. The establishment of strategic base camps in protected areas, make deployment and reinforcement of anti- poaching staff much easier and effective.

Equipment purchased by the project remaining with beneficiaries (e.g. vehicles) as well as provision of fuel and maintenance at the beginning was a key lesson for HNP which has provided a basis for negotiation (set a precedence) with other partners as previous projects would recall their vehicles at project end.

Effective capacity building of personnel creates a pool of skilled manpower within the partner organisation at project end who can also train others within the organisation. A case in point is HNP which can now train other PWMA areas (e.g. SMART when the evaluation team arrived a training session was being conducted for other staff).

Provision of a suite of tools and targeted interventions (fire management, game water supply, anti-poaching, community engagement, adequate equipment, staff training and morale, research, monitoring and evaluation) enhances the management effectiveness of protected areas.

Species specific interventions for addressing Human wildlife conflict have a greater chance for success and can provide tangible and immediate impacts. Buffer community engagement is key in environmental stewardship and protection of the wildlife resource base.

Community Livelihoods Component
Scheduling of activities was not properly done as the translocation of wild animals to Sidinda should have been done in the second year of project implementation to allow for sustained support of the community conservancy and some clearer indication of the impact of the project. Translocations were only done in the fourth year of project implementation after resolution of procurement challenges for this highly specialised service. Resultantly, the project is closing in the fifth year before there is adequate strengthening and nurturing of the institutional set up and assessment of impact in terms of wildlife

population increase.

Tangible benefits from project interventions such as the increase in harvest for farmers in Tsholotsho Ward 7 from the HWC mitigation activities promoted uptake by other farmers (as shown by requests from and upscaling to wards 1, 3 and 4).

In engaging with communities, constant feedback to the leadership and wider community is important to avoid misconceptions, which can derail the gains made in the implementation of the activities considering long-term benefits characterized by the nature-based enterprise.

Community consultations should ensure active participation of the community to avoid a sense of being, "talked at and not talking with us" which results in communities not feeling empowered and disengaging from the project activities. A case in point is Sidinda where a section of the community mentioned that facilitators at times came and did not really consult but merely told the community what they intended to do without fully capturing the community's view. This is despite evidence that the community participated fully in the development of a feasibility study for the project and provided documented input on the preferred boundaries of the wildlife area, for example.

In a community public private partnership, it is important for the three partners to meet and discuss issues together instead of having one (public) acting as a go between the other two partners. This creates mistrust and some ideas from the community may not be incorporated depending on how they are presented. A case in point is the management of community scouts in Sidinda and the formal introduction of the safari operator to the community. Both the Safari Operator and community mentioned that they have never held meetings together and only deal with RDC. This is however largely explained by the long delay in the actual capture and translocation of game to Sidinda. The community public private partnership needs to be strengthened through creation of a platform that provides a level playing field for the three partners through the formation of a Trust that can engage both the RDC and the private sector on equal footing. Training in CBRNM for communities alone is not adequate.

Ideally project implementation involving democratically elected officials should align their implementation timeframe with the election cycle of the country to ensure that resources area available for training and retraining new officials as they come on board (Councillors and ESCs) to avoid leaving new leadership without capacity to manage or maintain activities initiated by the project (a case in point is the election of new office bearers in 2018 when the project is about to end and had done its training at the project start. As part of adaptive management, another unscheduled round of training had to be conducted for the new office bearers.

Environmental Sub Committees are usually capacitated through training in the key environmental legislation, CAMPFIE origins and principles, Roles and responsibilities of the ESCs and key government agencies, function and duties of ESC members including monitoring and reporting. Ideally additional resources for transport and communication should be provided as they increasingly become the leading institution for conservation related activities within wards.

Community ownership is important in sustaining project initiatives as shown by the Sidinda community when they supported the project with grass cutting to the animals that had been affected by drought and that they recorded zero poaching from the community members.

Forest Management

Training on new technology and emerging issues such as REDD+ capacitated the PA personnel and they are applying knowledge gained in carrying out their duties (e.g. REDD+ information being used in awareness to communities and other stakeholders.

Engaging communities in the sustainable management of forests through fire management, awareness and alternative livelihoods such as beekeeping contributes significantly towards well managed forests through reduction of poaching (wildlife and timber) and fire incidences.

Stakeholder engagement improves efficiency of anti-poaching initiatives and makes conservation effort much easier for the forest managers. The initial purpose of the stakeholder engagement was to inoculate a culture of conservation and appreaciation of the importance to the forests to communities. Enagement is done through established institutions within communities such as traditional leaders unlike politically aligned structures. Sustained benefits will ensure arrangements continue.

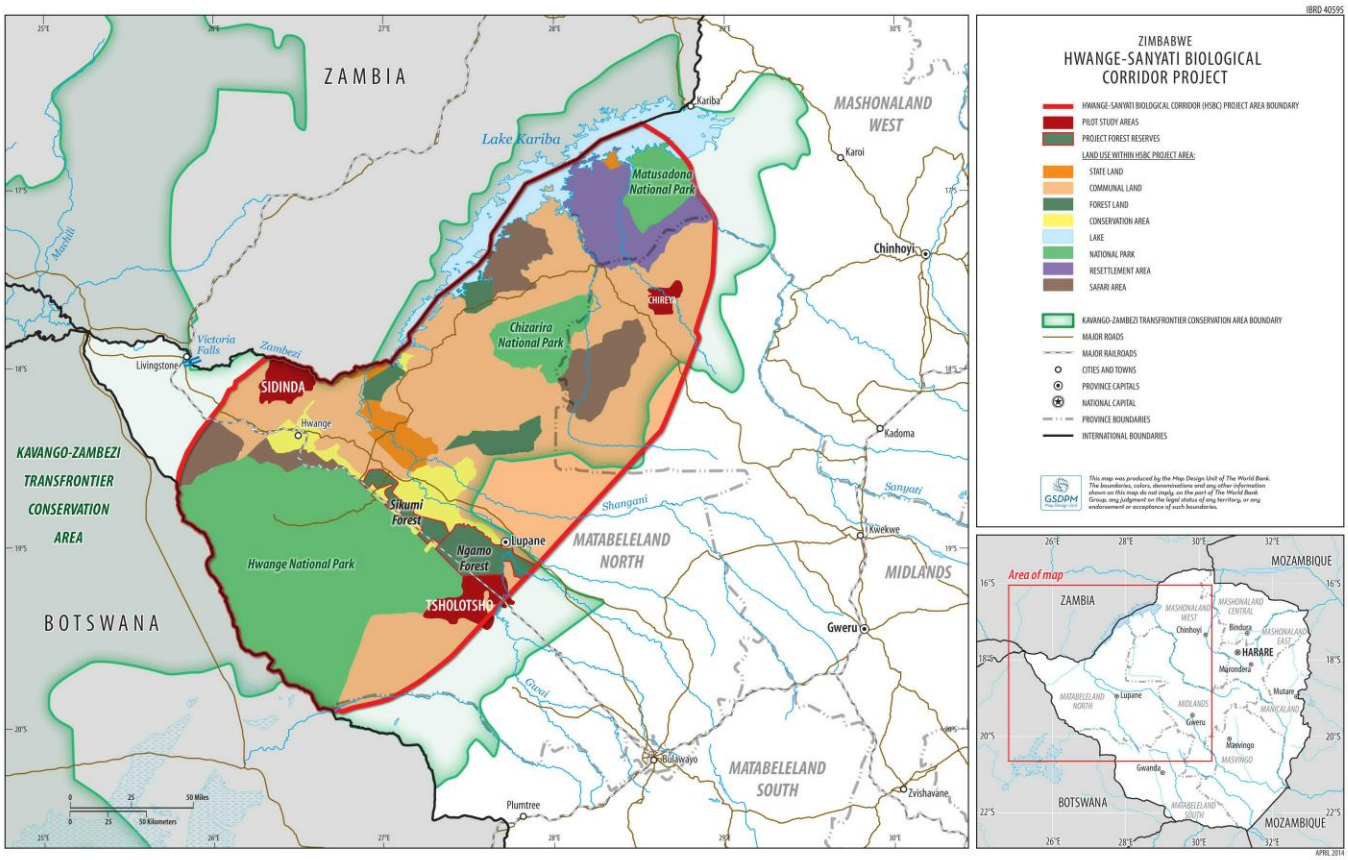
Land Rehabilitation

Linking local level land rehabilitation and other biodiversity projects with a livelihood component is important for benefiting the community as well as increasing their appreciation of the conservation activities. The ecosystems benefit in the long term from such interventions, but in the short term creating alternative livelihood options reduce pressure on the ecosystem and increase the continued continuation of the activates.

Climate change is contributing towards environmental challenges such as stream bank cultivation. Providing alternative livelihoods which foster climate smart activities such as solar powered boreholes for community gardens, beekeeping for improved forest management, conservation agriculture and brick moulding using river sand provided adaptation strategies for communities.

Expertise on addressing some key challenges such as mechanical ways of addressing gully erosion such as gabions and gabion box construction exists within government institutions working with communities. Their main constraint is lack of resources to utilise their knowledge and skills. Involving personnel of relevant government departments ensures utilisation and further enhancement of their expertise and capacitating communities during implementation.

ANNEX 6. Project Area Map



ANNEX 7. Supporting Documents

World Bank (2014) Project Appraisal Document: *Hwange-Sanyati Biological Corridor Project (P124625)*
WWF (2015-209) Project Progress Reports
HSBC Aide memoires
HSBC Implementation Status and Results Report (Numbers 1 – 11)
HSBC Project Completion Report prepared by WWF
HSBC Mid Term Review Report
Project Technical Reports (Fire Ecology Study, Ground Water Study, Ecological Assessment for the establishment of the Sidinda Conservancy, Sidinda Business Plan, REDD+ PDD and Hwange, Ngamo Sikumi anti-poaching plans)
Environmental and Social Safeguard Frameworks (ESMF, IPPF)
Project Baseline Reports
Financial Reports
Audit reports
Zimbabwe's first Intended Nationally Determined Contribution (INDC) Submitted to the United Nations Framework Convention on Climate Change (UNFCCC)
ZIMREF Annual Report 2018

ANNEX 8. Photos and communication material

Figure 1: Ume River Gabion constructed: Protecting riverbank undercutting to save school from destruction.

Figure 2: Gabions and silt traps protect waterway below Business Centre. Silt trap controls velocity and erosive power in the hospital gully downslope.

Figure 3: At the reclaimed hospital gully: engineered gabions, bananas and vetiver stabilize and control gully head in a closed off area to save hospital infrastructure.

Figure 4: Cement brick making from desilted river sand using brick making machine benefit 60 youths, 10% of which are women.

Figure 5: Replication of project approach by an empowered Chireya community

Figure 6: Roof water harvesting tank network at Chireya Secondary school for reducing and retaining runoff to control gullies downslope.

Figure 7: Roof rainwater harvesting in the middle catchment through a network of 64 tanks at two Schools and the Hospital to control gully erosion downslope. Tanks also serve as a garden water source. Taps are locked to avoid water wasting by pupils.

Communications and Knowledge Management (KM) Products developed and disseminated under the project:
The majority of the communication and KM products were developed in partnership between WWF and publicity and communication managers from the partner institutions.

Product Type	Focus area
Documentaries	Three documentaries were produced and aired on the national broadcaster ZBC profiling The Chireya and land restoration, Hwange National Park &Tsholotsho for the Wildlife & Human Wildlife Conflict component
Radio programmes	A local radio station hosted the project on 2 radio shows to talk about project success stories.
Newspaper Articles	Articles on the project included Translocation of Buffalo website and Forest Component success in the Herald, the leading local newspaper
Info/policy brief	A REDD+ info brief and REDD+ policy brief were produced and disseminated
Reports	Sustainable land management tool kit (main report and summary report) Ngamo Sikumi Forests & Hwange National Park METT reports (baseline, midterm and end line reports) Groundwater study reports (2) Fire ecology report Good Practices for Management of Fragile and Sodic Soils and Ume River Sub-catchment report HNP, Ngamo & Sikumi vegetation cover assessment report Socio-economic baseline report for Chireya
Training manuals	Bee keeping Farmer field school training tools Environment Sub-committee training manual Village heads training manual
Business/management plans	HSBC community-based business opportunities for livelihoods in the Hwange national park buffer zone of Tsholotsho and Hwange rural district Business plan for Sidinda ward, Hwange rural District council HNP anti-poaching plan HNP, Ngamo Sikumi fire management plans Wood drying kiln Environmental and Social Management Plan. link: h*ttp://documents.worldbank.org/curated/en/214121585661735742/*