

CEPF Final Project Completion Report

Organization Legal Name:	Wildlife and Environmental Conservation Society of Zambia
Project Title:	Conservation and Forest Management in the Mafinga Hills Priority Key Biodiversity Area of Zambia
Grant Number:	66315
CEPF Region:	Eastern Afromontane
Strategic Direction:	1 Mainstream biodiversity into wider development policies, plans and projects to deliver the co-benefits of biodiversity conservation, improved local livelihoods and economic development in priority corridors.
Grant Amount:	\$130,000.00
Project Dates:	September 01, 2016 - December 31, 2018
Date of Report:	March 16, 2019

Implementation Partners

List each partner and explain how they were involved in the project

1. BirdWatch Zambia (BWZ)

BirdWatch is a local not-for-profit non-governmental and membership based organization in Zambia. In support of the 2016 – 2025 Mafinga Hills Conservation Action Plan and the Conservation and Forest Management Project, BWZ conducted an ecological assessment of birds, mammals, amphibians and reptiles under a 20,000 US Dollars Small Grant from the Critical Ecosystem Partnership Fund (CEPF) under a project called “Mafinga Biodiversity Survey: Assessment of avian and other vertebrate populations”. WECSZ worked with BirdWatch to identify the gaps in the species record at the KBA and to draft the small grant proposal. The report from the assessment would add to the record of species (possibly add new trigger species to CEPF’s ecosystem profile) and feed into WECSZ’s Mafinga Hills Conservation Action Plan. At the time of this impact report, BWZ was yet to complete the survey report. Additional text on the rest of the implementing partners for this project is attached herein as Summary Questions - Annex 1: List of implementing partners for this project.

Conservation Impacts

Summarize the overall impact of your project, describing how your project has contributed to the implementation of the CEPF ecosystem profile

- **Over 500 community members from four villages (Mulekatembo, Sichitambule, Mweniwisi and Nachisitu villages) sensitised on the National Forestry Policy, National Forestry Act No. 4 of 2015, Agricultural Policy and the National Heritage Conservation Act of Zambia.**
- **60 members of the local community (35 men and 25 women) from three villages (Mweniwisi, Mulekatembo and Nachisitu) trained in indigenous tree nursery establishment.**
- **7,600 indigenous seedlings planted, saplings are well established by the local community members.**
- **16 (9 men and 7 women) farmers from Nachisitu area trained in modern beekeeping and management.**
- **1 community apiary established consisting of 15 beehives.**
- **Three separate Fauna and Flora ecological assessments conducted, a checklist of plant species produced, with one possible addition to the trigger species of the KBA.**
- **A Fundraising Strategy developed, a tool to fundraise for the Mafinga Hills Conservation Action Plan.**
- **Improved management of the Mafinga Hills KBA by 800 hectares.**

Planned Long-term Impacts - 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
Improved management of the Mafinga Hills, an area of 15,000 hectares.	Improved management of 18,721 hectares of the Mafinga Hills Key Biodiversity: As a long-term impact, improved management of the Mafinga Hills Conservation area will overtime be evident. For the period 2016 to 2018, the project marked an area of 800 hectares of the Mafinga National Forest Reserve No. 296 with standard government Forestry Markers (30x20 metal plates) and installed concrete beacons on 3 forestry points. Involvement of the community in marking the boundaries of the forest reserve to reduce encroachment will definitely contribute to improved management of the area. In addition, the project rehabilitated 28 hectares of degraded riparian buffer of the Luangwa River Headwaters whose source is within the forest reserve and the Ntonga River. 7,600 indigenous tree seedlings were planted to improve vegetation cover and replenish some of the degraded areas resulting from human induced activities, including bad agricultural practices and farming along the river banks. The rehabilitated areas were previously used for farming by local community members who voluntarily offered the areas and fully participated in the planting sessions and nurseries

	establishment, thereby promoting a sense of responsibility and ownership towards the conservation of the KBA.
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Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
Local communities are following government policy leading to the better management of forest reserves of the Mafinga Hills (specifically along the Luangwa and Musipizi Rivers) by 2018	This was achieved based on the July - August 2018 evaluation. According to this report, of the 130 (59 female & 71 male) community members of ages 15 to 79 that were interviewed, 98.5% confirmed being aware of the policies that govern the protection of natural resources. This awareness could be observed in the reduced farming activities along sensitive riparian zones and community's commitment towards the implementation of project activities. Additionally, 97.7% of the responses showed a consensus that Mafinga Hills were an important ecological site that required protection. As a contribution to the protection of the Mafinga Hills, community members participated in raising indigenous tree nurseries and offered portions of their farmland (amounting to 28 hectares) along the river banks for rehabilitation to replenish the riparian buffer zones of the Luangwa River Headwaters, including Ntonga River. Members of Inzinja, Maliko and Kayisoleli villages were equally sensitised on the requirements of the Forestry frameworks and participated in beacon identification and forest marking to improve the management of Forest Reserve No. 296, which incorporates the Mafinga Hills KBA.
Boundaries of the Mafinga Hills Forest Reserve number 296 are identified, clearly marked and communities are aware of those boundaries by 2018	Boundaries of the Mafinga Hills Forest Reserve number 296 are identified, clearly marked and communities are aware of those boundaries by 2018: This was partially achieved. The Mafinga Hills Forest Reserve Number 296 covers an area of 15,500 hectares and was first designated a National Forest in the early 1970's with a total of 10 boundary beacons. Beacons were initially delimited using rock piles. Over time the physical beacons were not visible and lacked clear markers or posters. This resulted in encroachments and as at 31st December 2018, 3 beacons (A, B & C) out of 10 (A, B, C, D, E, F, G, H, I, & J) beacons were identified and clearly marked. This was done with the help of the local community members. Seven (7) more beacons remain to be identified and marked. With unclear boundaries, it was difficult for both the Forestry Department and community members living in proximity to the reserve to ascertain the extent of the reserve to control encroachment. Clear boundaries will help deter illegal

	<p>activities and help improve the management of Forest Reserve No. 296. Two sensitisation meetings were conducted in Inzinza and Kayisoleli and Maliko villages with a total of about 100 community members reached with conservation messages in 2018.</p>
<p>Terrestrial biodiversity groups in the Mafinga Hills KBA identified and mapped by 2018</p>	<p>8,000 trees planted on 100 hectares of riparian buffer zones in the Key Biodiversity area (KBA) along the Luangwa and Musipizi Rivers by 2018: 7,600 trees were planted on 28 hectares along the Luangwa River headwaters and the Ntonga River in the KBA. Although 8,000 saplings were grown, about 400 <i>Rauvolfia caffra</i> sp. died due to diseases. The more resilient <i>Breonadia salicina</i> formed the largest part of the species that were planted. Mulekatembo and Mwenewisi villages did not have <i>Breonadia salicina</i> hence the most mortality came from there. As a safeguard measure, beekeeping was revised to 15 beneficiaries in the amended log frame upon the RIT team's recommendation. We collaborated with the Forestry Department to train 16 farmers who were also empowered with 15 beehives and all the required supplies. The beekeeping group calling itself Lua- Mafinga (Luangwa-Mafinga) Beekeepers continues to receive support from WECSZ and the Mafinga Forestry Department to help them realise significant income from the honey thereby contributing to improved livelihoods. Additional text is attached in Annex 2 - short term impact on planting 8,000 trees.</p>
<p>8,000 trees planted on 100 hectares of riparian buffer zones in the Key Biodiversity area (KBA) along the Luangwa and Musipizi Rivers by 2018</p>	<p>Terrestrial biodiversity groups in the Mafinga Hills KBA identified and mapped by 2018: WECSZ was privileged during the project to have a team of experts who greatly contributed to the assessment of terrestrial species in the KBA. The project carried out 3 assessments; 2 on flora and 1 on fauna. Largely, it was discovered that 3 trigger species of the KBA could have been added to the ecosystem profile in oversight. These species (<i>Ocimum obovatum</i> subsp. <i>crystallinum</i> and <i>Rytigynia adenodonta</i>) were moderately widespread, being found also in southern Tanzania as well as on the Nyika plateau, while one (<i>Cyphostemma vollesenii</i>) had not been known to occur on the Mafingas at all. Other 'special' plants including <i>Protea heckmanniana</i>, do not appear in the CEPF Ecosystem Profile for the Mafinga Hills KBA and may need to be included to the profile. Many other groups of 'special' species including birds, reptiles and amphibians could be present at the KBA. However, the survey team only had a combined total of 6 days to the inventories. Evidently more time is needed to do comprehensive assessments. It is</p>

	notwithstanding the fact that BirdWatch Zambia also carried out a comparatively detailed survey at the KBA in 2018, under a small grant programme. Report is yet to be ready for sharing.
Significant improvement in WECSZ's financial monitoring and evaluation systems by 2018	WECSZ's financial systems were greatly improved through this project. An automated accounting package was procured in 2017 and installed for financial accounting and management. One Financial staff received training on how to use the accounting software, which in the process has improved the way financial resources are managed within the WECSZ. The built capacity has contributed to donor and members' confidence in the way resources allocated for conservation including the Mafinga Hill Conservation Area and conservation in general are managed. In past years and prior to the financial capacity building, recommendations were made by Auditing firms for the Society to graduate from using Microsoft Excel to an accounting software. Hence the capacity contributed greatly to improved financial management within the WECSZ and as we embark on a vigorous financial resource mobilisation to implement the 2019 - 2025 Funding Strategy to finance the Conservation Action Plan for the Mafinga Hills and the implementation of the WECSZ 2018 – 2022 Strategic Plan, it is imperative to have good financial management systems and controls in place, which most supporters demand and for accountability in general. Hence the project contributed to the long-term improvement of financial management in WECSZ.

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives

The success of the project towards achieving the short-term and long-term impacts was pivoted on the collaborative efforts of local communities, government agencies and CEPF's Regional Implementation Team (RIT). The collaborations with RIT helped the project team to make needed adjustments for the project to remain practical and relevant to both biodiversity conservation and to the developmental needs of the local people. A case in point is the number of trees that were to be planted. Originally, the project had intended to plant 144,000 trees. When the RIT payed a monitoring visit to the project area, they advised that the number of trees be reduced. The project team decided to reduce number to 8,000 trees. This number was more practical given the project lifespan and available resources.

Endorsement for the Conservation and Forest Management at the Mafinga Hill KBA Zambia Project from government ministries and agencies provided a strong backing towards the implementation of the project activities.

The project policy awareness activities reached out the over 600 community members and traditional leaders between 2016 and 2018. This impact from the policy awareness could be observed in the

reduced farming activity along sensitive riparian zones and the community's commitment towards the implementation of project activities that included rehabilitation of degraded portions of the riparian buffer areas that were previously farms for the local community, which were later offered for this purpose.

WECSZ collaborated with the Muchinga Provincial Forestry Office and the Mafinga District Forestry Office and the local community to identify 3 beacons and mark an area of 800 hectares of the Mafinga National Forest Reserve No. 296 using standard government Forestry Markers and installing concrete beacons on 3 forestry points. Involvement of the community in marking the boundaries of the forest reserve will reduce encroachment thereby contributing to improved management of the reserve over time.

The project received good support to achieve results of training 16 local farmer in beekeeping management and the establishment of an apiary in Damasca village of Nachisitu area; the planting of the 7,600 tree seedlings on 28 Ha of the riparian buffers zone of the Luangwa and Ntonga Rivers and the successful development of the Mafinga Hills Biodiversity Conservation Funding Strategy. The above successes are attributed to the financial and technical support from CEPF, technical, moral and logistical support from the government ministries/agencies, civil society organisations, WECSZ membership and board; the local community and local civic leadership and their members for their committed involvement and endorsement . The WECSZ worked closely with the Regional Implementation Team and other partners to ensure that the project continued smoothly.

The project also met the following anticipated challenges:

Difficult market linkages: Establishing market linkages for the beekeeping farmers in Damasca Village (Nachisitu area) in Mafinga. It was learned that sustainable alternative livelihoods such as beekeeping are more readily adopted when communities can perceive obvious economic benefits coupled with a readily established market. However in June 2018, the Project Officer met with the Production Manager and a Procurement Officer from the Community Markets for Conservation (COMACO) in Chinsali. From the meeting, COMACO pledged to provide a market for the honey that would be produced by the Lua-Mafinga Beekeepers. COMACO recently became operational within Mafinga District, which will thus reduce distance to the market for the Lua-Mafinga Beekeepers

Remoteness of the project area. The Mafinga Mountain area is in one of the remotest parts of Zambia laden with rugged terrain and few access roads; this posed a challenge in accessing the project beneficiaries and critical areas of the KBA. However, some roads were accessible by motorbike while other roads were fairly passable by 4x4 off-road vehicles. The project had one motorbike while vehicles would be rented whenever need arose.

Were there any unexpected impacts (positive or negative)?

Positive unexpected impacts included:

- WECSZ Mafinga has now been included in the District Development Coordinating Committee under the Economic Diversification, infrastructure and industrialization subcommittee for infrastructure development. This was upon local government's recognition of WECSZ's work with regard to natural resource conservation. At national level, the Ministry of Lands and Natural Resources has used the project as a vehicle for implementing target 15 of the Second National Biodiversity Strategy and Action Plan (NBSAP2) strategies, including the Action Plan (NBSAP2) (2015 – 2025), the Nationally Determined Contribution (NDC) (2015 – 2030) Programme and the REDD+ Strategy (2015 – 2030) and other national policies.

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- In 2018 the Agriculture Department of Mafinga District committed 55,072.49 USD to implementing activities in Mafinga, commencing June 2019 to 2025 with kind support of United Nations Development Programme (UNDP).
 - Particularly a campaign in collaboration with WWF Zambia is ongoing to help community members petition the Zambian Republican President to have the Luangwa River (whose source is in the KBA) declared a Water Resource Protected Management Area. This initiative was partly influenced by the project. WWF Zambia has since embarked on institutional capacity building trainings on advocacy, policy and financial management to strength the capacities among institutions working in the Luangwa Landscape and WECSZ benefited from the training. Two project staffs received training in November 2018 and follow-up trainings are anticipated.

Negative impacts

- The project initially targeted to train 45 local community members in bee keeping, but only managed to train 15 people after the amendments to the project log frame and budget. This had a negative impression on beneficiaries from other villages that anticipated receiving bee keeping training and receipt of bee keeping materials.

Project Components and Products/Deliverables

Describe the results from each product/deliverable:

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
1	Policy	1.1	Report of awareness raising and sensitization workshop with 19 local leaders and 4 local communities (Malungule, Nachisitu (Iulindo), Sichitambule and Mulekatembo Villages) about existing policies and laws	Over 600 local community members, including 2 chiefs, 15 Headmen, members from Mweniwisi (Malungule), Mulekatembo, Sichitambule, Nachisitu, Maliko, Inzinza, Kayisoleli and some government/civic leaders were reached on policy frameworks that govern natural resources. The Community awareness is attached.
1	Policy	1.2	Signed agreement between WECSZ (represented by the president of the Board, traditional leadership represented by the Chiefs and civic leadership represented by the Chiefs and civic leadership represented by the the	The MoU between WECSZ and the Traditional Leadership (Chief Mweniwisi, Chief Mwenichifungwe and 15 village headmen) and the Mafinga District Commissioner's office is a long term agreement committing to the conservation of the Mafinga Hills KBA. A copy of the agreement is herewith attached in this portal.

			district commissioner to protect the KBA	
1	Policy	1.3	Report on implementation of existing national policies and laws related to protection of the Mafinga Hills	Three separate evaluations were conducted in Mweniwisi, Nachisitu and Mulekatembo areas and data was gathered and analysed. An end of project evaluation report is herein attached.
2	Livelihoods	2.1	Training report on beekeeping for 15 farmers from Nachisitu (lulindo) including names and genders of each trainee	16 farmers benefited from the beekeeping training in Nachisitu (Damasca village) and were given equipment to startup. They successfully established an apiary with 15 bee hives. The Beekeeping training report is attached.
2	Livelihoods	2.2	An apiary established in Nachisitu (Lulindo Village)	An apiary comprising of 15 beehives was established in Nachisitu area at Damasca village. The apiary has 16 beekeepers. These farmers were supplied all the equipment needed for apiary management and harvesting of honey.
2	Livelihoods	2.3	A signed agreement between WECSZ and the trained community on how the apiary will be managed and sustained	A copy of the signed agreement is attached herein.
3	Forest rehabilitation	3.1	Training report on tree nursery establishment and management for 3 local community	This deliverable was accomplished as reported in the third and fourth progress reports respectively. A total of 60 farmers were trained including 35 men and 25 women in indigenous tree nursery establishment and management in Nachisitu, Mwenisi and Mulekatembo villages. 8,000 indigenous tree seedlings were raised by the 60 farmers out of which 7,600 were successfully planted along the Luangwa and Ntonga Rivers.

			groups from Nachisitu area, Malungule village and Mulekatembo village	
3	Forest rehabilitation	3.2	8 community indigenous tree nursery groups established in Nachisitu area, Malungule village and Mulekatembo village	8 community nursery groups (Mulekatembo, Mweniwisi-Centre, Mwene Mpangala, Damasca, Muleya, Kalao, Isenti and Champumba) were established in Nachisitu Mulekatembo and Mweniwisi areas. The nursery report is attached
3	Forest rehabilitation	3.3	8,000 trees planted by local communities on 100 hectares of degraded riparian areas along the Luangwa and Musipizi Rivers	The project planted 7,600 trees on 28 hectares of the Luangwa and Ntonga Rivers riparian buffers. Out of the 8,000 seedlings that were initially planted, 400 suffered from diseases which resulted in a high mortality rate and a few died during transportation to the planting sites. This was observed in the case of Muleya Nursery Group, where the seedlings had to be transported over a distance of 80km for planting.
4	Funding strategy	4.1	Report of outreach meeting(s) with national government agencies with management responsibility in the area, to prioritise the KBA for conservation action.	Government ministries and agencies were sensitized and engaged during the implementation stages of this project. In the first quarter of year 1 of this project, the project team comprising of Patrick Shawa, Peter Chisanga and Gift Mwandila visited the institutions below and made some presentations and engaged these stakeholders in a simplification of policies for the Traditional Leaders' sensitization workshop of October 2017: Ministry of Lands and Natural Resources; Ministry of Agriculture; National Heritage Conservation Commission, and The Forestry Department. Thus far, the Mafinga District Agriculture Department has adopted some project components for implementation in 2019 -2025 from the UNDP funded project and the Ministry of Water, Sanitation and Environmental Protection is developing a project to invest in the protection of the KBA and a formal partnership

				agreement is yet to be established. The institutional visit report is herein attached.
4	Funding strategy	4.2	A funding strategy attached to the Conservation Action Plan with targeted funding proposals to institutional / corporate donors	The funding strategy was developed with technical support from the RIT and Professor Patrick Matakala. Over ten different stakeholders (government agencies, civil society organisations and private individuals) took part in the development of the funding strategy. The 2019 – 2025 Mafinga Hill Biodiversity Conservation Funding Strategy is currently being implementation and a copy is herein attached.
5	Capacity development	5.1	Professional accounting system in place	In February 2017, an accounting software (QuickBooks Premier Edition) was procured and implemented through this grant. The software is in use and has so far contributed to effective management and accounting for financial resources at the Wildlife and Environmental Conservation Society of Zambia.
5	Capacity development	5.2	Report on training of finance staff on accounting package	Through this grant, one financial staff underwent training in the use and management of the QuickBooks accounting software. A copy of the training report is hence attached.
5	Capacity development	5.3	Improved score of the final Civil Society Tracking Tool in 2018 (compared to the baseline CSTT of 2015)	The baseline Civil Society Tracking Tool of 2015 score was 72%, while the 2018 score was 78.5%, and increase of 6.5%. The comparison of the 2015 and 2018 scores are summarised below: Human Resources: 10 (2015); 13.5 (2018) Financial Resources: 14 (2015); 15 (2018) Management Systems: 16 (2015); 16 (2018) Strategic Planning: 16 (2015); 20 (2018) Delivery: 16 (2015); 14 (2018).
6	CEPF safeguard compliance	6.1	Adhere to process framework -- and its included grievance mechanism -- on involuntary restriction on access to resources	The process framework is in place and the affected communities were sensitised on the grievance process. The process frame work will be adhered to beyond this project and may be amended when and as need arise. A copy of the report on how the process framework was implemented during this grant period is attached.

2	Livelihoods	2.4	Canceled - An agreement between WECSZ and 15 farmers from, Nachisitu (Iulindo) Area, on the adoption of beekeeping as a sustainable livelihood option	An agreement was signed between WECSZ and the beneficiaries of the Beekeeping group to look after the KBA and the adjacent environment. A copy is attached
2	Livelihoods	2.5	See Deliverable 2.2	
3	Forest rehabilitation	3.4	Pictures of markers around the Mafinga Forest Reserve No. 296, particularly in Nachisitu and Malungule Areas	3 beacons were marked using concrete, besides the original stone piles. The area between the beacons was marked using standard government forestry marker (30x20) steel metal plates painted with a Forestry Department logo and an 'X' at center bottom composed of a hoe and an axe). The total area covered by the 3 beacons was 800 hectares in Maliko, Inzinza and Kayisoleli villages which have access entries to the KBA. Mafinga Forest Reserve No. 296 has a total of 10 ten beacons, out of which 3 were clearly identified and markers installed between the beacons. The boundaries and beacons in Nachisitu and Malungu (Mweniwisi) and other locations will be marked in later when resources are mobilised.
6	CEPF safeguard compliance	6.2	Safeguards brochure documenting the process framework	Around 3,000 copies of the safeguard's brochure were printed. The soft copy was attached in this portal at the time of reporting on this deliverable. About 2,000 copies were distributed by the time the project was amended in July 2017 with more distributed later. An amended process framework was produced on 01/08/2017. However, this amendment was not printed in form of a brochure as was the case earlier due to limited funds. The amended process framework is attached.
7	Terrestrial Afromontane biodiversity group identification	7.1	Terms of reference for experts involved in the identification of the biodiversity	A copy of the terms of reference is herein attached. WECSZ was privileged have a team of experts who greatly contributed to the assessment of terrestrial species at the KBA. The project carried 3 assessments; 2 on flora and 1 on fauna and a checklist of plant species was developed and is attached herein. A Recommendation to include additional trigger species was made from the

			groups	assessments.
7	Terrestrial Afromontane biodiversity group identification	7.2	A report of the Terrestrial Afromontane biodiversity in the KBA	Three different survey reports for the surveys conducted in 2017 and 2018 on the flora and fauna of the Mafinga Hills KBA are attached. The 2018 report discusses the trigger plant species and the conservation needs at the KBA.
8	Monitoring and evaluation	8.1	Report of the project status; accomplishments and challenges	A report of the challenges and successes scored in this project is included in the project impact report and in the summary questions of this report.

Please describe and submit any tools, products, or methodologies that resulted from this project or contributed to the results.

The Free and Prior Informed Consent (FPIC) was one tool that the project employed in the following three components; forest management and riparian corridor rehabilitation, policy awareness, and alternative livelihood promotion (beekeeping). FPIC is a tool that accorded the affected communities of the Nachisitu, Mweniwisi and Mulekatembo villages the opportunity to learn about the project and to appreciate fully its implications for both the people and the environment.

The project implementation took a participatory approach. Different partners were engaged at district and national levels. The participatory nature of the project ensured that only people with interest in the project among the affected communities would take part in the project activities. This approach guided the selection criteria for beneficiaries of beekeeping and the nursery establishment groups.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building.

Consider lessons that would inform:

- Project Design Process (*aspects of the project design that contributed to its success/shortcomings*)
- Project Implementation (*aspects of the project execution that contributed to its success/shortcomings*)
- Describe any other lessons learned relevant to the conservation community

Lessons learned in design phase

- **It is important to consult relevant government offices. The project focus was on protecting the biodiversity of a protected area, the Mafinga Hills National Forest Reserve No. 296. Recognising the fact that the reserve is primarily a jurisdiction of the government, the project team resolved to make adequate consultations both at national and district levels. It was learned that consulting government structures such as the forestry department and the**

Ministry of Lands and Natural Resources gave credence to the project and wide recognition among the line ministries, consequently contributing to a relatively smooth project implementation.

- Communities are an integral part of a project design because they know their felt needs.

Engaging the communities through a social assessment brought out an interesting lesson. The threats to biodiversity in Mafinga, namely expanding agricultural activities into the fragile riparian buffer, deforestation and uncontrolled fire, were not necessarily perpetrated by large corporates. However, the threats were a cumulative product of small groups of indigenous people whose livelihood was mainly agriculture. Thus, incorporating the affected local people yielded positive conservation actions. Notwithstanding the technical aspect, it was learned that any actions taken without consideration of the communities' felt needs are bound to fail.

Lessons Learned during Implementation

Conservation activities are best implemented alongside the provision of alternative livelihood. However, the benefits accrued from the alternative livelihoods should not take a longer period to be realised. Despite not harvesting from the apiary, the communities in this project both from the Beekeeping group and the nursery establishment appreciated economic benefits realised from the project. This was through the provision of rain boots and overalls that WECSZ sourced from the members' donations and the equipment and materials that the grant provided for the beekeepers. Participatory approach promotes not only ownership for activity implementation, but can also encourage long term commitment among community members towards conservation efforts. During the beekeeping training, emphasis was put on the fact that for the community to realize tangible benefits from the beekeeping activity, they had an important role of protecting the environment to allow for a conducive and thriving ecosystem for the bees. This was during the interactive session of the beekeeping training where the community members attested to the fact that traditional beehives that were placed up in the mountains in an area where there was minimal degradation, the honey harvested was far much better and hence committed to the protection of the KBA and sustainable management of the established apiary.

Remunerations: Local people in the project area were used to receiving monetary handouts whenever they held meetings with their political leaders. This made it difficult to retain the interest of beneficiaries overtime.

Sustainability / Replication

Summarize the success or challenges in ensuring the project will be sustained or replicated, including any unplanned activities that are likely to result in increased sustainability or replicability.

One of the unplanned activities that are sure to result in increased sustainability has been sharing project reports with stakeholders at different levels. We have managed to bring the Ministry of Agriculture on board. The Ministry has been given a seven-year grant to implement a climate resilience project in Mafinga and ten other districts. The Ministry has adopted three components of the project namely forest manage/rehabilitation, policy awareness and livelihood promotion which they have pledged to scale-up.

The successful development of the Mafinga Hills Biodiversity Funding Strategy (2019 - 2025) has set a clear road map on the investment priorities for the area and so far, there is increased awareness and interest on the need to conserve the biodiversity of the Mafingas. Apart from the committed funding

from the Ministry of Agriculture, the Food and Agriculture Organisation finalised and submitted a joint proposal for the Mafinga Hills, while the Ministry of Water, Sanitation and Environmental Protection commenced the development of a joint proposal to enhance biodiversity conservation and forest management at the KBA. Sustainability and replicability are certain from the aforementioned.

Safeguards

If not listed as a separate Project Component and described above, summarize the implementation of any required action related to social, environmental, or pest management safeguards

Maintenance of forest riparian buffer zones had the potential to disturb farmers who had been farming in these areas in Mweniwisi, Nachisitu & Mulekatembo villages. To address this issue, a consultative meeting with the two Chiefs in Mafinga (Chief Mwenichifungwe and Chief Mweniwisi) was conducted. Further consultations were done with the village headmen in the three villages where the communities agreed to allocate portions of degraded buffer zone which would be rehabilitated. Sixty (60) community members volunteered to grow 8,000 seedlings to use in the reforestation of 28 hectares of degraded buffer zones. 7,600 trees were planted along the Luangwa River Headwaters and the Ntonga River.

As a token of appreciation, the 60 members were provided with protective clothing (rain boots). Another group of 16 members in critical riparian buffer zones were supplied with beehives and accessories as an alternative income generation activity. However, after a series of monitoring visits to the apiary, it came to our attention that the type of the beehives used was not conducive for the area. The beehives were Kenyan top bar hives made out of wooden frames and cardboard. The beehives were covered with flat iron sheets and corrugated iron sheets to protect them from rain and to keep them from falling apart due to the moisture from the honey forming inside. This type of beehives had been successfully used on a project near the Bangweulu swamps in northern Zambia, where 500 beehives were installed. In Mafinga however, it was found that the much warmer climate could not support the materials used for the hives. Bees would occupy the hives and abscond after a few days or weeks. The unconducive material was confirmed when 5 beehives made of sewn timber were installed in the area. All the 5 beehives were occupied and will be harvested when ready. Thus, WECSZ applied for a 'bridge fund' to CEPF under the small grants programme to replace the 'metallic' beehives with sewn beehives. At the time of this report, the small grant was yet to be processed. A detailed report on the implementation of safeguards is attached.

It was also anticipated that marking forest boundaries would likely steer different claims especially from villagers whose livelihood depended on forest resources from the Mafinga Hills Forest Reserve No. 296. Free and Prior Informed Consent (FPIC) was used as a tool to address the impact on the affected communities, meetings were conducted with the Traditional Leadership, the Forestry Department at 3 levels namely Mafinga District, Muchinga Provincial Office and Forestry Headquarters to rediscover the forest boundary map. Two meetings were conducted in Maliko village and Kayisoleli village and one in Inzinza village to discuss the forestry boundary and the communities consented to marking it. Ten members of the community took part in the marking and realised some income from the activity. It was interesting to note that 88 year old Village Headman Maliko was present during the designation of the Mafinga Forest Reserve in 1972 and he was very helpful in locating the identified beacons and mobilizing manpower for the marking of the reserve.

Additional Comments/Recommendations

Use this space to provide any further comments or recommendations in relation to your project or CEPF

The large grant from CEPF has provided WECSZ an opportunity to explore the Afromontane species within the country. However, it came to the attention of WECSZ and interested individuals that at the KBA (above c.1500 m) the plateau coverage is around 12,000 hectares (calculated from Google Earth). The CEPF description of the KBA (CEPF 2012a, KBA no.144) shows the area as being 18,720 hectares in extent, but the boundary appears to be rather simplistically defined, possibly incorporating just the Forest Reserves in Zambia and Malawi. For unknown reasons, the actual Eastern Afromontane Hotspot boundary (CEPF 2012b) differs significantly from that of the KBA, presumably in error? Another interesting find during implementation of this grant was that based on the criteria used to profile trigger species by CEPF (2012a), that is endemism of the species, three (3) of the eleven (11) Plants listed were included in the Mafinga Hills KBA may have been included in error. Two of these species (*Ocimum obovatum* subsp. *crystallinum* and *Rytigynia adenodonta*) were moderately widespread, being found also in southern Tanzania as well as on the Nyika plateau while one (*Cyphostemma vollesenii*) has not been known to occur on the Mafinga at all.

As a result of the foregoing, we do hereby recommend that more surveys (perhaps both geological and ecological) be conducted to ascertain the extent of the KBA to uncover more trigger species. Given the frequency of quartzite outcrops at high altitude, and the nutrient-deficient soils that result, it is possible there are more endemics to be found. A similar quartzite crag and grassland environment on the Chimanimani Mountains on the Zimbabwe–Mozambique border, for example, has 74 known endemic plant species (Wursten et al. 2017), although from a significantly larger area (53,000 hectares).

A preliminary report by BirdWatch Zambia adds some details that support the need for further research at the Mafinga Hills KBA. BirdWatch is said to have recorded around 19 Afromontane endemic bird species and around 13 near-endemic bird species, all of which are not included in the KBA data. BWZ makes the same recommendation as above, that "further survey is much needed to get a more complete picture of the species composition. There is also need to train local people in Mafinga as monitors of the KBA this will help in influencing a continuous flow of information in relation to activities around Mafinga."

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of CEPF investment

Total additional funding (US\$)

\$58,973.48

Type of funding

Please provide a breakdown of additional funding (counterpart funding and in-kind) by source, categorizing each contribution into one of the following categories:

- 
- A *Project Co-Financing (other donors or your organization contribute to the direct costs of this project)*
 - B *Grantee and Partner Leveraging (other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project)*
 - C *Regional/Portfolio Leveraging (other donors make large investments in a region because of CEPF investment or successes related to this project)*

A. Project Co-financing: WECSZ received a total amount of \$USD 585 in individual donations from the WECSZ membership towards the tree nursery management and planting for the rehabilitation of the riparian buffer zones.

B. Grantee and Partner Leveraging: WECSZ received a total amount of \$USD 3,315 from the Elephant Charge Zambia to finance the biodiversity photography training of children and community members and for the commemoration of the first ever World Environment Day in Mafinga on 5th June 2018.

C. Regional/Portfolio Leveraging: In 2018 the Agriculture Department of Mafinga District committed \$USD 55,072.49 to implementing activities in Mafinga, commencing June 2019 to 2025 with funding from the United Nations Development Programme (UNDP).

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

1. Please include your full contact details (Name, Organization, Mailing address, Telephone number, E-mail address) below

Gift Mwandila, Wildlife and Environmental Conservation Society of Zambia (WECSZ), Plot 4435, Kumoyo Road - off Los Angeles Boulevard, Longacres, Lusaka. P.O. Box 30255, Lusaka. Telefax: +260 211 251630 E-mail: wecsz@microlink.zm