



Filling the Missing Middle Financing Gap

Innovative financing for small and growing biodiversity enterprises in Zambia

Supported by:



Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

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List of Abbreviations

BIOFIN	Biodiversity Finance Initiative
CETZAM	Christian Enterprise Trust of Zambia
CBD	Convention on Biological Diversity
CI	Conservation International
CPIC	Coalition of Private Investment in Conservation
CSEF	Civil Society Environment Fund
CSO	Civil Society Organisation
DFIs	Development Finance Institutions
FIs	Financial Institutions
FISP	Farmer Input Support Programme
FSP	Financial Services Providers
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse gas emissions
GMA	Game management area
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for Conservation of Nature
KfW	German Development Bank (Kreditanstalt für Wiederaufbau)
MCTI	Ministry of Commerce, Trade and Industry
MDFs	Multilateral Development Funds
MFI	Micro Finance Institutions
MLNR	Ministry of Lands and Natural Resources
MSMEs	Micro, Small- and medium-sized enterprises
NBSAP	National Biodiversity Strategy and Plan
SEC	Securities & Exchange Commission
UNDP	United Nations Development Programme
WWF	World Wide Fund for Nature
ZANACO	Zambia National Commercial Bank
ZEMA	Zambia Environmental Management Agency
ZDA	Zambia Development Agency

Executive Summary

Zambia's richness in biodiversity and vibrant landscape of micro, small- and medium-sized enterprises (MSMEs) present a significant opportunity for the country to meet its development objectives while reducing its impacts on the country's biodiversity and related impacts and risks. In particular, biodiversity MSMEs – offering products and services for biodiversity protection – are well-positioned to absorb and scale the environmental, social and economic impacts of global biodiversity finance flows in line with Zambia's biodiversity objectives.

Through the Biodiversity Finance Accelerator (BioFA), biodiversity-positive MSMEs are supported to access finance. At the same time, other ecosystem actors are brought together to co-create innovative financing instruments for these MSMEs, thus furthering biodiversity protection and financing in Zambia.

What is the Biodiversity Finance Accelerator (BioFA)?

BioFA mobilises biodiversity investments and scales biodiversity-positive entrepreneurship, thus contributing to the sustainable use, conservation, and restoration of ecosystems in Malawi and Zambia. Biodiversity-positive micro, small and medium-sized enterprises (MSMEs) are supported to access finance and invest in growth, while financial institutions and other ecosystem players are trained in conservation finance to co-create innovative financing instruments for biodiversity MSMEs.

Biodiversity protection in Zambia

Following the international Convention on Biological Diversity (CBD), which was adopted in 1992, and setting goals to preserve biodiversity, Zambia has committed to protecting the biodiversity of the country by ratifying the Convention and enhancing its implementation through the National Biodiversity Strategy and Plan 2 (NBSAP-2). Zambia's biodiversity main threats include: uncontrolled wild fires, unsustainable or illegal utilisation of resources, pollution, charcoal production, poor governance and agricultural practices, mining operations, invasive species, inadequate resource baseline updates and monitoring, and encroachment. These threats are to be tackled through the NBSAP-2. Several policies and frameworks have resulted from this strategy and the government's general commitment to biodiversity protection. Furthermore, the government is working with BIOFIN (Biodiversity Finance Initiative) to formulate a strategic plan to mainstream green finance into the country's financial sector.

Given both the shortfall in available capital and limited pipelines for bankable projects, solutions are required that engage the public sector and build a role for the private sector while acknowledging the importance of MSMEs for biodiversity protection and of financial institutions and investors in leveraging biodiversity finance flows to achieve impacts at scale.

Financing biodiversity in Zambia

Private and public sector actors have already progressed in developing policies, frameworks, and financing instruments to protect Zambia's biodiversity. For example, the public sector has developed, among other initiatives:

- Creation of multiple biodiversity/green funds to deliver biodiversity finance in key sectors, including the Fisheries and Aquaculture development fund, Water development trust fund, Forest development fund, Environmental protection fund
- Development of fiscal incentives that promote biodiversity investments
- Involvement with development finance institutions and multilateral development funds to mobilise finance towards relevant biodiversity projects and promote financial inclusion for MSMEs. Such include the Green Climate Fund (GCF), Global Environment Facility (GEF), The African Guarantee Fund

The private sector has supported financing for sustainable activities through commercial financial institutions and green bonds. The private sector has also been financing MSMEs across sectors, mainly through microfinance institutions (typically in agriculture and regardless of biodiversity impacts).

Leveraging biodiversity finance for biodiversity MSMEs

Despite these milestones in opening up capital for environmentally sustainable and biodiversity endeavours, challenges persist with increasing financial flows to market-driven biodiversity solutions in the private sector. This shortfall in available capital and tailored financial products is especially true for MSMEs, which are the backbone of the Zambian economy and important in ensuring biodiversity protection and providing a livelihood, especially to youth, women, and rural communities, who are vulnerable to shocks in the economy.

Well-designed biodiversity solutions that reduce investors' risks, enhance their expected returns, or bridge existing infrastructure gaps can help to catalyse investments in biodiversity MSMEs and alleviate socio-economic gaps as part of Zambia's biodiversity and sustainable development agendas. Challenges for extending biodiversity finance for MSMEs to grow affect both MSMEs and financiers and funders. Critical factors include risk/return profiles, collateral requirements, the time horizon for capitalisation of biodiversity investments vs. the short-term orientation of financiers, limitations of measuring biodiversity impact and lack of assessment frameworks for these models, lack of financial literacy by the MSMEs.

Multi-stakeholder collaboration is key to addressing and developing tailored solutions that overcome challenges faced by both (biodiversity) MSMEs and financiers and funders.

Developing biodiversity finance solutions

Practitioner Labs Biodiversity Finance seek to facilitate a hands-on process that results in targeted biodiversity finance solutions, which finance the growth of MSMEs that are actively delivering biodiversity solutions across their value chains.

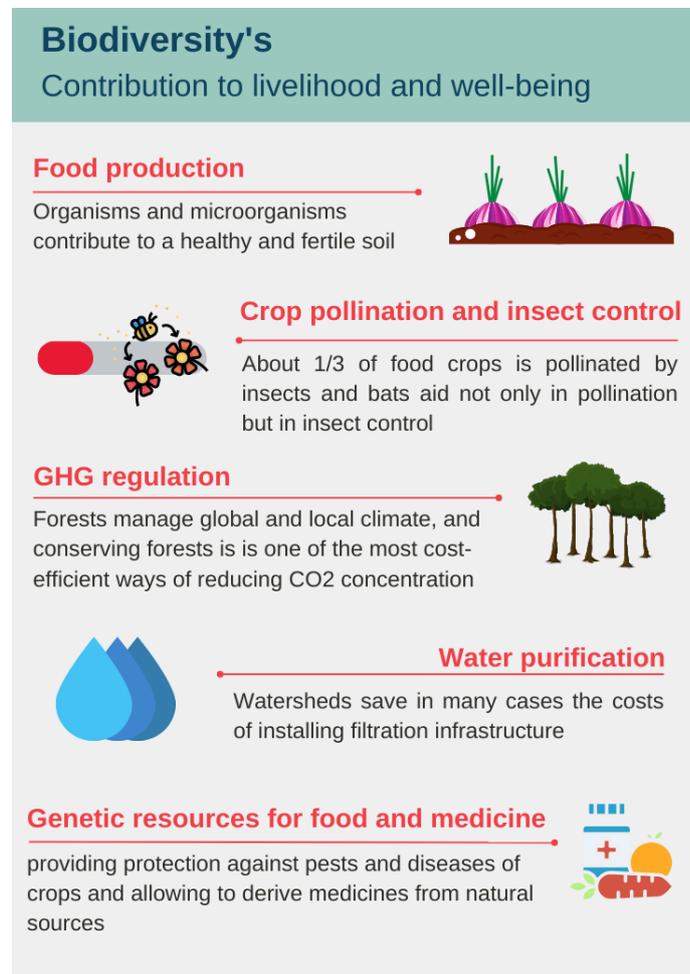
Based on the major biodiversity MSME financing and biodiversity finance challenges in Zambia, key partners engaged during Practitioner Labs aim to co-create and refine tailored financial mechanisms to deliver capital to biodiversity MSMEs.

In identifying opportunities for innovation, this scoping paper will (1) set the scene for biodiversity protection in Zambia; (2) identify the role of biodiversity MSMEs in achieving biodiversity protection objectives as well as outline the major financing challenges hindering these enterprises from achieving impacts at scale; and, (3) review the status of green-biodiversity finance and MSME finance and the role of various private and public sector actors in delivering tailored financial solutions to Zambia's most pressing biodiversity challenges. The scoping paper will close with (4) a brief introduction to action paths to developing biodiversity finance solutions for MSMEs during the Practitioner Labs Biodiversity Finance process in Zambia.

1. Biodiversity Challenges

Biodiversity is a key component in making our environment resilient to changes, allowing it to thrive, and providing people, communities businesses, and the economy with opportunities to be productive and prosper (World Bank Group, 2020). Different economic sectors and industries, such as agriculture, tourism, and construction, are dependent on the services that nature provides (to varying degrees), particularly in developing economies; and contribute to a global value of over half of the world's GDP (World Bank Group, 2020).

Biodiversity's contributions to the livelihood and well-being of people include providing a healthy soil essential for food production (through organisms and microorganisms), crop pollination and insect control, forests to manage global and local climate and regulating greenhouse gas emissions (GHG), watersheds to purify water and genetic resources for food and medicines and pest control, among many others (World Bank Group, 2020) (see Figure 1). And yet, global biodiversity is under threat, and the risk of losing its contribution to well-being is increasing.



1.1. Global Biodiversity Challenges

In the face of the risk entailed by losing the world's biodiversity, the international Convention on Biological Diversity (CBD) was adopted in 1992, setting goals to preserve biodiversity. However, biodiversity is still facing multiple threats, mainly from human activities and exacerbated by the climate crisis (BMZ, 2020). The main drivers of biodiversity loss, according to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), are land use change, overexploitation of natural resources, pollution, climate change, and invasive species (World Bank Group, 2020) (see Figure 2).

Given our dependence on resilient, healthy ecosystems, these changes result in turn in serious consequences for the well-being and prosperity of people and communities, which can be economically evaluated in some cases. A few examples include the use of pesticides, which causes the loss of pollinators that can lead to an annual decrease in agricultural output estimated at USD 217 billion. This would, in turn, mean a massive risk of famine and social unrest (Deutza, et al., 2020). See Figure 2 for more examples.

Figure 1. Contribution of biodiversity

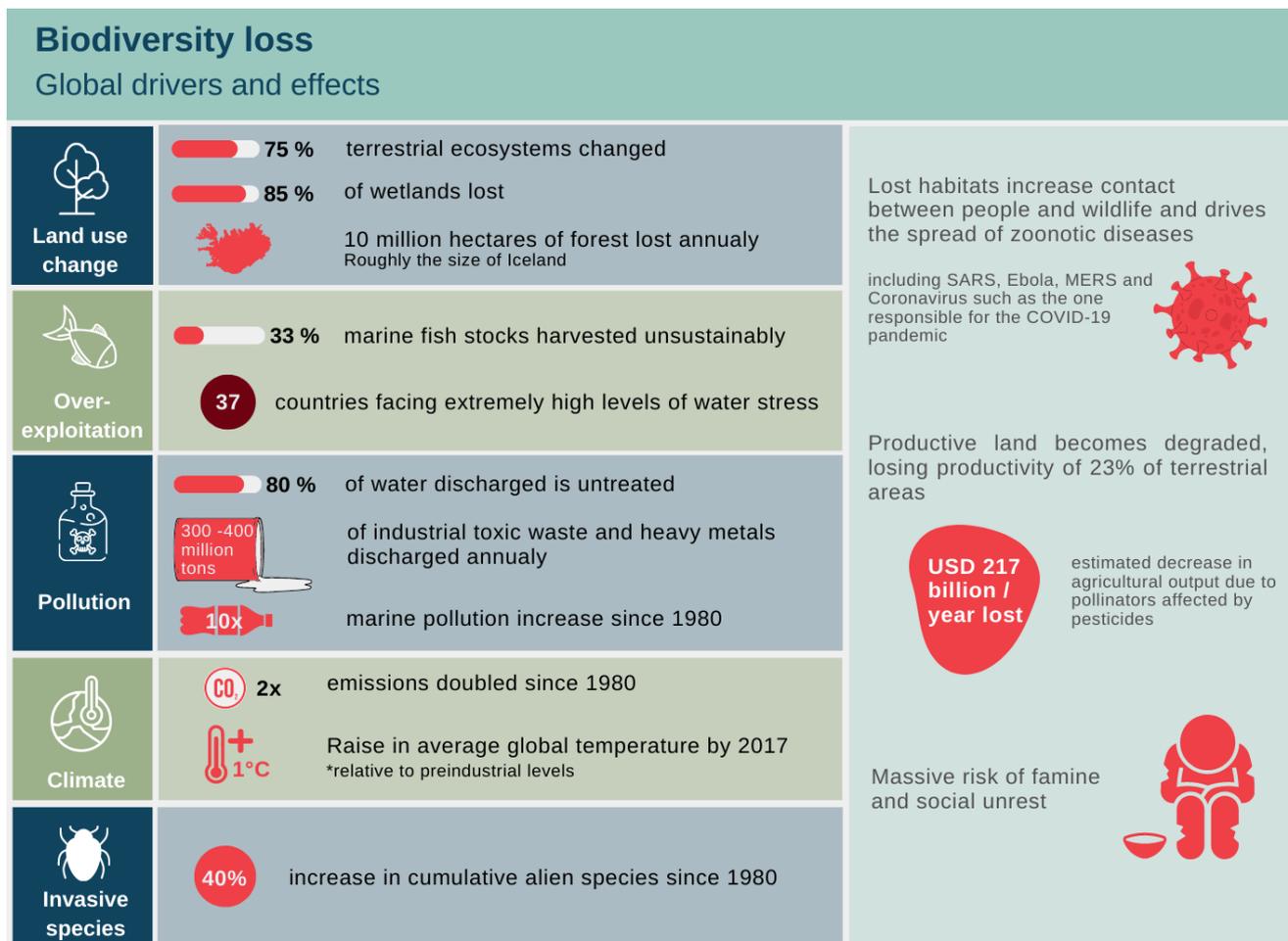


Figure 2. Drivers for biodiversity loss

1.2. Biodiversity Challenges in Zambia

Zambia, as the world, also faces many biodiversity threats, mainly due to anthropogenic activities. The country is rich in biodiversity, with many hotspots located in customary or traditionally managed areas, protected areas, conservation areas, and agricultural landscapes (Mwitwa, Mwila, & Mweemba, 2018). The dominant natural capital of the country's landscape is forest ecosystems, comprising many wetlands and rivers, and flora and fauna of significant importance for the livelihood of the majority of the population (Government of the Republic of Zambia, 2015). Despite the awareness of its biodiversity richness, the value of these ecosystems is only partially appreciated. As a developing country, biodiversity is threatened by achieving short-term growth and overexploiting natural resources (Government of the Republic of Zambia, 2015).

Forests, wildlife, fisheries, wetlands, and other protected areas provide essential ecosystem services for the population. Wildlife, especially insects, is vital for pollination, and wetlands and rivers support the livelihood of rural populations through domestic use, agricultural use, grazing animals, and fisheries. The latter contributes around 3.2% to the national GDP, provides income to over 300,000 people, and is essential for food security, with fish constituting 29% of the animal protein supply (Government of the Republic of Zambia, 2015). Moreover, wetlands serve to improve the quality of water and as a habitat for many species.

Timber and non-timber products from forests, such as fibre, medicinal plants, wild vegetables and fruits, edible insects, mushrooms, honey, etc., contribute significantly to the income generation of the rural poor, and forests sequester carbon and store water, preventing soil erosion and floods. The value of forests was estimated at a minimum of 6.3% of the GDP (Government of the Republic of Zambia, 2015).

Even when the ecosystem services provided by biodiversity are not fully valued, it is clear that key biodiversity sectors contribute significantly to the country's GDP. Sectors such as agriculture, fisheries, forestry, and hunting grew considerably in 2014, up to a contribution of 24% in to GDP, and decreasing in the following years to an average of 9% (Mwitwa, Mwila, & Mweemba, 2018). Yet, the biodiversity threats affect mainly these same sectors: forestry, fisheries, wildlife, and water (Mabeta, Mweemba, & Mwitwa, 2018) and put at risk the natural resources to support them.

Existing financing instruments are not aligned toward biodiversity conservation, and the budget for environmental protection is only 0.56% of the total budget. Furthermore, there are subsidies that turn out to be harmful to biodiversity protection, such as the Farmer Input Support Programme (FISP). The programme has a budget allocation of 2.29% of the total budget but has failed to increase productivity and reduce poverty. And furthermore, the subsidies within the programme are destined mainly for synthetic fertilisers, going in the opposite direction of the strategic interventions in the National Biodiversity Strategy and Plan 2 (NBSAP-2), which requires the country to move towards sustainable agriculture (Mabeta, Mweemba, & Mwitwa, 2018).

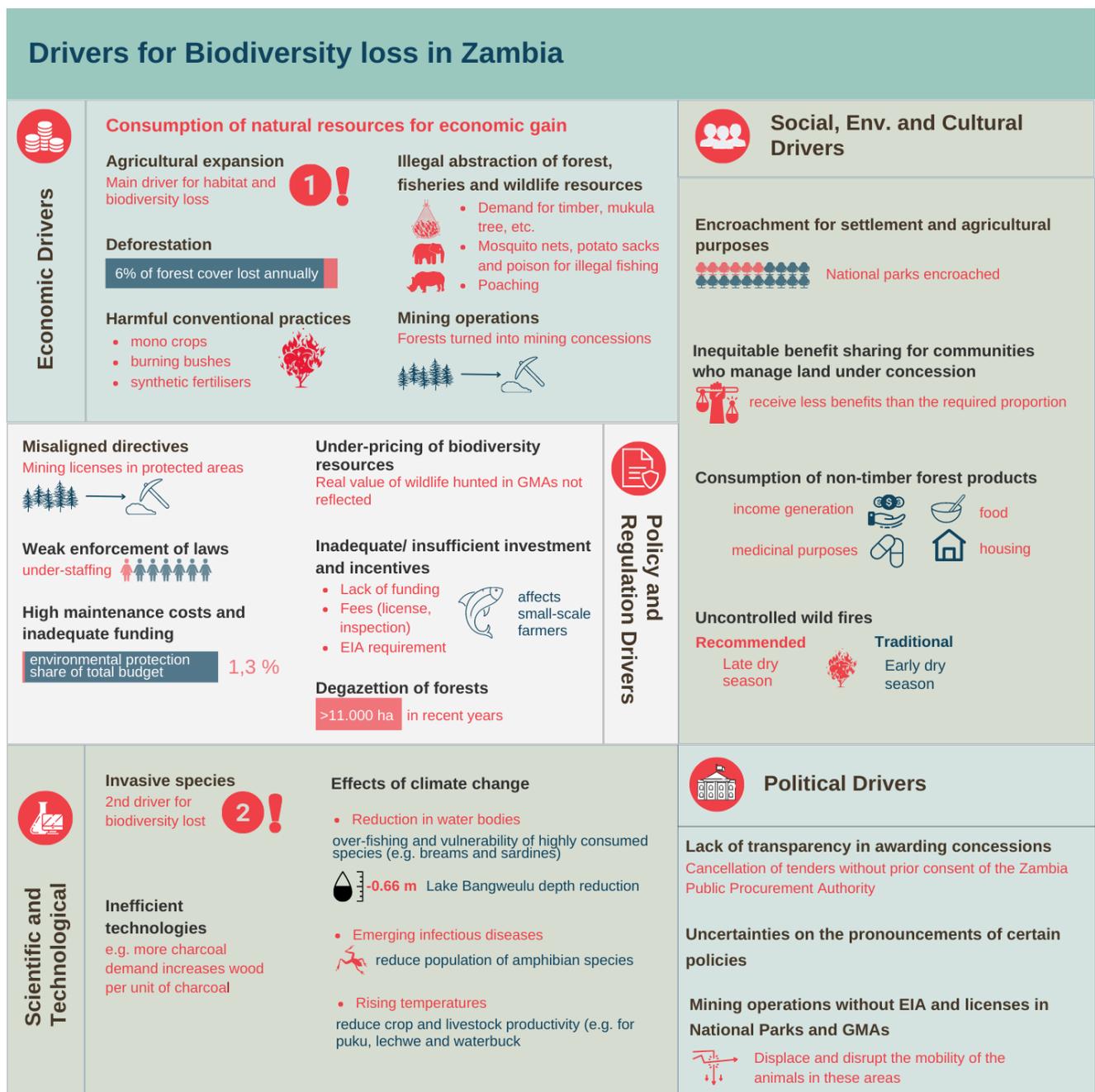


Figure 3. Drivers for biodiversity loss in Zambia

The main drivers of biodiversity loss in Zambia can be grouped into five categories: economic, policy and regulatory, social, environmental and cultural, political and scientific, and technological (Mwitwa, Mwila, & Mweemba, 2018). The main threats affecting biodiversity include uncontrolled wildfires, unsustainable or illegal utilisation of resources, pollution, charcoal production, poor governance and agricultural practices, mining operations, invasive species, inadequate resource baseline updates and monitoring; and encroachment (Mwitwa, Mwila, & Mweemba, 2018). The threats that arise from each driver are detailed in Figure 3.

Further challenges, transversal to several of the five drivers, include the fact that governmental institutions are spread over 11 ministries, challenging coordination and mobilisation of the resources (Mwitwa, Mwila, & Mweemba, 2018; Government of the Republic of Zambia, 2015) and limited capacity of ZEMA (Zambia Environmental Management Agency) and other institutions which difficult monitoring the impacts and enforce the regulation (Government of the Republic of Zambia, 2015). The private sector and civil society are not yet included in the biodiversity conservation agenda. This mainly occurs because there is no enabling environment for these actors to directly implement the activities for biodiversity conservation. However, as will be seen in the next chapter, the private sector, especially MSMEs, could and are implementing activities that are beneficial in protecting biodiversity (Mulenga, Mweemba, & Mwitwa, 2017; Mwitwa, Mwila, & Mweemba, 2018).



2. The Local Response: Policy landscape and the roles of MSMEs

Under the threat menacing Zambia's rich biodiversity, and understanding its vital importance, the country has displayed an important commitment to protecting biodiversity. Efforts include taking part in international efforts in order to tackle the direct threats, and protect the biodiversity of the country, as well as developing local strategies, frameworks, and policies to mobilise the necessary resources to implement biodiversity programmes in the country. Furthermore, exemplary MSMEs are determined to protect the natural resources of their communities through their business models.

2.1 Biodiversity policies and strategies in Zambia

In 1993, Zambia ratified the United Nations Convention on Biological Diversity (CBD), whose objectives are the "conservation of biological diversity, the sustainable use of the components of biological diversity, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" (Convention on Biological Diversity, 2012). Since then, the country has acted to enhance the implementation of the Convention, mainly by formulating the National Biodiversity Strategic Action Plan (NBSAP-1 in 1999 and the revised version NBSAP-2 in 2015) to align the international commitments with the Seventh National Development Plan and Vision 2030 (Mwitwa, Mwila, & Mweemba, 2018). NBSAP-1 set out 14 biodiversity targets, but its implementation was challenging due to an inadequate monitoring framework and inexistent clear financing framework (Government of the Republic of Zambia, 2015). These limitations were tackled in the NBSAP-2. Beyond serving as a guide for the implementation of the objectives of the CBD and Aichi targets aligned with the development objectives in the Vision 2030 and Revised Sixth National Development Plan (Mwitwa, Mwila, & Mweemba, 2018), it sets a monitoring & evaluation framework, a resource mobilization plan with the Ministry of Finance and the Ministry of Lands, Natural Resources and Environmental Planning which shall include innovative financing sources (Government of the Republic of Zambia, 2015).

Furthermore, to protect biodiversity and fulfil the action plan, Zambia has an extensive area under protection, comprised of forest reserves, national forests, local forests, national parks, and game management areas (GMAs), which cover over 300,000 km² of the total 752,612 km². GMAs are protected areas in communally owned lands (i.e., customary or traditional lands) that are used primarily for the sustainable utilization of wildlife resources through regulated hunting and/or non-consumptive tourism concessions (Government of the Republic of Zambia, 2015). Additionally, the country has set several national policies and legislations, national plans and strategies, regional agreements, and protocols that support the implementation of the convention and protect the country's biodiversity (Figure 4).

Beyond the efforts previously mentioned and more closely related to biodiversity finance, Zambia is currently engaged with the global community in formulating a new post-2020 Global Biodiversity Framework (deVere Zambia, 2021) and is working with BIOFIN (Biodiversity Finance Initiative), which started its operations in the country in 2015 with the objective to formulate the strategic plan to mainstream green finance into the country's financial sector (Biofin, 2021).

Furthermore, Zambia has developed its National Financial Inclusion Strategy, where it has established actions for the inclusion of MSMEs in general and the agricultural sector in the financial system. Within this strategy, the Credit Registry was established through the Credit Report Act in 2018, and the

online Movable Property Registry System (PACRA) was implemented in line with the Movable Property Security Interest Act of 2016 to build the capacity of financial service providers to serve MSMEs and to design and offer agriculture finance products (Ministry of Finance, 2017). The ultimate goal of the Registry System is to encourage lending based on the movable property to increase access to credit by MSMEs in particular (Movable Property Registry System, n.d.)

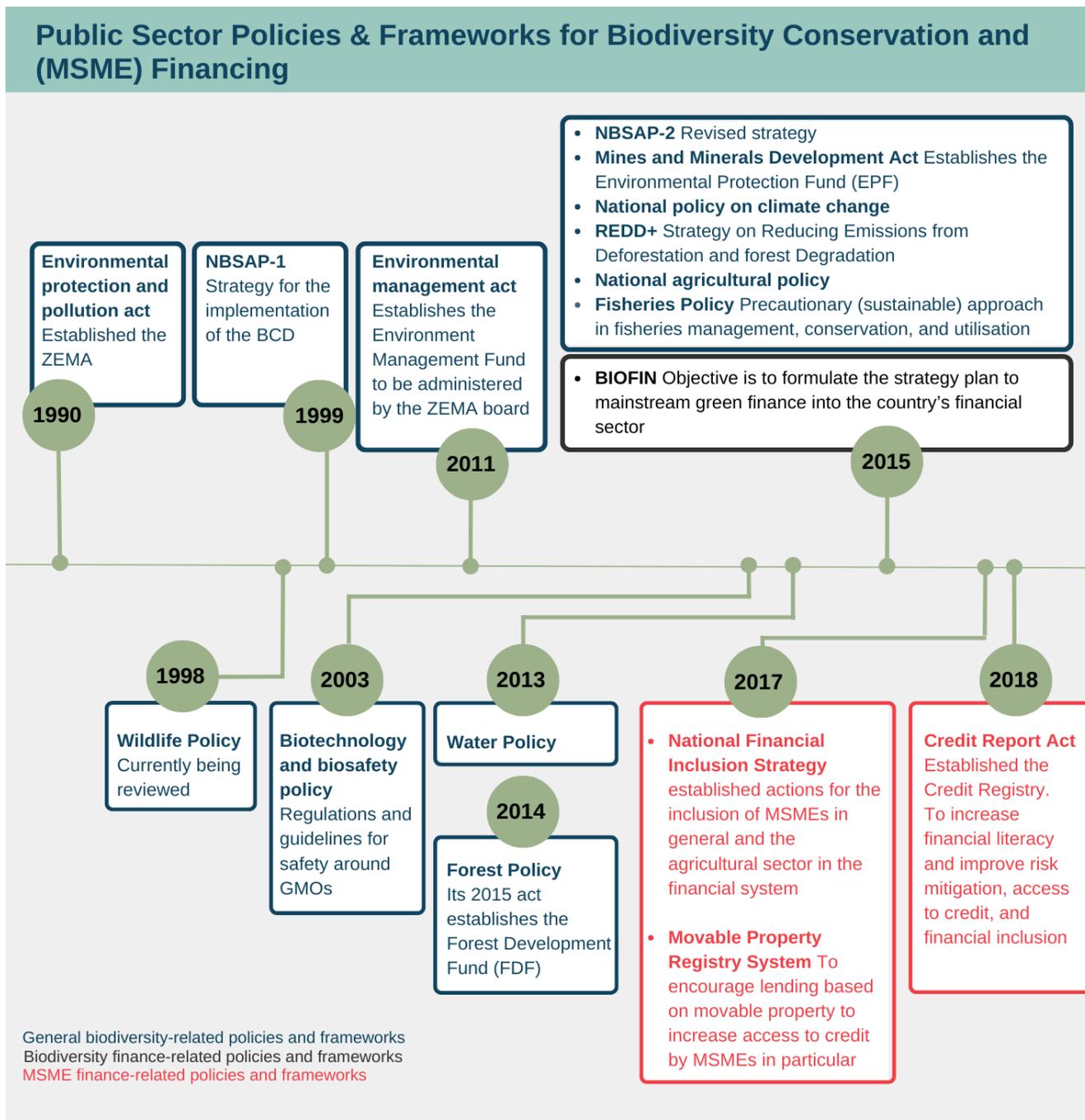


Figure 4. Biodiversity policies and frameworks

2.2. Roles of MSMEs in protecting biodiversity

2.2.1 Impact potential of bankable biodiversity conservation business models in Zambia

Small enterprises not only are the backbone of economies worldwide, but they also can conserve and restore biodiversity while generating a return on investments. In Zambia, MSMEs contribute to 70% of the country's GDP, account for 97% of the businesses, and generate 88% of the employment, tending to employ a large share of the most vulnerable groups (ITC, 2020). MSMEs in Zambia are defined based on the total investment, annual turnover, and the number of employees, as indicated in the following table.

Table 1. MSME classification

Enterprise Size	Total Investment excluding land and buildings (in Kwacha - ZMW)	Annual Turnover (in ZMW)	# of Employees
Micro	Up to 80 thousand	Up to 150 thousand	Up to 10
Small	Manufacturing and processing enterprises – between 80 and 200 thousand Trading and service providing enterprises – between 80 and 150 thousand	Between 150 and 300 thousand	11-50
Medium	Manufacturing and processing enterprises – between 200 and 500 thousand Trading and service providing enterprises – between 150 and 300 thousand	Between 300 and 800 thousand	51-100
Informal Enterprise <i>not registered with the Registrar of Companies</i>	Up to 50 thousand	-	Less than 10

Source: International Trade Center (ITC, 2020)

Taking into consideration the major biodiversity challenges across Zambia, contextually relevant solutions are required. MSMEs play a vital role as they offer bottom-up biodiversity and green solutions with their innovative business models. While there are several MSMEs across Zambia offering solutions for biodiversity conservation, the full potential of these enterprises is yet to be fully realised.

Globally, business models that offer products or services that directly benefit biodiversity and natural resources are mainly in the sectors of tourism, wild products, agroforestry commodities, and sustainable agriculture and livestock. For example, green infrastructure such as green roofs and rain gardens can generate a return on investment in three ways: (i) avoided costs; (ii) generation of an additional cash flow for the entity; and (iii) economic growth for the area benefiting from the green infrastructure (World Bank Group, 2020).

Thus, biodiversity enterprises can be defined in this context as those MSMEs that “generate profits via activities which conserve biodiversity, use biological resources sustainably, and share the benefits arising from this use equitably” (Bishop, Kapila, Hicks, Mitchell, & Vorhies, 2008). Biodiversity enterprises can be categorised into two categories given their impact generation and their business model: Biodiversity-friendly enterprises and biodiversity-based enterprises (also known as nature-based) (see Figure 5). Biodiversity or nature-based refers to actions to protect, sustainably manage

and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively to provide both human well-being and biodiversity benefits.

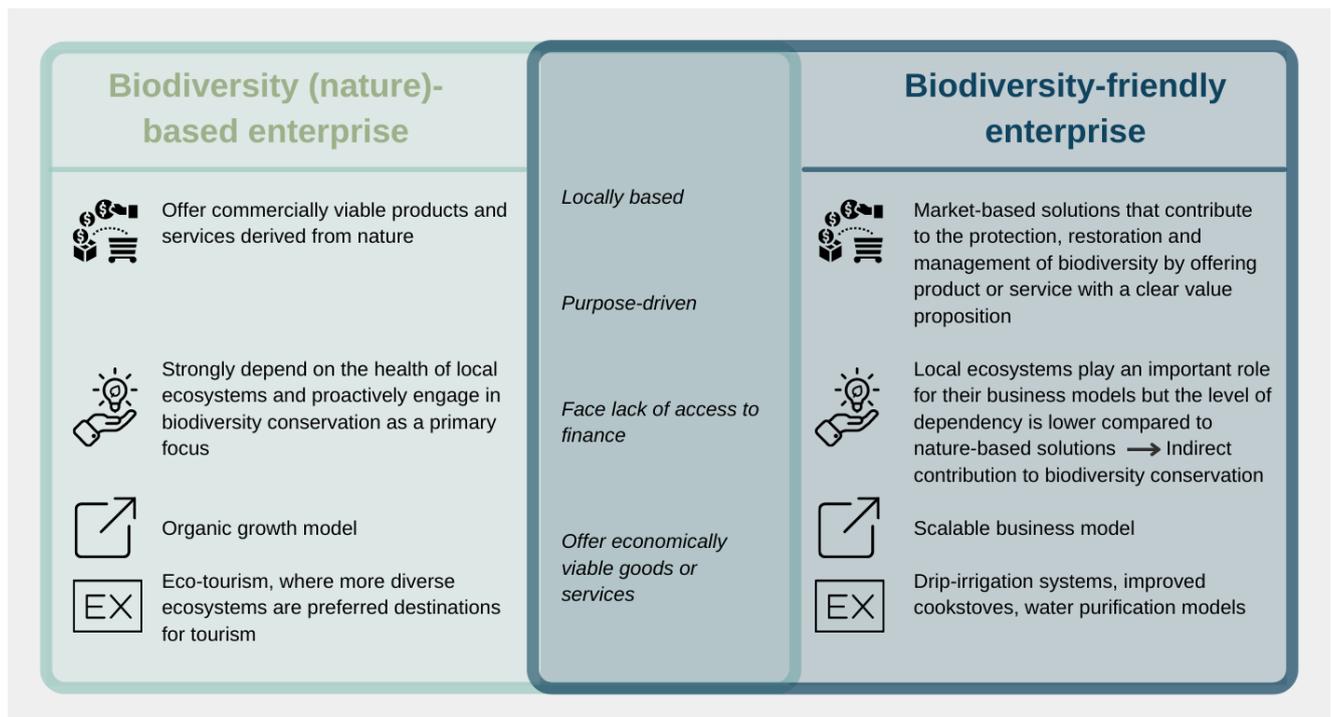


Figure 5. Biodiversity MSMEs types

Furthermore, in developing and emerging economies in particular, MSMEs are major contributors to poverty reduction and social cohesion, engage the base of the pyramid in their delivery of products and services, and support the integration of marginalised or socially disadvantaged groups, including women and youth, in economic activities (Bishop, Kapila, Hicks, Mitchell, & Vorhies, 2008). Evidence also points to the role of MSMEs in achieving Sustainable Development Goals (SDGs) for socially inclusive and environmentally responsible development (ITC, 2019).

Understanding how biodiversity enterprises can contribute to biodiversity and considering their differences in business models and scalability is of extreme importance in addressing the financing gap.

Particularly in Zambia, MSMEs embedded in their communities and in important biodiversity areas can contribute to achieving the targets of the NBSAP-2. Through their business models, they help raise public awareness of the value of conserving biodiversity (target 1); they can adopt sustainable farming systems adequate for the selected landscapes and which use alternative clean energy contributing to target 5 of reducing deforestation. Moreover, they can contribute to eradicating invasive species through their business processes and operation (target 9), and they further promote drought-resilient crop species, contributing to maintaining genetic diversity (target 12) by allowing plants to complete their development cycle, which is interrupted by droughts among other factors.

Despite a lack of comprehensive data on the market share and activities of specifically biodiversity MSMEs in Zambia, there are numerous examples of MSMEs offering biodiversity-friendly and -based solutions through their business models in Zambia and across Africa. This is evidenced through the work of adelphi's hosted SEED. SEED has worked for nearly two decades in promoting entrepreneurship for sustainable development globally. Enterprises that have been part of SEED, such as Mootoo Cashew Suppliers Limited, Emerging Farmers Initiative (EFI), Greenbelts Energy and Wuchi Wami exemplify biodiversity MSMEs that are responding to the biodiversity needs of their value chains in Zambia. Their enterprise journey is outlined in the enterprise spotlight overview on the following pages.

Emerging Farmers Initiative (EFI)

Impact in Biodiversity & Society

EFI (a project under the Religious Sisters of the Holy Spirit) teaches and demonstrates integrated, environmentally friendly agricultural practices to improve soil conditions and yields through effective resource use, resulting in an enhanced productivity of local farming endeavours highly impacted by climate change.

Pollution reduction -1250 kg harmful chemicals from the soil per year
Preserves terrestrial ecosystems

Water conservation 1000 l/day saved through drip irrigation

Solar energy use for water pumps
Tackles climate change



Employment creation
for young people, male and female, impacting 3 families of 6 each

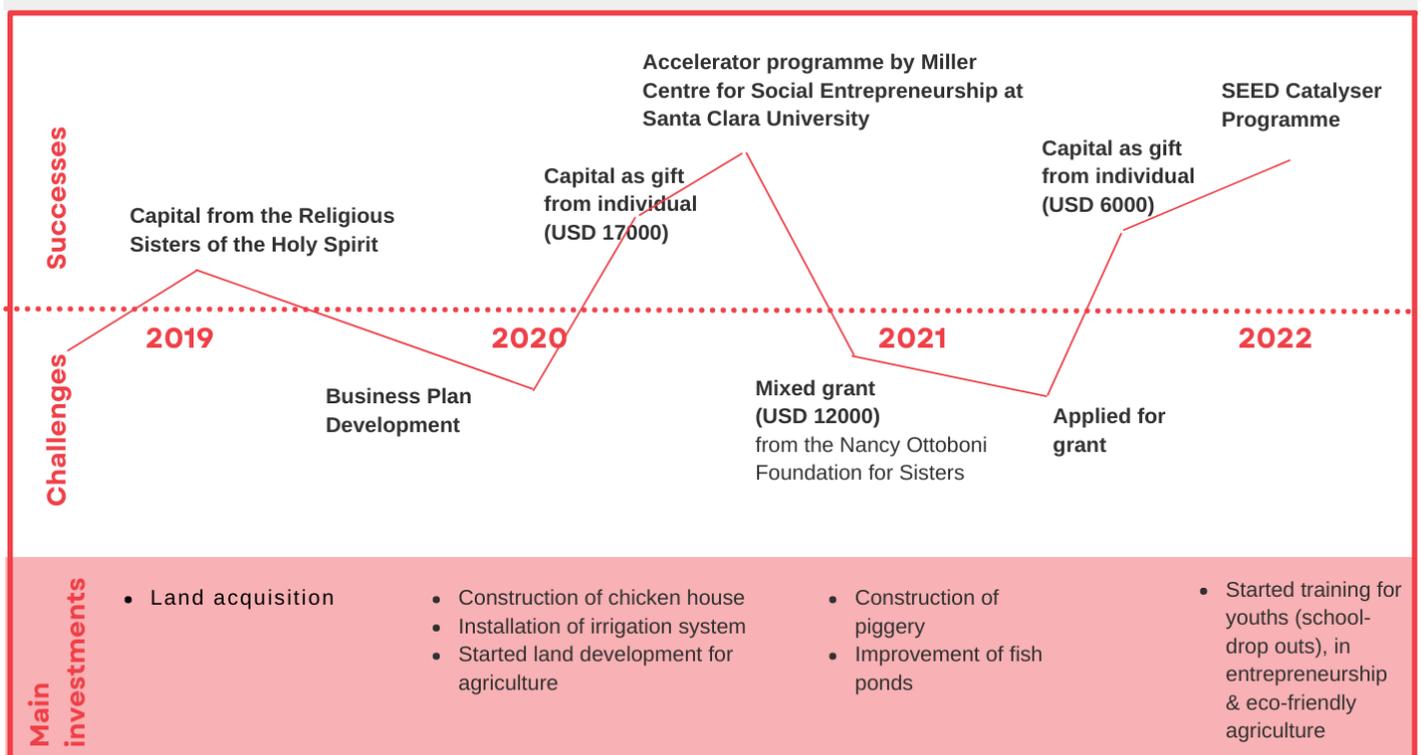
Increased income
among local people employed during construction times

15 youths every 6 months trained in eco-friendly agriculture

EFI started slow with capital from the mother organisation. Raising finance to grow the operation has been very challenging. Mainly, the capital received has come from gifts from individuals and grants. The funding has allowed them to invest in key activities: land preparation, fencing, construction of chicken house and piggery, installation of water irrigation system, training development for youth (school drop-outs), among others. However, it is still not enough to achieve the desired outcomes of the enterprise.

Challenges with Access to Finance

- Lack of maturity stalls attracting more funding
- Currency fluctuation affects amount received
- Grants do not arrive in time or amount required
- Stigma against sisters being entrepreneurs



Greenbelt Energy



Impact in Biodiversity & Society

Greenbelt Energy offers biogas -produced from out-grower sourced animal manure- and smart stoves as an alternative to charcoal and firewood, contributing to reducing deforestation, one of the main threats to biodiversity. Moreover, Greenbelt engages women from low and middle-income households as community-based direct sales agents.



Pollution reduction

By encouraging waste management (animal manure)



Promotion of more sustainable energy sources to charcoal and firewood

Preserves terrestrial ecosystems



Employment creation



for women (as well as household energy decisions)

for local craftsmen and artisans within the community in the operations

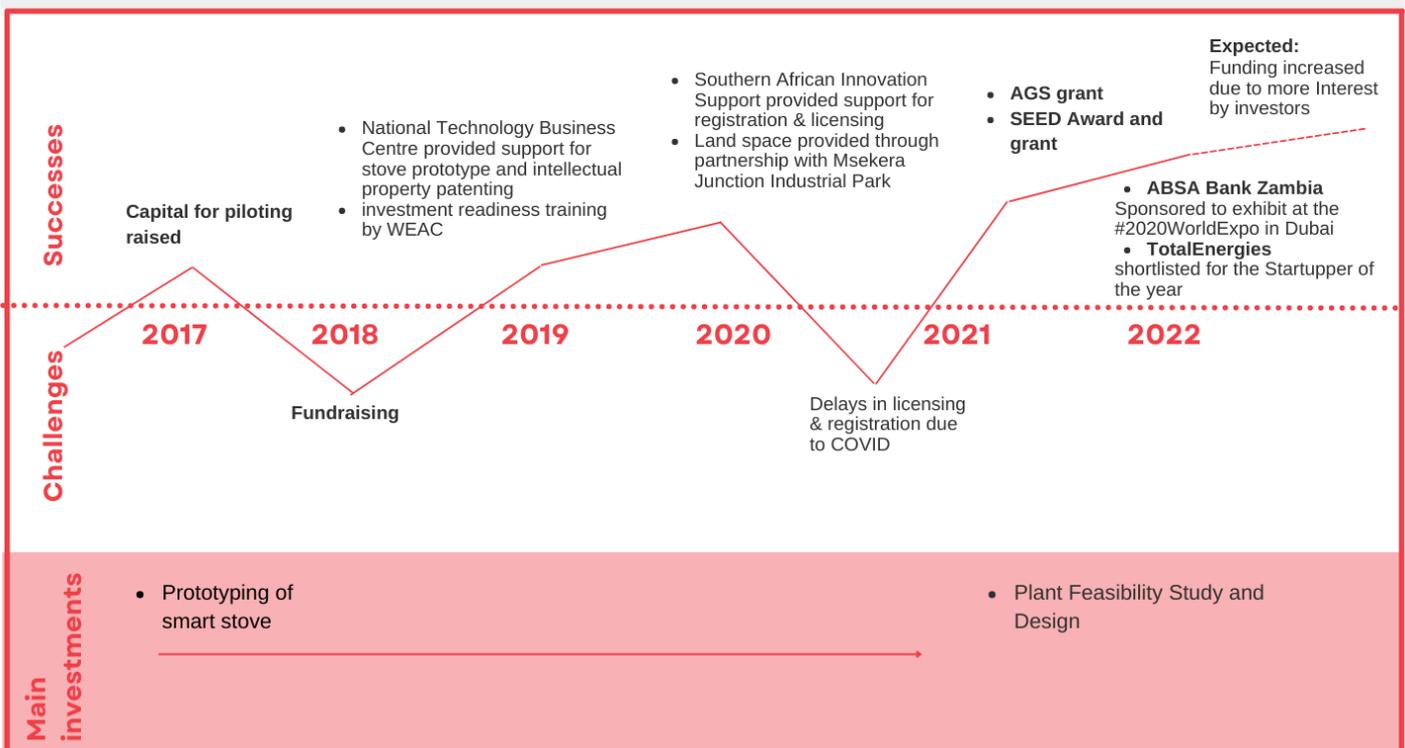
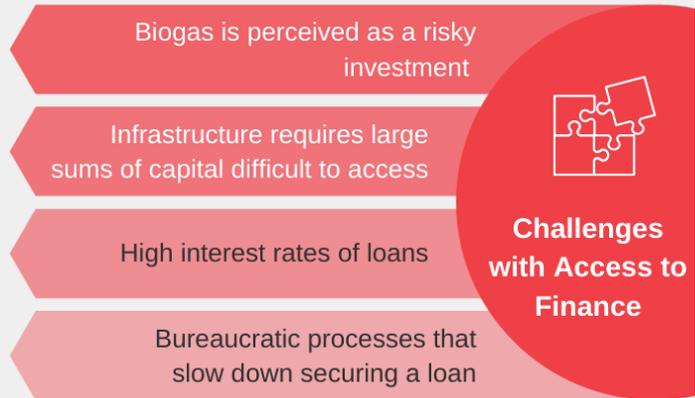


partnership with 10 middle-scale farmers

Provision of safe cooking methods



Greenbelt started the pilot project in 2017 with own capital, savings and general donations, as well as capital raised at fundraising events. Accessing finance from financial institutions and in the amount needed has been very challenging. Further funding received as of 2019 has mainly come from non- financial institutions as acquiring loans from banks has been very difficult. The funding has supported the development of the stove prototype and the construction of the production plant. The enterprise has additionally received support from other ecosystem actors along their journey.



Wuchi Wami



Impact in Biodiversity & Society

Wuchi Wami contributes to preserve the miombo trees traditionally used in beehive production, by using modern beehives from easy to plant pine. Furthermore, Wuchi Wami contributes to reducing deforestation by providing an alternative income source for women and men engaged in charcoal burning.



Preservation of miombo trees

+125 000 trees saved, traditionally used in beehive production



Deforestation reduced

By providing alternative income sources to people engaged in charcoal burning



Income and Sustainable Livelihood for +2 500 small scale farmers

Through an out-grower scheme



Less labour intensive beehive management



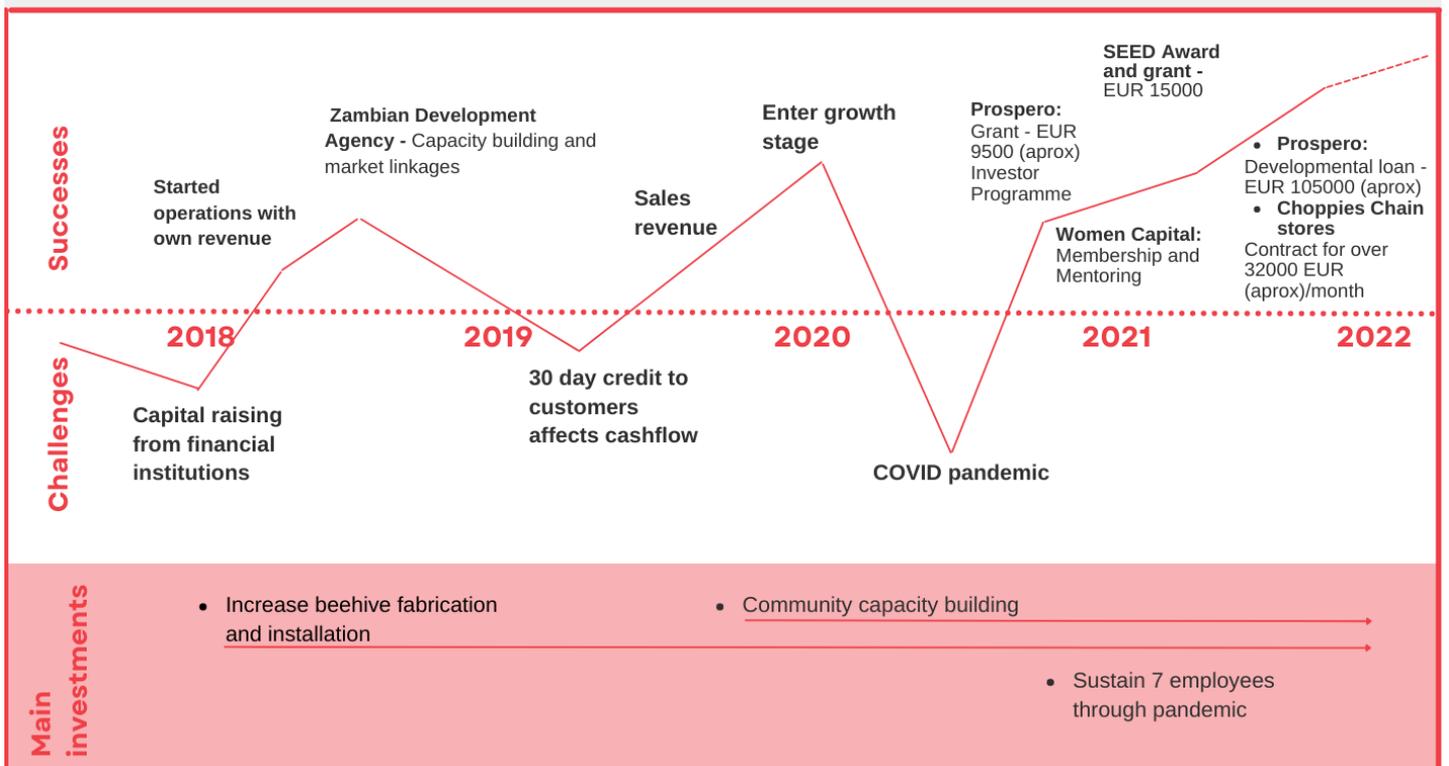
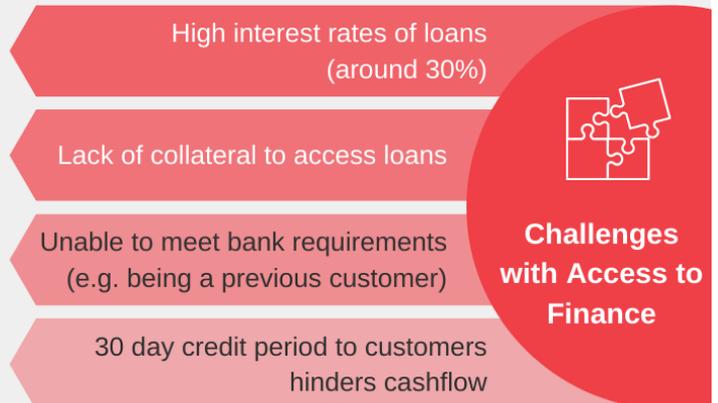
Involvement of women and youth



Support for health research and delivery of practical training

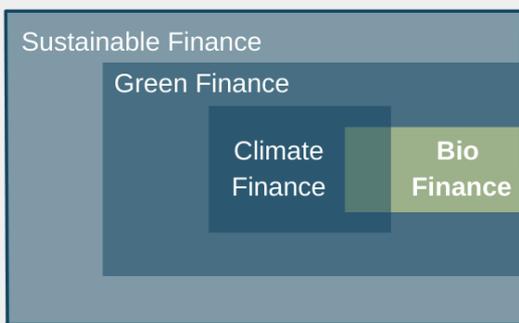


Facing challenges to raise funding from financial institutions, Wuchi Wami started in 2018 with own capital. Sales revenues as well as support from different organisations allowed Wuchi Wami to enter the growth stage in 2020, when further difficulties arose from the COVID pandemic. Even when loans from banks has been very difficult to access, funding raised and support from organisations have supported the development of more bee hives, maintaining their staff of 7 people, and engage the community in capacity building programmes, increasing the income for supplier farmers.



3. Biodiversity Finance

Despite the threats and damages caused to biodiversity globally and the positive effect that MSMEs can have on its conservation and protection, the world is facing a gap between the required finance to direct actions that protect biodiversity and the available finance destined for it. And following this, MSMEs also face financing challenges and unavailability of funds that do not allow them to grow and expand the positive impacts that they create not only in society and the economy in general but also in protecting biodiversity.



Biodiversity Finance

It is contained in the green finance category and sometimes overlaps with Climate Finance. It refers to the management of capital, raising and provision, to avoid negative impacts on biodiversity and to conserve, restore, and use it sustainably. It seeks to support / finance businesses and projects that have a positive impact on biodiversity, or reduce a negative one to sustain the ecosystem services.

The global **biodiversity finance available is estimated between 14% and 35% of the finance needed** for conservation of biodiversity. This translates to between US \$52 and \$143 billion out of the US \$150 billion to \$967 billion needed per year.



"Perverse economic incentives" spending

is five to six times more than biodiversity spending. It favours economic activities that are harmful for the environment and the sustainable use of resources

Scarcity of data, measurement, and standards

Unlike climate change and climate finance there is no clear goal like the 1.5°C temperature increase ceiling, and data of baselines to measure impact unavailable

Small scale and localised nature of biodiversity projects

Involve no cashflow or have returns below the market. Ecosystem services true value is not reflected in economic transactions

Challenges for scaling up biodiversity finance

Figure 6. Biodiversity Finance

Biodiversity finance is “the raising, provision, or management of capital to conserve, restore, sustainably use, or avoid a negative footprint on biodiversity and ecosystem services. Such financing aims to support businesses and projects that have a positive impact or reduce a negative impact on biodiversity and ecosystem services, and sustain the services these systems provide” (World Bank Group, 2020). This is a relatively new concept, and it is still in the early stages of development. Yet,

financial instruments and approaches already exist, and they have the potential for scaling up (World Bank Group, 2020). Biodiversity finance is part of the larger concept of green finance and sustainable finance, and it overlaps with climate finance. There are two dimensions to it: financing green and greening finance (World Bank Group, 2020). “Financing green is increasing financial flows to projects that contribute—or intend to contribute—to the conservation, sustainable use, and restoration of biodiversity and ecosystems and their services to people. And greening finance is directing financial flows away from projects with negative impacts on biodiversity and ecosystems to projects that mitigate negative impact and/or pursue positive environmental impacts as a co-benefit” (World Bank Group, 2020).

Regardless of its potential, biodiversity finance still faces many challenges for scaling up: the existence of ‘perverse economic incentives’ which tend to favour economic activities that are harmful to the environment and the sustainable use of resources; the scarcity of data, measurement, and standards, and the small scale and localized nature of biodiversity projects (World Bank Group, 2020).

3.1. The ‘missing middle’ (biodiversity) MSME financing gap

As mentioned before, there is an existing gap between the existing biodiversity finance and the finance needed to effectively conserve the world’s biodiversity. The conservation needs entail terrestrial and marine protected areas, sustainably managing productive landscapes and seascapes (fisheries, croplands, rangelands, forests, critical coastal ecosystems, managing invasive species and biodiversity conservation in peri-urban areas, and reducing water pollution (Deutza, et al., 2020). To address these needs, a financing amount that ranges from USD 150 billion to 967 billion per year is needed (depending on the source of the estimation); and only an amount estimated at USD 52 billion to 143 billion per year is already being destined to these biodiversity conservation efforts (Mweemba, 2018; Deutza, et al., 2020) .

From the total existing biodiversity finance, it is estimated that private sector finance accounts for just 14% of global conservation investments (Baralon, et al., 2021). This means that investments in conservation are largely funded by public and philanthropic funds, and for the most part, biodiversity financing is directed towards conservation or large-scale projects, but not towards biodiversity MSMEs or businesses. And despite the good efforts of directing finance toward biodiversity, there are still many funds that are directed towards activities that may have negative impacts on biodiversity (known as brown finance) (World Bank Group, 2020). Furthermore, ecosystem services often have no “price” attached to them, which hinders the revenue creation of such projects, failing to attract private finance which seeks a return on the investment (World Bank Group, 2020). And public finance, which accounts for over 50% of the total biodiversity finance, and which comes mainly from the domestic budget and tax policy, faces the challenge of being outshined by harmful subsidies (Deutza, et al., 2020).

On the bright side, there is a global programme dedicated to closing the gap: BIOFIN, the Biodiversity Finance Initiative, initiated in 2012 at the CBD COP 11 by UNDP and the European Commission and who is working in Zambia since 2015 (Biofin, 2021). The programme works with governments and the private sector by helping them to create tailored finance solutions that “not only protect nature but also create jobs, reduce pandemics, and combat climate change” (Biofin, 2021). One of the key results of the programme in Zambia is the development of the strategic plan, “which is focused on mainstreaming green finance into Zambia’s financial sector, with green bond guidelines and listing rules being gazetted” (Biofin, 2021). The working group has further conducted a series of reviews: on policy and institutional and existing financing biodiversity solutions in the country. They have identified several challenges that hinder the flow of finance to relevant biodiversity projects. Among these challenges is the fact that most of the revenue sources from biodiversity finance are centrally managed, which hinders them from going to the biodiversity sectors where they were collected (Mweemba, 2018).

In Zambia, biodiversity financing comes from allocations from the National Budget and revenue acquired from the biodiversity sectors. However, the implementation of biodiversity-related programmes, as

well as the desired outcomes and outputs, are affected since only a small part of the revenues and financing go to these programmes. This mainly occurs because of the existent disconnection between the biodiversity targets in the country’s national development plan, the medium-term expenditure, and the annual budgets (Mulenga, Mweemba, & Mwitwa, 2017). And of course, MSMEs are affected as well by insufficient finance, challenging not only those who focus on biodiversity protection but generally MSMEs across all sectors.

3.2. (Biodiversity) MSME financing challenges in Zambia

When zooming in on the specific finance gap affecting MSMEs in the country, we see that despite their importance for socio-economic development, they often face shortages in available capital and financial capacity building after the initial growth stage. Furthermore, challenges are not only faced by MSMEs but also by financiers and funders, who often perceive the MSME sector as riskier in general.

3.2.1 Challenges for MSMEs

MSMEs are largely underserved by financial institutions, instead relying heavily on private funds or grants/donations and struggling to access the scale of funding they require to sustain and expand their activities. This contributes to a ‘missing middle’ of established and growing MSMEs that are well-positioned to make significant contributions to development (UNCTAD, 2001; Kauffmann, 2004/2005; Shankar, 2016; Collaborative for Frontier Finance; Miriam Bruhn, 2017). This financing gap is estimated to affect between 50-70% of formal MSMEs in emerging economies (Alibhai, Bell, & Conner, 2017). Other estimates indicate that less than 1% of finance from global asset managers is currently being invested in MSMEs in developing countries (ITC, 2019). Around USD 1 trillion, widening to USD 2.6 trillion if informal MSMEs are considered, is required to meet this gap (Alibhai, Bell, & Conner, 2017).

Figure 7 illustrates this ‘missing middle’ MSME financing gap where available MSME financing tends to be dominated by smaller ticket sizes, shorter repayment periods, and a lack of diversity of financing models. Furthermore, larger-scale capital tends to be reserved for a small subset of high growth potential ‘unicorn’ MSMEs. This hinders the capacity of MSMEs to realise their contributions to economies and achieve impact at scale. Despite varying definitions, the capital typically needed to address this ‘missing middle’ financing gap is for investments of between USD 10,000 – 500,000.

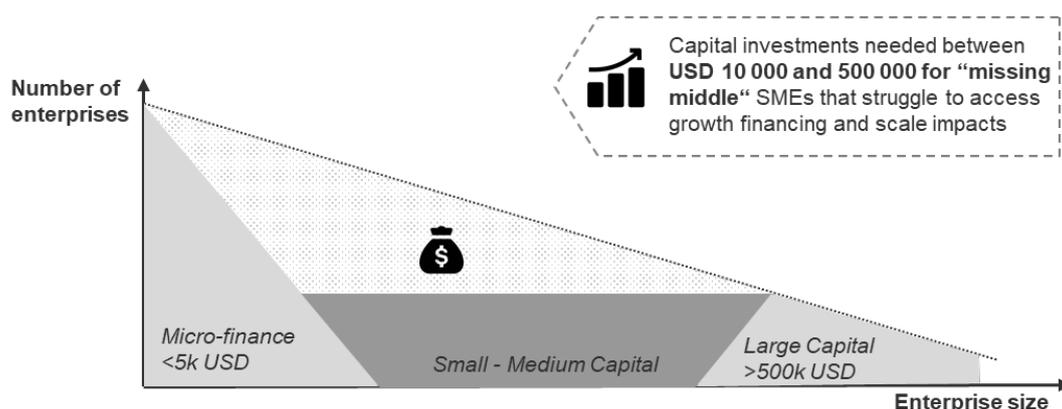


Figure 7. Missing middle financing gap for MSMEs

Source: SEED 2020 adapted from Ashoka Changemakers

In general, MSMEs in Zambia struggle to access finance from Financial Service Providers (FSP), and only 9% of MSMEs have a loan or line of credit (Ministry of Finance, 2017). In a study, it was found that only 61% of MSMEs that applied for a loan were approved. For those for which a loan was not

approved, the main reason was a lack of collateral assets (Chilembo, 2021). Most banks in the country lend only to MSMEs who have adequate security, focus on immovable property, and neglect those who may have movable property (Ministry of Finance, 2017) or who may not have collateral but who may have strong cash flows or experience (Liyanda, 2017).

Furthermore, financial institutions consider the MSME sector to be risky and offer worse terms and conditions to MSMEs than to larger corporations that are given longer periods to pay back a loan (Chilembo, 2021). Moreover, the high interest rates (of around 30%) (Chilembo, 2021), the long bureaucratic processes for the approval of loans and other financial instruments deters, and the mismatching products offered that do not align with the particular needs of MSMEs deter enterprises from accessing these products since their urgent needs are not swiftly met (Liyanda, 2017). Beyond the struggles in accessing the most traditional finance instruments, there is also low awareness of other pertinent working capital financing instruments, such as factoring (Ministry of Finance, 2017).

Moreover, biodiversity MSMEs' business models, whether biodiversity-based or biodiversity friendly, are not yet well understood by traditional financiers, thus being perceived as riskier by these financing institutions. This adds to the fact that biodiversity MSMEs often struggle to balance profit and impact (more so for biodiversity-based enterprises that are more focused on biodiversity impact), frequently becoming social enterprises who rely predominantly on grants.

These challenges are well felt by MSMEs, who perceive that banking professionals have limited engagements with them, leading to them not fully understanding the MSME businesses (Liyanda, 2017). Moreover, they perceive that banks have a more conservative approach, focusing more on traditional or prevailing sectors, client profiles, or business models (Liyanda, 2017). And the situation and challenges have further worsened for MSMEs due to the COVID-19 pandemic. A survey conducted by FSD Zambia in collaboration with BFA Global concluded that 72% of the businesses were not able to raise funds and that nearly 40% of MSMEs are facing a decrease in revenues (FSD Zambia, 2022).

Many of the challenges here cited have been identified as well by SEED-supported enterprises in the country as they look for financing sources in order to scale their activities. They perceive that early stage enterprises do not have the development needed to attract finance, nor the credit history or other bank requirements. The financing journeys of EFI, GreenBelt and Wuchi Wami exemplify these struggles and the high dependence on grants and personal funding.

3.2.2 Challenges for financing institutions

As MSMEs face financing challenges, so do Financing Institutions (FIs). Financial institutions may refrain from lending to MSMEs due to the higher transaction costs: they perceive that small businesses require much more advisory support, and since loans are often smaller, there is a higher processing cost; and higher risk: they face difficulties in obtaining the necessary information to assess the risk of new unproven ventures, and for these new small ventures the probability of failure is considered very high (Chilembo, 2021). A representative from ZANACO (Zambia National Commercial Bank) mentions that finding viable/scalable projects and the appropriate capital to support biodiversity initiatives poses a big challenge for FIs.

For microfinance and finance institutions, the lack of access to foreign capital and donor funding to finance their loans, difficult their scale up development (Elena Babkova), and the decline in the domestic and global economies bring upon further liquidity challenges since the number of nonperforming loans rises, and shareholders become reluctant to invest more money into the business (Nuwagaba, 2015).

Moreover, the lack of alternative sources of funding from traditional banking, such as venture capital, private equity, crowdfunding, and capital markets; and a lack of innovative working capital financing instruments for MSMEs, in general, have hindered the growth of the MSMEs in the country (Ministry of Finance, 2017). These challenges are not unfamiliar to MFIs that are aware of the importance of

biodiversity finance and wish to further it. They face challenges around internal capacity to develop innovative financial solutions under this umbrella of biodiversity financing.

Finally, there is a large challenge regarding the understanding of a biodiversity MSME. Since it is not a mainstream concept, FSPs may, in many cases, not be aware that biodiversity-friendly MSMEs may be MSMEs with whom they already work, for example, those in the agriculture sector. At the same time, since this classification of biodiversity MSMEs is not widespread in the country, there is no information about the market share of these businesses, which may make FIs hesitant to lend as the market is still very small and no information about it exists.

Figure 8 summarises the main financing challenges facing both MSMEs and biodiversity MSMEs; and financiers and funders. The challenges that are particularly pronounced for biodiversity / green business models – in comparison with MSMEs more generally – are indicated in Figure 8 with a leaf.

 Challenges for (Biodiversity) MSME Financing		
	For (Biodiversity) MSMEs	For Financiers and Funders
 Ticket Size	Limited missing middle-scale investments or products available	Lack of tailored financial products to meet investment needs of (biodiversity) enterprises
 Risk/ Return Profiles	Early-stage enterprises bear higher risks with lower returns, translating to high interest rates	Risk aversion with high return expectations for MSMEs
 Collateral	Lack of collateral, sufficient track record or credit history with stricter borrowing requirements	Perception by banks as risky credit with difficult credit assessment & appraisal
 Time Horizon 	Longer time horizon for green-biodiversity investments to capitalise	Short-term orientation of lending & investment cycles hinders investment in growth
 Biodiversity models 	Lack of monetary indicators for returns on biodiversity business models	 Lack of assessment frameworks for green-biodiversity business models
 Impact at Scale 	Internal & market barriers to measuring and scaling impacts	 Low levels of biodiversity enterprises with convincing growth trajectory
 Human Capital & Skills 	Poor financial literacy & awareness of (biodiversity) finance opportunities	 Limited resources to tailor technical assistance & financial products
 Conducive Ecosystem 	Limited skills or expertise with accounting, budgeting and planning capacity	 Shallow pipeline for biodiversity enterprises, especially in remote areas
 Particularly relevant to biodiversity / green enterprises		

Figure 8. Biodiversity MSME financing challenges

Role of women and women-led biodiversity MSMEs in biodiversity finance

As challenging as it is for (biodiversity) MSMEs to access finance, it is even more challenging for women in general and women leading (biodiversity) MSMEs. Beyond the heightened challenges they face, they are also more vulnerable to the negative impacts that biodiversity loss brings upon livelihoods. It is, therefore, vital to integrate gender aspects in planning, budgeting, implementing, monitoring and evaluation of biodiversity conservation programmes and the execution of innovative financing solutions (BIOFIN, 2017).

In general, women, especially those from rural communities, are the most vulnerable to the effects of climate change and biodiversity loss, with women having to travel long distances and spend more time collecting water, wood for fuel, and animals and plants for food and medicine (UNFCCC, 2021). Furthermore, empirical evidence indicates that women have limited rights, access, benefits, and control over resources, and constituting half of the world's population, it becomes evident that their equal participation as key stakeholders and beneficiaries is fundamental to ensuring sustainable development, poverty reduction and biodiversity conservation (BIOFIN, 2017). This is particularly important as women are primary caregivers, land managers, and resource users. Women's role in natural resources conservation and management is also vital as they are bearers of traditional conservation knowledge, seed selection, and plant processing experts to community leaders and market negotiators (BIOFIN, 2017).

The key role of women in biodiversity conservation has been acknowledged and promoted by several global strategies, conventions, and programmes. For instance, the UNCBD and the UNDP have developed the Gender Plan of Action 2015-2020 and the Gender Equality Strategy 2014-2017 to enhance data collection and knowledge sharing on gender and biodiversity (UNDP, 2016). Zambia has taken part in enhancing the role of women as well and has developed a Climate Change Gender Action Plan (ccGAP) on the premise that women farmers, who constitute 60% of the small-scale crop production, can adapt to climate change by cultivating off-season crops which are more resilient to floods and drought. The National Gender Policy acknowledges that when it comes to decision making, women tend to be more effective leaders within their communities in terms of addressing the negative impacts of climate change, and they fare better than their male counterparts in situations where they are involved in devising early warning systems and reconstruction efforts caused by the change of climate (GRZ and IUCN, 2018).

Despite the efforts mentioned in the previous sections regarding biodiversity policies and regulations and financial inclusion of (biodiversity) MSMEs, it is still the case that women led and owned green MSMEs are not deliberately targeted. Added to the challenges in accessing finance, women and women-led biodiversity MSMEs are disadvantaged, and their potential role in biodiversity conservation is not fully exploited. More women than men are financially excluded in Zambia (32.1% women compared to 28.8% men), and the main barriers to inclusion include, among others: low levels of financial literacy, low awareness levels (most women lack training in various financial products) (FSD, 2021), lack of collateral (women have lower ownership of immovable assets), time and mobility constraints (women have multiple demands on their time compared to men, which stems from cultural norms) (International Finance Corporation, 2011), and disparities in legal frameworks and requirements, as procedures often result in unequal access for women (ccGAP, 2016).

To further biodiversity conservation and enhance the role of women and women-led biodiversity MSMEs, it is therefore critical to increase the access of women to finance and to develop and implement policies and regulations and financial inclusion programmes that include a gender perspective and acknowledge both the differentiated challenges women face and the key roles and contributions women bring to biodiversity conservation.

3.3. International good and best practices of biodiversity finance instruments

In order to overcome the existing biodiversity financing challenges, there have already been efforts taken globally towards mobilizing the needed finance, resulting in the growth of the biodiversity conservation finance market. There are now many more biodiversity professionals with relevant skills in both the conservation and finance sectors (Baralon, et al., 2021). However, instruments and revenue sources are not yet diverse enough to achieve the objectives (Baralon, et al., 2021); the most used instruments still remain private debt and equity and real assets, while few actors use publicly traded instruments.

Some promising financial products exist as green debt products (green bonds, green loans, sustainability-linked loans, where interest rates decrease based on sustainability targets achieved, and credit facilities), green equity products (private and public equity funds), and other financial products (environmental impact bonds). However, these products mainly focus on large scale projects rather than on impactful biodiversity MSMEs. Some examples include the blue bonds in Seychelles, where the government can deduct a part of their external debt if they invest in biodiversity projects; the Tropical Landscape Finance Facility (TLFF) in Indonesia, a lending and grant fund platform that provides funding to sustainable agriculture and renewable energy, as well as technical assistance (Deutza, et al., 2020); and initiatives such as Pay for Performance—Conservation Bonds, which allow private investors to get a return based on the success of the project (World Bank Group, 2020).

Although still very small, there are some first steps taken toward biodiversity MSME financing, focusing on enterprises with market-based business models that create positive impacts on biodiversity. Biodiversity enterprise-focused funds like CI Ventures, WWF Impact Ventures, and Nature+ Accelerator Fund are working towards investing in biodiversity MSMEs to fill the gap. CI Ventures offers loans to MSMEs who benefit the ecosystems and well-being of communities and who operate in places where Conservation International works. The fund focuses mainly on MSMEs in sustainable agriculture, sustainable forestry, eco-tourism, or fisheries, emphasizing those with higher impact, which is monitored and evaluated through the lifecycle of the investment. So far, they have supported 14 enterprises with a total investment of USD 20.3 million (25% by CI and 75% from additional co-financing partners) (Conservation International, 2022).

WWF Impact Ventures seeks as well to provide access to finance and expertise to conservation/biodiversity businesses. They link impact investors who are interested in these types of businesses with investment opportunities. Furthermore, WWF Impact Ventures provides expertise in impact measurement, best management practices, and technical assistance to further biodiversity enterprises to become attractive investment opportunities. So far, they have supported 40 small businesses and helped to raise more than USD 5 million in investment (WWF, 2022).

Other approaches are blended finance accelerators, like the Nature+ Accelerator Fund, which can help to stimulate the creation of investable conservation projects. And technical assistance can be integrated into blended finance schemes to improve the risk/return profile of investments and thereby crowd in private capital to finance sustainable development (Deutza, et al., 2020) through its partners IUCN, Mirova, GEF (Global Environment Facility), and CPIC (Coalition for Private Investment in Conservation). Moreover, practices that are currently not mainstream but could yield a positive impact are investment risk management mechanisms, particularly positive screening, which focuses on selecting investments based on their positive performance in biodiversity conservation. In this way, funding can be directed to enterprises that are contributing toward biodiversity conservation (Deutza, et al., 2020).

While commitments to and the development of financial sector infrastructure to absorb and disburse available biodiversity- finance are growing, the potential of MSMEs to deliver significant returns on investment – from an economic, social, and environmental sustainability perspective – remains largely untapped.



Biodiversity Finance Globally

Promising Financing



Products focus on enterprises with market-based business models who create positive impacts in biodiversity: Biodiversity enterprise-focused funds



CI Ventures

Offers loans to SMEs who impact ecosystems and well-being of communities

14 Enterprises supported

US\$ 20.3M Total investment
25% from CI - 75% from co-financing partners

WWF Impact Ventures

- Provide access to finance and expertise to conservation/biodiversity businesses
- Provides expertise in impact measurement, best management practices, and technical assistance



40 Enterprises supported

US\$ 5M Investment raised



Nature+ Accelerator Fund

- Anchored in IUCN, Mirova Natural Capital, and partners within CPIC. The portfolio anchored by GEF
- Stimulates the creation of investable conservation projects and attracts private finance to conservation
- Integrates technical assistance into blended finance schemes, to improve the risk/return profile of investments
- Initial US\$ 8M risk-tolerant concessional finance will be leveraged from GEF. Then it will develop a US\$ 200M viable project portfolio

By 2030

70 Successful investment deals in portfolio

US\$ 160M Co-investment attracted beyond the Nature+ Accelerator funding

Figure 9. Promising biodiversity finance examples globally

3.4. Ecosystem of Biodiversity Finance for MSMEs in Zambia

In light of the need for multi-stakeholder solution development, this section focuses on the major achievements of ecosystem players in delivering biodiversity finance and MSME finance to biodiversity enterprises, zooming in on examples of public sector and private sector mechanisms and initiatives across Zambia. The purpose is to assess to what extent (if any) key ecosystem players are acknowledging the role of MSMEs in biodiversity protection (and broader sustainability endeavours) and developing tailored financing solutions to meet the needs of these enterprises. Below, you can find the overview of financial instruments available in the country (Figure 10).

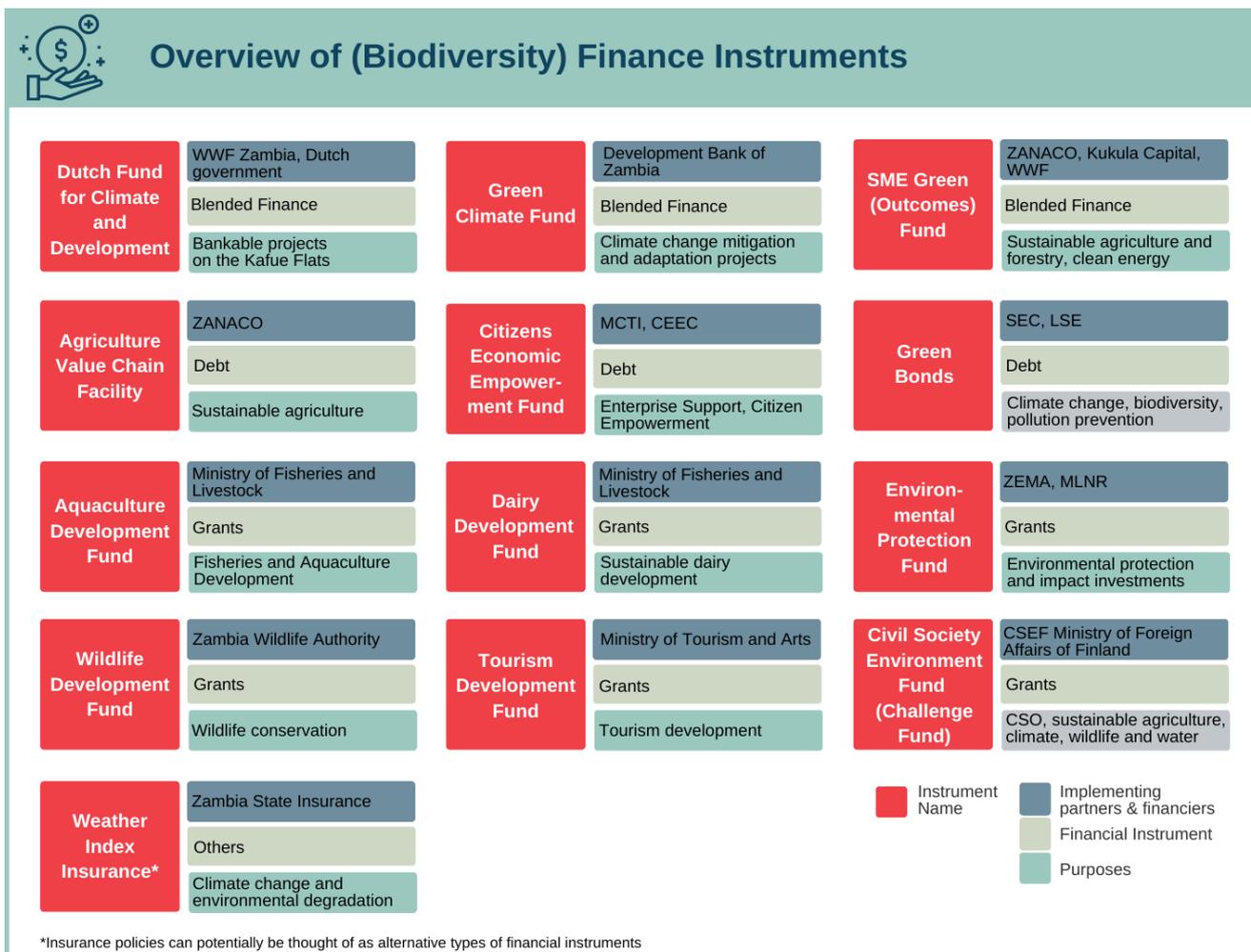


Figure 10. Overview of biodiversity finance instruments

Source: Developed with information from sources previously referenced and Kukula, WWF and the Tourism Policy (Kukula, 2021; Nkomesha, 2019; Ministry of Tourism and Arts, 2015)

Public Sector

As mentioned in the previous sections, building on the commitments of the government and public sector, there have been major steps toward market transformation through various policies and frameworks. Derived from these commitments, diverse biodiversity or green funds have been created, as well as several other financial instruments. However, government-led or funded finance schemes often tend to focus on financing large-scale projects.

Government ministries and agencies

The national government uses different mechanisms to increase its biodiversity budget: tax revenues, non-tax revenues, fiscal incentives, grants/donor aid, and loans/debt instruments (Mweemba, 2018). The resources are pooled together in a national Bank account with the rest of the tax revenues, which may cause them to be used for different purposes and not directed towards biodiversity (Mweemba, 2018). Grants and/or donor aid contributed 73% towards the budget for Environmental Protection from 2010-2018, but there is a decline in development assistance. Zambia also finances the national budget through domestic and foreign loans, but since the country's debt is too high (78.5% of GDP in 2016), there is a high risk of distress.

For the financing of projects that contribute to biodiversity protection or sustainability, there are fiscal incentives through the Zambia Development Agency (ZDA). The government recently passed the ZDA Amendment Bill, which reduces the minimum investment from USD 500,000 to 50,000 and applies to key priority sectors, which now include biodiversity conservation-related sectors. The incentives that hope to attract not only foreign but also increase domestic investment include a 0% tax rate on dividends and on profits for 5 years and a 0% import duty rate on capital goods for five years.

The relevant public sector funds which are focused on biodiversity conservation include the Fisheries and Aquaculture development fund, Water development trust fund, Forest development fund, and Environmental protection fund - driven by money collected from mining projects; its objective is to cover environmental rehabilitation and post closure costs for facilities and companies in mining and petroleum sectors (Mweemba, 2018) - the Tourism Development fund, the Wildlife development fund, and the Wildlife community resources board fund.¹ Even though these funds aim at mobilizing, blending, and overseeing the allocation of financial assets towards biodiversity conservation (Mweemba, 2018), the resources usually fund projects rather than be available for MSMEs in the key priority sectors, as MSMEs do not usually have the capacity to absorb these funds. Furthermore, there is no monitoring regarding the use of the funds after they are released, so there is no actual understanding of how the funds are being used and the possibilities they could entail for biodiversity MSMEs..

Private Sector

There are currently 19 commercial banks in Zambia. Non-banking financial institutions at the end of 2021 were over 100, among which there are 8 leasing companies, 4 building societies, 1 development bank, 1 savings and credit bank, 1 development finance institution, 57 bureaux de change, 1 credit reference bureau, and 35 micro-finance institutions. Although there are some actors focusing on MSMEs and other marginalised sectors, little evidence was found of services being provided for biodiversity or green enterprises, particularly MSMEs.

The most relevant finance solution or opportunity right now seems to be green bonds. However, this instrument still faces many challenges, and even though the guidelines were published by the SEC (Securities & Exchange Commission) in 2020, there have been no green bond issuances so far. Up until now, only one corporate issuer has expressed interest in such bonds to finance a renewable energy project (Mulenga, 2022). Some of these challenges include the high costs since the issuance involves the development of the green bond's environmental objectives framework, engaging an external reviewer, and setting up controls to track the management of proceeds and the impact of the project; the credit risk, and the small amount of bankable green projects (Mulenga, 2022).

Commercial Banks

Despite the increase in commercial banks since the 1990s, lending for the private sector is still very low and concentrated in a few sectors, with MSMEs struggling more to access these loans (Anthony Simpasa, 2016). Available statistics for 2015 showed that smaller banks tend to have a larger share of their loans for MSMEs but also the highest rate of non-performing loans. 5% of the loans of large banks were directed towards MSMEs; for medium banks, it was 8,9%, and for small banks, 22.4%. The rates of non-performing loans from the total loans were 11,3% for large banks, 11% for medium banks, and 18.9% for small banks (Anthony Simpasa, 2016). Although there are not many financing instruments specific for biodiversity offered by commercial banks, there are some banks that have started offering less traditional products for MSMEs in general. These instruments include factoring or invoice discounting and financial leases, which would be very beneficial for MSMEs since it requires initial cash down payments that are less costly than the equity component in traditional bank financing.

¹ Most funds were not operationalised up until 2018, and relevant information about their status is largely unavailable. The environmental protection fund, water development, and aquaculture fund should be operationalized as the statutory bodies/agencies that manage them are active. Aquaculture has been actively accessed in recent years.

Among the largest commercial banks in Zambia, there is ZANACO, with assets worth USD 1.04 billion; Standard Chartered Bank Zambia, Barclays Zambia (Absa), Stanbic Bank (Zambia), Ecobank Zambia, Investrust, and First Alliance Bank. ZANACO, even though not focused on biodiversity MSMEs, has started developing a framework to support sustainable activities such as renewable energy, smart agriculture, circular economy, and WASH; and is currently in the process of getting accredited to the Green Climate Fund.

Micro Finance Institutions (MFI)

The MFI sector has grown rapidly in recent years, with more than 30 deposit-taking and non-deposit-taking MFIs now in operation (Ministry of Finance, 2017). About 75% focus on payroll lending or salary-based loans, and only 10 were providing pure micro finance services targeting MSMEs (in 2015) (Nuwagaba, 2015). Microfinance institutions are characterized by smaller ticket sizes, ranging from just over USD 100 up to USD 2,000, and having assets that range from USD 6 million to 485 million (Elena Babkova), as exemplified by 4 MFIs in the country: FINCA Zambia, Entrepreneurs Financial Centre, Vision Fund, and Agora Microfinance Zambia.

Even if MFIs tend to offer more products for MSMEs than commercial banks, it is not the case that loans for MSMEs represent a large proportion of the total loans offered by the MFIs in every case. For example, the loan portfolio of CETZAM (Christian Enterprise Trust of Zambia), an MFI which provides credit and savings products, included only 8.4% of MSME loans in 2015. Twenty-six MSME loans were disbursed, out of the 6,847 total loans, amounting to a total loan portfolio of USD 1,918,414.9 (Nuwagaba, 2015).

However, there are some MFIs who offer non-traditional financial instruments for MSMEs, among which there is the requirement of a business that demonstrates profitability and the capacity of the MSME to repay, as well as proof of being in business for some time, instead of collateral; as well as acceptance of movable collateral; salary backed loans; and facilities (order finance and invoice discounting, working capital finance) (Nuwagaba, 2015)

Regardless of the importance of MFIs to inclusive finance, the products and services offered tend to miss the 'missing middle' financing gap as ticket sizes remain small and are not well suited to growth finance for MSMEs. Furthermore, despite multiple examples of MFIs offering inclusive finance solutions to various marginalised groups and MSMEs, little evidence was found in Zambia of a role for MFIs in financing, specifically the "biodiversity" (or even green) business. As evidenced by some MFIs (EFC Zambia), even when they focus on MSMEs, there is no difference between the services and products offered to MSMEs in general and those who work in the biodiversity sector, and there is no focus on particular key biodiversity sectors. For example, for EFC, the loan portfolio of fisheries and agriculture sector represents 7.8% of the total loan portfolio. However, particular information on loans offered to MSMEs being invested in biodiversity/ green topics is not tracked; hence the actual share of biodiversity MSMEs who are served may be larger (Musonda, 2022).

Fintech companies

Considering the financial inclusion landscape and strategy in the country, fintech companies present a huge opportunity to achieve financial inclusion targets, also for MSME and agriculture financial inclusion. Fintech companies offer a wide range of products and services, from payment platforms, digital credit, and insurance to PayGo services. Although the amount of fintech companies is still quite small, they have grown significantly from about 25 fintech companies in 2018 (Ali Akram, 2021).

Fintech companies such as JUMO and Lupiya are platforms that can improve financial inclusion by responsibly and sustainably providing businesses with access to financial products, mainly by simplifying the application processes, requirements and times.

MSME intermediaries (incubators, accelerators, networks)

Though not direct sources of MSME financing, often MSME intermediaries such as incubators, accelerators, and networks play a key role in building the financial capacities and investment readiness of (biodiversity) MSMEs. There are around 12 (9 private and 3 quasi government) active business incubators in Zambia, which work directly with enterprises across sectors and with diverse impact objectives.

There are also programmes/networks, such as FSD Zambia, that work to build capacity and understanding of MSMEs' market within formal institutions. FSD Zambia also works "to address information asymmetry between MSMEs and the financial sector to increase access to quality-understandable financial services" (FSD Zambia, 2022).

Even if there are intermediaries focused on MSMEs, the tailored support offered by intermediaries to "biodiversity" business models is still limited as MSME services tend to focus on business development skills.

Development finance institutions and multilateral development funds

There are several Development Finance Institutions (DFIs) and Multilateral Development Funds (MDFs) that provide funding for environmental purposes in the country. In 2021, the development Bank of Zambia was accredited as National Implementing Entity for direct access under the Green Climate Fund (GCF) (Mulenga, 2022). Since the beginning of the collaboration, and through the designated national authority, the Ministry of National Development Planning, the GCF has allocated USD 91.2 million through 4 projects in Zambia (Green Climate Fund, n.d.). Zambia is also a recipient of Global Environment Facility (GEF) funds with focal areas of biodiversity, land degradation, and climate change (GEF, 2021). Furthermore, the Civil Society Environment Fund (CSEF), supported by the Ministry of foreign affairs of Finland, was successfully established, and the second phase was launched in 2018, already delivering a diverse portfolio of project grants. The objective of the fund is to build the capacity of civil society to implement environmentally focused projects (Ecorys, 2019).

The African Guarantee Fund offers, for MSMEs in general, products such as equity guarantee -enabling equity capital financing of MSMEs with high impact potential, but without strong financial structures, as well as to those MSMEs in seed and start-up phase- and loan individual and portfolio guarantee, which allows MSMEs who do not have the required collateral to access loans by assisting FIs (African Guarantee Fund, 2022). And bilateral institutions such as the German Development Bank (KfW) have diverse projects in Zambia on clean water access and sanitation.

In general, little evidence was found regarding specific biodiversity financing for MSMEs. Despite the financial commitments toward the environment and biodiversity that are supported by DFIs, the majority of activities do not directly support MSMEs. Although there is one project by the African Development Bank Group, the Aquaculture Enterprise Development Project, which is targeted at entrepreneurs and would offer competitively-priced risk sharing access to finance (African Development Bank Group, 2022), not many other actors are targeting MSMEs. As Valeta states, biodiversity financing is still very new in Zambia and is mainly donor-driven (Valeta, 2022). Furthermore, the traditional financial instruments available for MSMEs tend to be more easily absorbed by biodiversity-friendly enterprises rather than biodiversity-based ones. This can be explained by the fact that the market-based business model of biodiversity-friendly MSMEs is more familiar to finance institutions and can generate profit more easily (Figure 11).



(Biodiversity) Finance Instruments for MSMEs

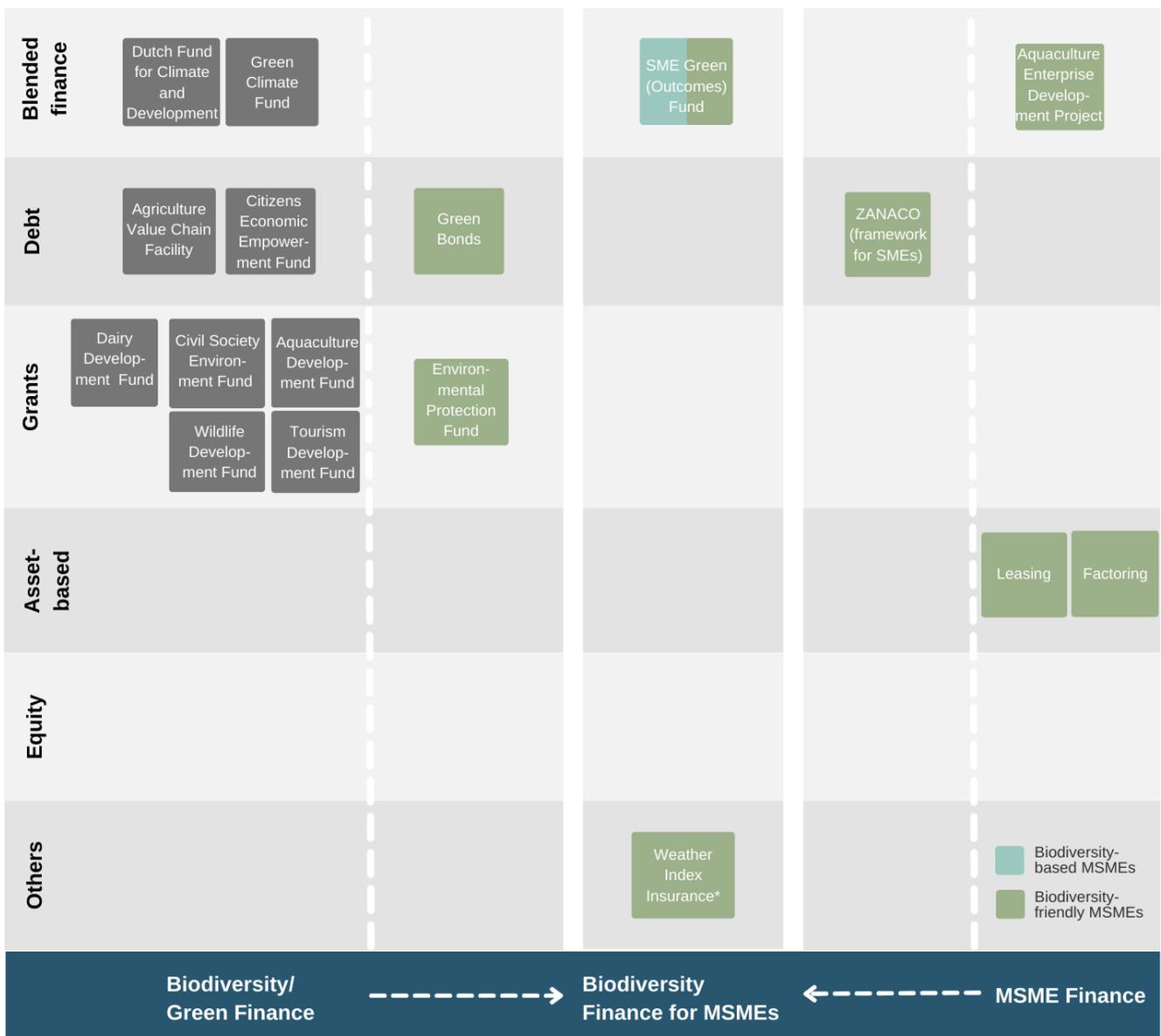


Figure 11. Finance instruments for biodiversity MSMEs

4. Roadmap and Recommendations

4.1. Findings and Action Areas

Global commitments toward biodiversity have resulted in significant progress on biodiversity financing, but still, a long road remains ahead. Every stakeholder plays an important role in achieving biodiversity conservation.

Specifically, for Zambia, there are several recommendations already given through the thorough work of BIOFIN. These include, among others operationalising the non-active environmental and development funds, decentralising the management of biodiversity-dependent revenues (Mwitwa, Mwila, & Mweemba, 2018), separating the accounts for environmental taxes and revenues and allocating proportions to local accounts, consolidating funds into a private, legally independent institution that provides grant funding for biodiversity conservation, lowering the cost of capital for conservation investments, developing de-risking instruments such as disaster risk insurance, public/financial/private guarantees, environmental risk insurance, etc., increase awareness and promotion of impact investments, and very essential, to begin focussing on innovative financing instruments, especially market oriented ones such as offsets, carbon markets, green or social and development impact bonds, impact investments, etc. (Mweemba, 2018).

Further solutions are required that improve the inclusion of MSMEs in formal financial systems and deliver tailored capacity building and financing to missing middle (biodiversity) MSMEs. In Zambia particularly, the disconnect between MSMEs and commercial banks is perceived as an important driver for the difficulties in accessing finance, so long-term relationship building means a step towards closing the financing gap. By gaining practical knowledge of (biodiversity) MSMEs' business models and their risks, financial institutions may be able to correctly price their risk premium and improve the interest rates offered (Chrispin Mphuka, 2014). Furthermore, FIs should not only focus on adequate securities when lending but rather on the strength of the MSMEs cash flows, experience, or track records (Liyanda, 2017).

This all points out the fact that tailored financing and capacity building solutions that involve the active role of financial institutions and investors are required to extend capital to biodiversity MSMEs in order to fully realise the contributions of these businesses to socially inclusive biodiversity conservation at scale. Challenges with commercial lending, financial risk aversion and disconnect or lack of awareness regarding policy and frameworks, and potential clients translate into a lack of tailored financial products and capacity building support to scale the contributions of biodiversity MSMEs to inclusive, green economic growth. A bottom-up approach, where MSMEs as beneficiaries are involved in the planning and launch of biodiversity financial products, would strengthen the overall biodiversity finance landscape in Zambia, as agreed by biodiversity finance expert Alex Valeta (Valeta, 2022).

The existing biodiversity finance trends in Zambia allow us to identify 3 areas for further action in the country that builds from the global challenges to scaling up biodiversity finance. These include the financial inclusion of MSMEs in general; the small scale of biodiversity enterprises; and scarcity of data, measurement, and standards, which are summarized in Figure 12. Building on these findings and areas for further action, the Practitioner Labs Biodiversity Finance are the way forward, where ecosystem actors engage in a collaborative process to co-create innovative green/biodiversity finance mechanisms for MSMEs offering products and services for biodiversity conservation.

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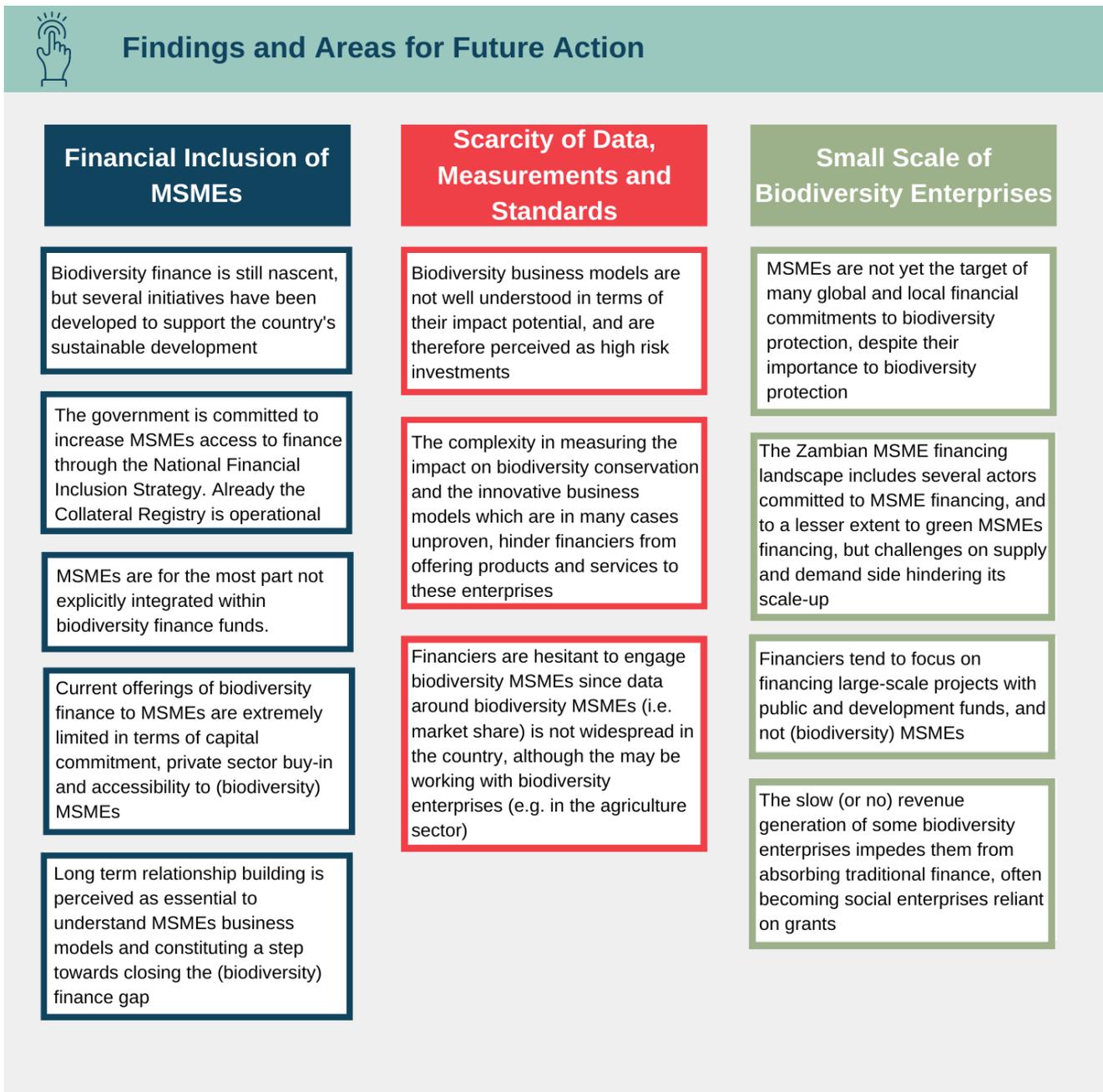


Figure 12. MSME biodiversity finance findings: areas for further action

4.2. Biodiversity Finance Trainings and Practitioners Labs

The Practitioner Labs Biodiversity Finance engage financial institutions, funders, intermediaries, and other small- and medium-sized enterprise (MSME) ecosystem stakeholders over a highly collaborative, multi-step process outlined in Figure 13. Since 2018, the labs (focused on climate and green finance) have been successfully implemented by adelphi's hosted SEED in Indonesia, India, Thailand, South Africa, and Ghana. During the labs, practitioners pool resources and expertise to co-create innovative green/biodiversity finance mechanisms that finance the growth of biodiversity MSMEs offering products and services for biodiversity conservation. The labs aim to facilitate multi-stakeholder responses to locally-relevant biodiversity and MSME financing challenges while building the institutional capacities of financial institutions and investors to leverage global biodiversity finance flows and realise the contributions of MSMEs to biodiversity conservation at scale.

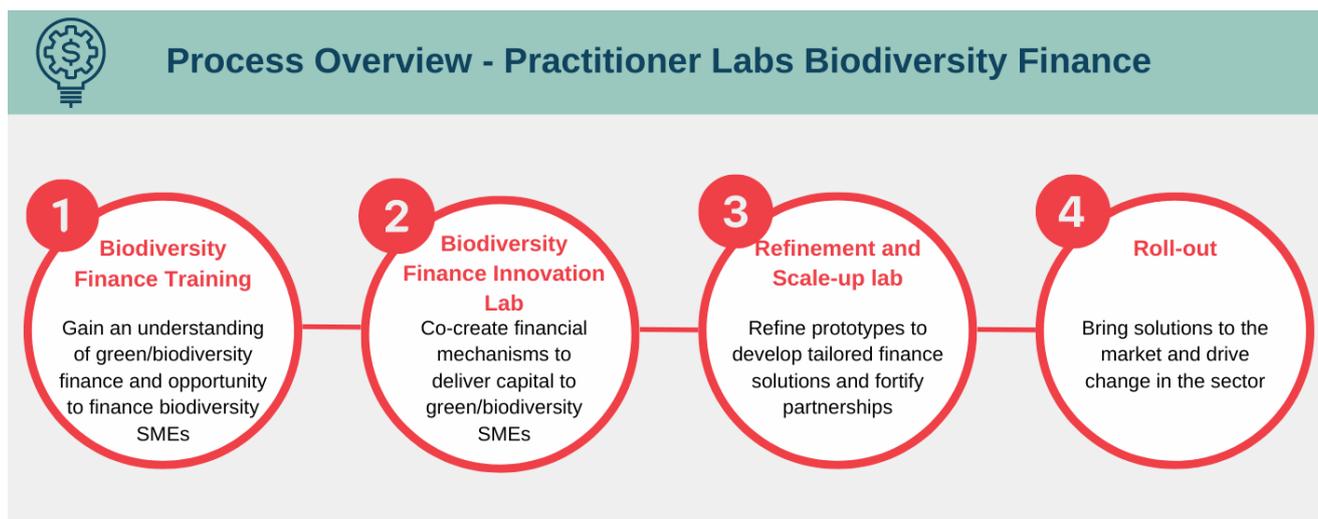


Figure 13. Practitioner Labs Biodiversity Finance Process

Practitioners co-create tailored solutions for financing biodiversity MSMEs that combine: (1) financial instrument or mechanism (debt, equity, blended/hybrid or grants/donations); (2) features such as capacity building, technology access, credit assessment, and more; and (3) an ecosystem of partners for knowledge sharing, implementation and financing that leverage their institutional capacities and expertise to meet the financing demands of (biodiversity) MSMEs.

Over the course of the Practitioner Labs Biodiversity Finance, key ecosystem actors will offer their knowledge of the major challenges and barriers to biodiversity enterprise development, MSME financing, and the expansion of biodiversity finance to MSMEs. As such, they will tackle some of the major challenges identified in this paper. In the track of financial inclusion, MSMEs and financial institutions, and financiers will get a chance to establish relationships in the hope of increasing the understanding of biodiversity business models. As part of the finance training, the importance of biodiversity MSMEs, in general, will also be highlighted along with the global examples of existing biodiversity finance which can be used to build upon new innovative financing instruments relevant to the context of the country. On the other hand, enterprises will also become aware of other financial instruments that are currently not very accessible and also gain an understanding of biodiversity finance.

The Practitioner Labs also constitute an opportunity to shift the focus of financiers and other stakeholders towards biodiversity MSMEs and their impact potential, shining light on the local and global trend of how the small-scale of biodiversity enterprises constitute a major challenge for accessing finance. Overall, the trends and findings from the current status of biodiversity finance will be addressed and used to co-create tailored financial solutions for biodiversity MSMEs tackling the challenged mentioned in this document.

References

- African Development Bank Group. (16. February 2022). *Zambia - Aquaculture Enterprise Development Project*. (African Development Bank Group) Abgerufen am 17. February 2022 von <https://projectsportal.afdb.org/dataportal/VProject/show/P-ZM-AAF-002>
- African Guarantee Fund. (2022). *African Guarantee Fund - Our Products*. Retrieved January 25, 2022, from <https://africanguaranteefund.com/>
- Ali Akram. (28. January 2021). *Are fintechs the key to achieving Zambia's financial inclusion targets by 2022?* (UNCDF) Abgerufen am 8. February 2022 von <https://www.uncdf.org/article/6469/zambia-regulatory-and-innovation-series>
- Alibhai, S., Bell, S., & Conner, G. (2017). *What's Happening in the Missing Middle? : Lessons from Financing SMEs*. Washington: World Bank.
- Anthony Simpasa, L. P. (2016). *Sectoral Credit Concentration and Bank Performance in Zambia*. Abidjan: African Development Bank Group.
- Baralon, J., Marks, D., Dieterich, U., Hinojosa, G., Mallin, C., Stadelmann, M., . . . Puente, J. T. (2021). *Conservation Finance 2021. An Unfolding Opportunity*. Coalition for Private Investment in Conservation.
- Biofin. (2021). *BIOFIN Zambia*. Abgerufen am 2021 von <https://www.biofin.org/zambia>
- Bishop, J., Kapila, S., Hicks, F., Mitchell, P., & Vorhies, F. (2008). *Building Biodiversity Business*. London: Shell International Limited and the International Union for Conservation of Nature.
- BMZ. (2020). *Investing in Biodiversity - A Matter of Survival*. Federal Ministry for Economic Cooperation and Development (BMZ).
- Chilembo, T. (2021). A Study of the Factors Affecting Small and Medium Enterprises (SMEs) Access to Finance. A Case of Lusaka Based SMEs. *American Journal of Industrial and Business Management*, 11(5).
- Chrispin Mphuka, J. S. (2014). Switching costs, Relationship banking and Micro, Small and Medium Enterprises formal bank credit in Zambia.
- Collaborative for Frontier Finance. (kein Datum). *The Missing Middles. Segmenting Enterprises to Better Understand Their Financial Needs*. Collaborative for Frontier Finance.
- Conservation International. (2022). *CI Ventures, LLC*. (Conservation International) Abgerufen am 4. March 2022 von <https://www.conservation.org/projects/conservation-international-ventures-llc>
- Convention on Biological Diversity. (2012). *About the Convention*. Retrieved 2021, from <https://www.cbd.int/intro/>
- Deutza, A., Healb, G. M., Niuc, R., Swansonc, E., Townshendc, T., Lic, Z., . . . Puented, J. T.-d. (2020). *Financing Nature: Closing the Global Biodiversity Financing Gap*. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.
- deVere Zambia. (2021, November 5). *Zambia committed to biodiversity in climate change fight*. Retrieved November 29, 2021, from <https://devere-zambia.co.zm/news/Zambia-committed-to-biodiversity-in-climate-change-fight>
- Ecorys. (15. April 2019). *Civil Society Environment Fund 2 Continues Success in Zambia*. Abgerufen am 9. February 2022 von <https://www.ecorys.com/global/latest-news/civil-society-environment-fund-2-continues-success-zambia>
- Elena Babkova, J. M. (n.d.). *IFC Mobile Money Scoping. Country Report: Zambia*. IFC International Finance Corporation.
- FSD Zambia. (2022). *FSD Zambia - Expanding Financial Inclusion*. Abgerufen am 2022 von <https://www.fsdzambia.org/>

- GEF. (2021). *GEF. Zambia*. Abgerufen am 1. February 2022 von <https://www.thegef.org/projects-operations/country-profiles/zambia>
- Government of the Republic of Zambia. (2015). *Zambia's Second National Biodiversity Strategy and Action Plan (NBSAAP-2)*.
- Green Climate Fund. (kein Datum). *Green Climate Fund. Zambia*. Abgerufen am 9. February 2022 von <https://www.greenclimate.fund/countries/zambia>
- ITC. (2019). *SME Competitiveness Outlook 2019: Big Money for Small Business – Financing the Sustainable Development Goals*. Geneva: International Trade Centre (ITC).
- ITC. (2020). *Promoting SME competitiveness in Zambia*. Geneva: International Trade Centre (ITC).
- Kauffmann, C. (2004/2005). *Policy Insights. Financing SMEs in Africa*. OECD.
- Kukula. (27. October 2021). *Kukula to Launch ZMW 1 billion green fund in collaboration with ZANACO and WWF*. Abgerufen am 24. February 2022 von <http://kukulacapital.com/2021/10/28/kukula-to-launch-zmw-1-billion-green-fund-in-collaboration-with-zanaco-and-wwf/>
- Liyanda, T. (22. December 2017). *Access to Finance: SME perceptions of Financial Service Providers*. (FSD Zambia) Abgerufen am 20. January 2022 von <https://www.fsdzambia.org/access-to-finance-sme-perceptions-of-financial-service-providers/>
- Mabeta, J., Mweemba, B., & Mwitwa, J. (2018). *Key drivers of biodiversity loss in Zambia*. Biodiversity Finance Initiative (BIOFIN)- Zambia.
- Ministry of Finance. (2017). *National Financial Inclusion Strategy*. Lusaka: Ministry of Finance. Economic Management Department.
- Ministry of Finance. (2017). *National Financial Inclusion Strategy 2017-2022*. Lusaka: Ministry of Finance Economic Management Department.
- Ministry of Tourism and Arts. (2015). *National Tourism Policy*.
- Miriam Bruhn, M. H. (2017). *MSME finance gap : assessment of the shortfalls and opportunities in financing micro, small, and medium enterprises in emerging markets*. Washington, D.C.: International Finance Corporation.
- Movable Property Registry System. (kein Datum). *Movable Property Registry System*. Abgerufen am 10. February 2022 von <https://www.mprs.pacra.org.zm/MPRS/Home/About#mprs>
- Mulenga, K., Mweemba, B., & Mwitwa, J. (2017). *Biodiversity Finance Landscape in Zambia*. Biodiversity Finance Initiative (BIOFIN)- Zambia.
- Mulenga, M. (26. January 2022). *Green and Sustainable Finance in Zambia*. (Maira Mukuka) Abgerufen am 9. February 2022 von <https://www.moiramukuka.com/green-and-sustainable-finance-in-zambia/>
- Musonda, M. (19. January 2022). EFC Representative.
- Mweemba, B. N. (2018). *An Inventory of existing financing solutions for biodiversity conservation in Zambia*. Biodiversity Finance Initiative (BIOFIN)- Zambia.
- Mwitwa, J., Mwila, R., & Mweemba, B. (2018). *Policy and Institutional Review for biodiversity conservation in Zambia*. Biodiversity Finance Initiative (BIOFIN)- Zambia.
- Nkomesha, U. (5. December 2019). *WWF launches €166m Climate Fund to support Kafue Flats resource projects*. (News Diggers) Abgerufen am 24. February 2022 von <https://diggers.news/local/2019/12/05/wwf-launches-e166m-climate-fund-to-support-kafue-flats-resource-projects/>
- Nuwagaba, A. (2015). *Micro Financing Of Small and Medium Enterprises (Smes) In Zambia*. *International Journal of Business and Management Invention*, 4(8), 48-56.
- UNCTAD. (2001). *Growing micro and small enterprises in LDCs : the "missing middle" in LDCs : why micro and small enterprises are not growing*. New York: UNCTAD.

Valeta, A. (2022). Expert Biodiversity Financing.

World Bank Group. (2020). *Mobilizing Private Finance for Nature*. Washington, DC: The World Bank Group.

WWF. (2022). *WWF Impact Ventures*. (WWF) Abgerufen am 4. March 2022 von <https://wwf-impact.ventures/about>



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