



## **Global Climate Action Programs (GCAP) Sub-Committee**

Washington, D.C. (Virtual)

**Wednesday, December 4, 2024**

**ZAMBIA (NPC) INVESTMENT PLAN**



CLIMATE INVESTMENT FUNDS  
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GCAP/SC.IS.4/03/Rev.02  
December 2, 2024

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## PROPOSED DECISION

The Sub-Committee, having reviewed the document *Zambia (NPC) Program Investment Plan (GCAP/SC.IS.4/03)*:

- i. thanked the Government of the Republic of Zambia for the work it has done in preparing the Investment Plan;
- ii. endorsed the Investment Plan as a basis for the further development of the projects foreseen in the plan, and took note of the total requested grant funding of USD 34.65 million (inclusive of MDB project preparation and supervision services –MPIS – and project preparation grants) to support the following projects:
  1. USD 19.6 million (African Development Bank - AfDB) for – **Concept 1 Building Resilience of Food, Livelihoods and Ecosystem Services**;
  2. USD 3 million (International Finance Corporation - IFC) for **Concept 2- Promotion of Climate Smart Agriculture and Climate Resilience**;
  3. USD 10 million (World Bank – IBRD) for **Concept 3 Strengthening Community Livelihoods and Resilience Through Sustainable Management of Natural Resources**.
- iii. took note of the estimated budget of USD 1.65 million for MDB project preparation and supervision services (MPIS):
  - a. USD 1,000,000 for the African Development Bank (AfDB) for the project: *Building Resilience of Food, Livelihoods and Ecosystem Services*;
  - b. USD 150,000 for the International Finance Corporation (IFC) for the project: *Promotion of Climate Smart Agriculture, Climate Resilience*; and
  - c. USD 500,000 for the World Bank (WB) for the project: *Strengthening Community Livelihoods and Resilience Through Sustainable Management of Natural Resources*

- iv. approved a total of USD 400,000 for Project Preparation Grants for the Building Resilience of Food, Livelihoods and Ecosystem Services Project by AfDB;
- V. took note of the Dedicated Grant Mechanism (DGM) allocation of USD 4 million for the AfDB, which comes through a financing window that is separate from the Investment Plan allocation.
- vi. noted that allocation of further funding would remain subject to the availability of further NPC commitments; and
- vii. requested the Government of Zambia, in the further development of the proposed projects, to take into account comments made at the meeting and any additional written comments submitted by members.



REPUBLIC OF ZAMBIA

**CLIMATE INVESTMENT FUND NATURE,  
PEOPLE AND  
CLIMATE PROGRAMME**

**ZAMBIA NATURE, PEOPLE AND CLIMATE  
INVESTMENT PLAN**

OCTOBER 2024



## REPUBLIC OF ZAMBIA





**REPUBLIC OF ZAMBIA**  
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**RE: SUBMISSION OF ZAMBIA NATURE, PEOPLE AND CLIMATE INVESTMENT PLAN**

I wish to refer you to the above captioned subject.

You will recall that Zambia's Expression of Interest (EoI) to participate in the Nature, People and Climate (NPC) Investment Programme was approved by the Global Climate Action Programme (GCAP) Sub-committee of the Climate Investment Funds (CIF) in November 2022. Following the approval of the EoI and the allocation of Investment Plan Preparation Grant (IPPG), Zambia embarked on the preparation of the NPC IP. Three (3) Multilateral Development Banks' (MDBs) joint missions were held up to October 2024. In this regard, the Zambia NPC IP has been developed and is ready for submission.

The Zambia NPC IP has been prepared with financial and technical support from your office, technical support from the MDBs including the African Development Bank as the lead MDB, the World Bank and the International Finance Corporation (IFC). Additionally, national and sub-national consultations were undertaken with civil society organizations, the private sector, academic and research institutions, cooperating and development partners, public sector institutions and local communities in the three (3) provinces and the districts that have been targeted to implement the Zambia NPC IP.

In view of the above, I wish to submit the Zambia NPC IP herewith attached.

Submitted for your consideration.

A handwritten signature in blue ink, appearing to read 'Mike Elton Mposha'.

Hon. Mike Elton Mposha  
**MINISTER OF GREEN ECONOMY AND ENVIRONMENT**



## FOREWORD

Zambia is highly vulnerable to the impacts of climate change which pose a major threat to the sustainable development aspirations of our country outlined in the Vision 2030. This is evidenced by several climate events including the devastating drought experienced by our country during the 2023/2024 rain season which affected our water, food and energy security, and the livelihoods of millions of our people.

Government acknowledges the crisis created by climate change and, with support from the Climate Investment Funds (CIF), has prepared the Zambia Nature, People and Climate Investment Plan (Z NPC IP) whose objective is to address the multiple drivers and impacts of climate change resulting from human activities on land resources and ecosystem services in an integrated manner. The Z NPC IP will contribute to the attainment of the goals of the National Policy on Climate Change, the National Adaptation Plan, the Nationally Determined Contribution and the National Green Growth Strategy on building resilience to climate impacts and charting the country on a low carbon development trajectory.

The Z NPC IP is anchored on three (3) programmes namely: (1) Building Resilience of Food, Livelihoods and Ecosystem Services; (2) Promotion of Climate-Smart Agriculture and Climate Resilience; and (3) Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources. They will be implemented in selected districts of Central, Copperbelt and North-western provinces that are highly vulnerable to the impacts of climate change such as droughts and floods and whose natural resources including forests, water catchments and land, have been degraded due to unsustainable practices.

The preparation of the Z NPC IP was informed by a diagnostics and gap analysis report which ascertained the drivers and impacts of climate change and the issues that impede the participation of the private sector and vulnerable groups such as women, the youth and persons with disabilities in the implementation of nature-based solutions in the three (3) provinces. To gather inputs for the formulation of the Z NPC IP, national and sub-national consultations were undertaken with local communities, the private sector, civil society, academic and research institutions, public sector institutions, and cooperating and development partners. Additionally, the Z NPC IP has drawn lessons from the implementation of earlier CIF programmes including the Pilot Programme for Climate Resilience (PPCR) and the Forest Investment Programme.

To ensure effective implementation of the Z NPC IP, Government will strengthen partnerships to leverage additional and innovative financial and technical resources from cooperating and development partners including the Multilateral Development Banks (MDBs) as well as the private sector. We will mobilize the local players including the communities and the civil society organisations and build their capacity to enable the execution of the Z NPC IP.

I wish to thank the CIF, the African Development Bank (AfDB) as lead MDB, the World Bank and the International Finance Corporation (IFC) for joining forces to support Zambia to formulate the Z NPC IP. Let us now work together to ensure the actualization of the Z NPC IP and contribute to transitioning Zambia to a low-carbon, resilient and socially inclusive economy.



Hon. Mike Elton Mposha, MP

**MINISTER OF GREEN ECONOMY AND ENVIRONMENT**

## ACKNOWLEDGEMENTS

The formulation of the Zambia Nature People and Climate Investment Plan (Z NPC IP) would not have been possible without the support of various stakeholders. Special tribute goes to the Climate Investment Funds for providing both financial and technical support to the entire process of developing the Z NPC IP. Special recognition is also given to the Multilateral Development Banks, namely the African Development Bank (AfDB), the World Bank and the International Finance Cooperation for supporting the process. The role played by the AfDB as the lead MDB is appreciated.

The support received from UN Agencies, Bilateral Development Partners, Government Line Ministries and Agencies, the Academic and Research Institutions, International and Local Non-Governmental Organisations, Civil Society Organisations is highly appreciated. The review and feedback given on the Gap Analysis Report and the Investment Plan was very valuable and helped shape the final Z NPC IP.

Special recognition is also given to the Provincial Administrations of Central, Copperbelt and Northwestern Provinces for organising the various stakeholder consultations at provincial level and in the targeted districts.

Last but not least, the members of staff in the Ministry of Green Economy and Environment are commended for their tireless efforts in ensuring the successful development of the Z NPC IP.



Dr. Douy Chibamba  
Permanent Secretary

**MINISTRY OF GREEN ECONOMY AND ENVIRONMENT**



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## LIST OF ACRONYMS

7NDP	Seventh National Development Plan
8NDP	Eighth National Development Plan
A2C	Alternatives to Charcoal
AERs	Agro-Ecological Regions
AfDB	African Development Bank
CAGs	Cluster Advisory Groups
CBD	Convention on Biological Diversity
CBOs	Community Based Organisations
CCA	Climate Change Adaptation
ccGAP	Climate Change Gender Action Plan
CFMGs	Community Forest Management Groups
CIP	Climate Investment Plan
CMCBSP	Community Mobilization and Capacity Building Service Provider
CO <sub>2</sub>	Carbon Dioxide
CRBs	Community Resource Boards
DDCCs	District Development Coordinating Committees
DGM	Dedicated Grant Mechanism
DPs	Development Partners
EE	Energy Efficiency
ERB	Energy Regulation Board
FAO	Food and Agriculture Organisation
FBA	Farm Business Advisor
FRA	Food Reserve Agency
GDP	Gross Domestic Product
GE&CCD	Green Economy and Climate Change Department
GHGs	Greenhouse Gases
GRZ	Government of the Republic of Zambia
HHYWEF	Help to Help Youth and Women Educational Foundation
IDE	International Development Enterprises
IUCN	International Union for the Conservation of Nature
LPG	Liquified Petroleum Gas
LULUCF	Land Use, Land-Use Change and Forestry
MDB	Multilateral Development Bank
MGEE	Ministry of Green Economy and Environment
MLNR	Ministry of Lands and Natural Resources

MoE	Ministry of Energy
MoT	Ministry of Tourism
MWDS	Ministry of Water Development and Sanitation
NAPA	National Adaptation Programme of Action
NBS	Nature-based Solutions
NBS-ARC	Nature-Based Solutions for Argo-Pastoral Resilience to Climate Change in Catchments of Southern Africa
NDCC	National Development Coordinating Committee
NEP	National Energy Policy
NGO	Non-Governmental Organization
NGOCC	Non-Governmental Gender Organizations' Coordinating Council
NPC	Nature, People and Climate
NST	North Swaka Trust
NTEP	Non-Timber Forestry Products
PDCCs	Provincial Development Coordinating Committees
PPCR	Pilot Programme for Climate Resilience
PV	Photovoltaic
PWDs	Persons with Disabilities
REA	Rural Electrification Authority
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SFM	Sustainable Forest Management
TPES	Total Primary Energy Supply
TRALARD	Transforming Landscapes for Resilience and Development
TWG	Technical Working Group
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Reducing Emissions from Deforestation and Forest Degradation
VNR	Voluntary National Review
WDC	Ward Development Committee
WWF	World Wide Fund for Nature
ZIFLP	Zambia Integrated Forest Landscape Project
ZNFU	Zambia National Farmers Union
ZNPC IP	Zambia Nature, People and Climate Investment Plan
ZRDF	Zambia Rainbow Development Foundation

## 1.0 PROPOSAL SUMMARY

### 1.1 BACKGROUND

Zambia faces major environmental challenges that include climate variability, deforestation, and limited access to clean water and energy. To tackle these challenges in an integrated approach, the country has developed this Zambia Nature People and Climate Investment Plan (ZNPC IP), as a strategic document aligned with Zambia's National Development Plans and Climate Policies. The ZNPC IP is based on input from the Diagnosis Report findings<sup>1</sup> which was undertaken as part of broad consultations and analysis that identified gaps, challenges and a package of transformative nature-based solutions aimed at enhancing climate resilience, support sustainable livelihoods, and manage natural resources to mitigate the impacts of climate change while fostering economic growth. It focuses on four key **Investment Pillars**: (i) **Sustainable, Diversified and Inclusive Livelihoods**; (ii) **Protection, Restoration and Conservation of Ecosystems**; (iii) **Climate Information and Services Enhancement**; and (iv) **Investment in Climate Infrastructure and Human Resources**. The Investment Plan includes strategic multisectoral interventions designed into **three main Programmes**, namely: **(1) Building Resilience of Food, Livelihoods and Ecosystem Services**; **(2) Promotion of Climate-Smart Agriculture, Climate Resilience**; and **(3) Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources**. These programmes will improve rural livelihoods with particular emphasis on vulnerable groups such as women, youth, PWDs and elderly, towards a just transition to sustainable livelihoods.

### 1.2 OBJECTIVE

The **overall objective** is to attain a low carbon climate resilient economy, strengthened adaptive capacity and inclusive resilient communities, promote sustainable, diversified livelihoods and support long-term economic development in the three provinces of Central, Copperbelt and North-western Provinces of Zambia.

### 1.3 EXPECTED RESULTS, OUTCOMES AND IMPACTS

**The expected results are:** (i) Improved climate smart agriculture practices, better protected forests, reduced deforestation and increased productivity; (ii) Improved sustainability of private sector/NGO agriculture and forestry initiatives, increased investments and improved public/private sector engagements; (iii) Improved market system development and value chain (including access to inputs, technology, equipment and finance) with the aim to scale market-oriented production; (iv) Active community (women, youth and PWDs) involvement in sustainable land management and adaptation planning; (v) Improved access to finance by women, youth and PWDs; (vi) Strengthened farmer, forest technician and extension services capacity to scale climate resilient production; (vii) Increased opportunities for diversified local livelihoods and reduced dependency on ecosystem; (viii) Income generated from sustainable development and protection wetlands and water systems; (ix) Increased awareness as well as targeted awareness for women, youth and PWDs on NbS value chain and input technologies development, resulting into increased NbS investments; (x) Improved coordination, water resource management capacities, water supply management among public (inter-departmental), private and community; (xi) Increased access to sustainable water supply and hygiene practices with special consideration for women, youths and PWDs; (xii) Improved animal health and reduced human-wildlife conflict; (xiii) Effective delivery mechanism in place for timely and accurate inclusive climate

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<sup>1</sup> Full report of the Diagnosis Report is provided in Annex A 3



information delivery; (xiv) Increased investment in climate information infrastructure, human capacity and technology.

**The long-term outcomes of the implementation of the NPC IP are:** (i) Conserved biodiversity and reduced climate disaster risks; (ii) Managed and minimized human driven environmental changes caused by agriculture, mining, unsustainable harvest of wildlife and forest resources; (iii) Diversified inclusive incomes and livelihoods; (iv) Empowered vulnerable groups such as women, youth, elderly and Persons with Disabilities (PWDs); (v) Carbon sequestered; (vi) Improved communication and information dissemination on climate; (vii) Developed small and medium enterprises; (viii) Improved policy and regulatory environment for green economy; and (ix) Sustainable flows of finance and human capacities generated.

**The expected impacts following implementation of the NPC IP are:** (i) Improved productivity in agriculture, forestry, fisheries and livestock; (ii) Enhanced resiliency to climate change and minimized vulnerability to disaster risks; (iii) Improved disaster and risk mitigation planning; and (iv) Increased availability and inclusive uptake of green technologies to support NbS enterprises development.

Implementation of sustainable forest and fire management actions is expected to reduce greenhouse gas emissions by 2,666,893 tons of CO<sub>2</sub> equivalent annually, totaling the same amount over 10 years if fire disturbances decrease from 20% to 10% of the affected areas. Additionally, sustainable conservation farming will reduce emissions by 21,980.36 tons of CO<sub>2</sub> equivalent annually. The total estimated reduction in GHG emissions from agriculture and forest **nature based solutions** is projected at 2,688,872.8 tons of CO<sub>2</sub> equivalent.

ZNPC-IP will benefit approximately 310,000<sup>2</sup> (up to 60% women, youths and PWDs) farmers through conservation agriculture and improved animal husbandry. An estimated 13,000 households (up to 60% female headed households) will gain alternative livelihoods to charcoal production, with 250,000 (up to 60% women, youths and PWDs) people having access to clean cooking solutions. Over a five-year period, 110,000 hectares of forestry will be managed sustainably, out of which 5,800 hectares will be dedicated to woodlots. Additionally, 200 (up to 60% women) farmers will benefit from solar-powered boreholes drilled for irrigation and livestock, 1,500 farmers will benefit from identified and rehabilitated small earth dams weirs (multi-purpose i.e. inclusive of irrigation, aquaculture, livestock, etc), 900 (up to 60% women, youths and PWDs) farmers will benefit from rehabilitated weirs (multi-purpose i.e. inclusive of irrigation, aquaculture, livestock, etc) and 300 (up to 60% women, youths and PWDs) farmers will receive support for rainwater harvesting.

#### **1.4 PROGRAMME CRITERIA, PRIORITIES AND BUDGET**

Each NbS intervention is designed using the CIF matrix, with each matrix analysed and scored to identify the best interventions based on the CIF criteria. A maximum score of 55 was set and interventions scoring 40 or above were selected. The envisaged Theory of Change for the ZNPC IP is directed towards the poorest and most vulnerable groups, including women (particularly female-headed households), youth, PWDs, the elderly and the marginalized. The total required funding to implement the ZNPC IP in the three Provinces of the Copperbelt, Central and Northwestern is projected at US\$254.10 million over a five-year period. The budget has been developed based on data and information from various sources, including the NDC implementation framework.

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<sup>2</sup> Calculated on the basis of population estimates in the District Integrated Development Plans (per ward, per district and per province).

The estimated budgetary allocations per Programme are as follows: (i) **Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services - US\$119.40 million, inclusive of US\$20.00 million CIF resources;** (ii) **Programme 2: Promotion of Climate-Smart Agriculture and Climate Resilience - US\$6.00 million, inclusive of US\$3.00 million CIF resources;** and (iii) **Programme 3: Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources - US\$128.70 million, inclusive of US\$10.00 million CIF resources.** A community-centric approach will be taken, to maximize learning opportunities for local communities and support for diverse farming techniques and access to the tools and financing to promote long-term sustainability. This approach will be gender-responsive and socially inclusive, with a view to providing targeted support to women and youth, who make up majority of the population within the beneficiary communities. The programmatic approach is one of the core design elements of CIF's business model and integral to CIF's ambition to achieve transformational change.

As an important part of this, the ZNPC IP proposes funding modality separate from the government-led IP, called the Dedicated Grant Mechanism (DGM) for Local Communities. **The estimated total budget for DGM is US\$4million.** This dedicated window provides them with direct access to funding and, through their involvement in decision-making of the design and implementation of the DGM, local communities get the opportunity to actively improve the management of their land and their livelihoods, and to strengthen their capacity to participate in climate action.

## 2. COUNTRY CONTEXT

### 2.1 STATUS OF ENVIRONMENTAL SUSTAINABILITY

Zambia's climate is highly variable, with frequent droughts, seasonal and flash floods, extreme temperatures and dry spells. Floods and droughts have increased in frequency over the past three decades, costing the nation an estimated 0.4% in annual economic growth<sup>3</sup>. These trends are expected to intensify in the future. Projected temperatures are expected to increase by 3-5°C by 2100, with average precipitation declining during the early rainy season (October to December) and intensifying thereafter. In the absence of adaptation, rainfall variability alone could keep an additional 300,000 people below the poverty line over the next decade, and reduce annual Gross Domestic Product (GDP) growth by 0.9%<sup>4</sup>. Climate change and variability are in turn affecting agriculture and natural resource productivity, thereby exacerbating poverty and contributing to decline in economic growth.

Forests are of great importance for Zambia as revealed by the study UN-REDD, 2015<sup>5</sup> on the economic value of Zambia's forest ecosystems showed that the direct and indirect values of forests are estimated to make a direct contribution equivalent to about 4.7% of GDP or US\$957.50 million (using 2010 figures). However, when the multiplier effects of forestry and tourism-related activities on other sectors are considered, the overall or economy-wide contribution of forests to GDP is estimated to be at least 6.3% or US\$1,277 million.

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<sup>3</sup> *Economic Assessment of the Impacts of Climate Change in Zambia, Pegasys, 2010*

<sup>4</sup> <https://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/PPCR%208%20SPCR%20Zambia.pdf>

<sup>5</sup> *Source: UN-REDD., 2015*



The major causes of forest degradation include the expansion of agriculture (subsistence farming and commercial ventures), high dependency on wood fuel for energy (charcoal and firewood), unsustainable timber logging practices compounded by weak enforcement (Figure 1), and development of infrastructure including mining activities and large-scale construction projects<sup>6</sup>.

**Figure 1: Truck carrying timber in Manyinga, NW Province**

From 2000 to 2014, the annual deforestation rate was about 0.6%, equating to a loss of approximately 276,021 hectares per year<sup>7</sup>. Biomass is the predominant source of energy in Zambia, accounting for 79% of the Total Primary Energy Supply (TPES). The main forms and products of biomass include wood fuel (charcoal and firewood), biogas, pellets, briquettes, biofuel and gel fuel, which are mainly used as household fuels for cooking and heating. Wood fuel is the most widely used fuel for cooking, though its use is considered unsustainable because the harvest of biomass exceeds the regrowth, contributing to climate change and causing negative health effects. Zambia's high dependence on wood fuel is due to a difficult-to-access and unreliable electricity supply, the high cost of efficient alternatives and inadequate enforcement of legislation and coordination among key sector institutions.<sup>8</sup> Nearly 25% of deforestation and forest degradation is attributed to charcoal production<sup>9</sup>.

Zambia covers a total geographical area of 752,614 km<sup>2</sup>, with 99% land (58% is arable land) and 1% water. Grasslands are the second largest land cover type at 16.37 million hectares (21.76%). The available arable land is suitable for production of a broad range of crops, fish and livestock. Available statistics indicate that 14% of the total agriculture land is utilized in Zambia<sup>10</sup>. However, the agriculture land has been undergoing massive degradation due to a range of causes, among them; deforestation, charcoal burning (Figure 2) overgrazing, soil erosion, unsustainable farming practices, poor irrigation practices, climate change, prolonged droughts, floods, urbanisation and land use change, mining activities, poverty and population pressure.



Currently, extension services lack the essential supporting infrastructure for effective knowledge transfer among community members, farmer groups, cooperatives, and particularly among women, youth, persons with disabilities (PWDs), vulnerable groups, and marginalized communities. Additionally, the absence of land use planning has led to unzoned agricultural lands.

**Figure 2: Traditional Charcoal Kiln**

<sup>6</sup> Forest investment Plan for Zambia, Dec., 2017).

<sup>7</sup> GRZ, 2016. (Same as in 1 above)

<sup>8</sup> Energy Sector Profile. Zambia Development Agency, 2015.

<sup>9</sup> USAID 2022 Alternative to Charcoal

<sup>10</sup> Second Agriculture Policy, MoA, 2016

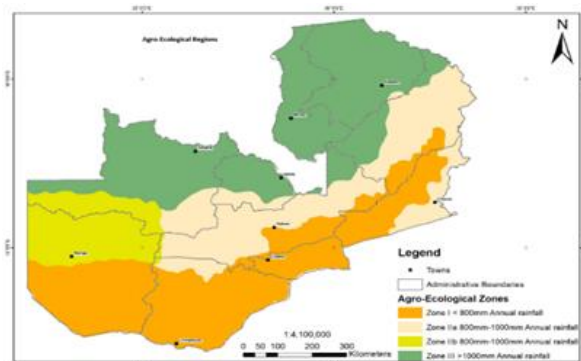
The expansion of agriculture has negatively impacted the availability of livestock feed, thereby affecting the quality of livestock produced. Furthermore, indigenous drought-resistant crops have not been sufficiently propagated or utilized, resulting in ongoing soil fertility decline.

Climate Information Services face several challenges that hinder agricultural planning for climate change adaptation. Climate variability has been worsened by inadequate early warning systems, leaving farmers uncertain about optimal planting times, crop selection and soil tillage practices. Climate Information Service can be effectively delivered with improved Information and Communication Technologies (ICT). However, communication infrastructure in rural areas is poor if not nonexistent. Currently internet penetration is 63.1%<sup>11</sup> Further considering the improved coverage and riding on the fact that mobile handsets are relatively cheap nowadays and most of the small-scale farmers can afford, ICT can increase the update of climate information service for application of nature-based solutions by allowing information sharing and peer to peer as well as social learning among farmers in the targeted districts.

Wetlands and water bodies cover 5.09 million hectares (6.77%). Generally, Zambia is considered to be abundantly-endowed with water resources (surface and ground water)<sup>12</sup>. The country has six hydrological catchments. The six catchments are part of Transboundary Waters of either the Zambezi (Kafue, Luangwa, and Zambezi) or the Congo (Chambeshi, Luapula and Tanganyika). Most of these Catchments house eco-sensitive areas that constitute headwaters of the country's major rivers that should be protected<sup>13</sup>. Currently the major activities contributing to the water scarcity, water quality, sanitation, unsustainable water resource management include; river bank cultivation, sand mining, settlements near water bodies and mining activities.

## 2.2 ASSESSMENT OF SENSITIVITY TO CLIMATE CHANGE

Zambia has three distinct Agro-Ecological Regions (AERs) based on rainfall, patterns and soil types (Figure 3). Across Zambia, there is an increasing trend in maximum one-day rainfall events, while the hotter, drier western and southern regions are experiencing a high rainfall variability. Extreme rainfall



patterns, including heavy rains, dry spells, and droughts, significantly impact various sectors, regions, and communities. Flash floods and flooding are common during the rainy season from December to February. Rainfall declines of up to 200mm/decade compared to long term average will be experienced in parts of Central, Copperbelt and Northwestern in the 2020-2030. Some regions within AER 1; parts of Southern, Lusaka and Eastern provinces) may experience declines

of up to 300mm during that decade.

**Figure 3: Zambia's Agro-Ecological Zones**

The average onset of rain especially in the Northern regions has experienced a shift by an average of 2 dekad<sup>14</sup>, rainfalls begin mostly in the last 2 weeks of November. Temperatures are predicted to rise by

<sup>11</sup> 2024 ICT Media Market Report.

<sup>12</sup> [Country Water Resource Profile Zambia | AUDA-NEPAD](#)

<sup>13</sup> [WARMA-HYDROLOGICAL-YEAR-BOOK-2019-2020.pdf](#)

<sup>14</sup> A dekad is a ten-day rainfall period



an average 2—3°C. Annual maximum value of daily maximum temperature<sup>15</sup>. Parts of Eastern province is expected to experience a higher increment of 2.5-3°C in the period 2021-2030. The country will also experience an increase in warm spell duration especially in the Northern Province and an increase in warm nights (TN90p) over Luapula and Northwestern provinces. Cases of moderate and severe drought will be on the rise, with return periods of 3–4 years and 5–10 years, respectively. Copperbelt and parts of Northwestern provinces experiences the highest precipitation deficit during dry years, as evidenced by the severely dry year of 1995 and the extremely dry year of 2015<sup>16</sup>.

The Northern parts, especially Northern and Luapula, as well as parts of the Copperbelt, Central and Western Lusaka, show lower vulnerability due to less exposure to climate extremes, extensive game

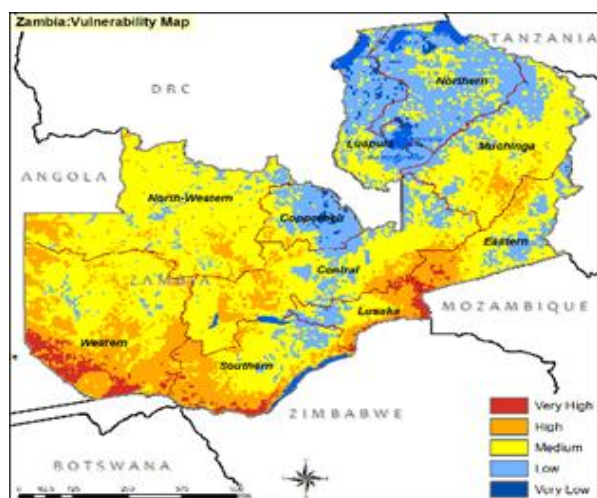


management areas and parks, and wetland ecosystems. All forest resources to be exposed to temperature increase averaging +2°C by the year 2050. High temperatures plus low humidity will contribute to a high fire hazard that results in severe damage in the late dry season. A changed warmer climate might shorten 'winter' dormancy in African woodlands and advance the onset of spring leaf flush. If this was to happen without a corresponding advance in the onset of the rainy season, then a prolonged period of pre-rains water stress may trigger premature leaf loss and/or tree mortality.

**Figure 4: Agriculture field affected by drought**

An increase in temperature coupled with an increase in hot days and decreased precipitation will have a significant impact on grass development in the fragile ecosystems which will negatively affect wildlife. Projections in population increase will also result in increased demand for domestic water use as will irrigation agriculture, livestock keeping, industry, and mining activity. Cumulative water demands for irrigation, and other uses in future periods (midcentury) will exert significant pressure on water resources. This vulnerability is expected to increase in coming years (Figure 4) because cumulative water demands for irrigation agriculture, and other uses in future periods (mid-century) will exert significant pressure on water resources.

Decreased production of 28–72kg per household is anticipated in Luapula, Northwestern, Northern,



Muchinga, Copper belt and Western. While up to 186kg per household in Lusaka, and up to 730 kg per household decreases. The costs of reduced production of maize are estimated to range from US\$1.5 to US\$28 per person, or, up to US\$169 per household in Southern province.

In terms of potential change in production per capita, it is predicted that climate change will only result in minor impacts on annual production of maize per capita, equivalent to a decrease of 2.5–7% per capita, in Central, Copperbelt, Luapula, Muchinga, Northern and Northwestern provinces.

<sup>15</sup> Government of the Republic of Zambia (GRZ, 2021)

<sup>16</sup> Libanda et al 2019, Kaluba, K. et al 2017

**Figure 5: Zambia's vulnerability map<sup>17</sup>**

The effects are expected to be comparatively larger in Lusaka, Western and Southern provinces, where the predicted decrease in production per capita is equivalent to a loss of 17–47% per capita. The projected higher temperatures and greater frequency of drought may also degrade grazing land and lead to loss of livestock.

## **2.3 SUMMARY OF CLIMATE STRATEGIES AND PLANS**

Zambia's Constitution (Amendment Act No. 2 of 2016) provides for and promotes ecologically sustainable development through the protection, conservation and sustainable utilization of natural resources and forbids wastefulness, among others. Zambia has demonstrated its commitment to the fight against climate change at global, regional and national levels. To demonstrate that at international level, Zambia is a Party to the United Nations Framework Convention on Climate Change (UNFCCC) having signed and ratified the Convention on 11<sup>th</sup> June 1992 and 28<sup>th</sup> May 1993, respectively. The country signed and ratified the Paris Agreement on 20<sup>th</sup> September 2016 and 9<sup>th</sup> December 2016, respectively. Additionally, Zambia signed and ratified the United Nations Convention to Combat Desertification (UNCCD) on 15<sup>th</sup> October 1994 and 19<sup>th</sup> September 1996, respectively. It also signed the Convention on Biological Diversity (CBD) at the United Nations Conference on Environment and Development (UNCED) on 11<sup>th</sup> June 1992 and ratified it on 28<sup>th</sup> May 1993.

The National Green Growth Strategy (GGS) has been formulated to promote development pathways that lead to Zambia's transition to a low-carbon, resource efficient, resilient and socially inclusive economy by 2030. Implementation of the GGS will accelerate the attainment of the aspirations of Zambia's Vision 2030 and the Eighth National Development Plan (8NDP), and the commitments made in Zambia's NDC to the Paris Agreement and National Biodiversity Strategy and Action Plan. The GGS is anchored on four pillars, namely: (i) resilient and climate compatible growth; (ii) enhanced resource efficiency; (iii) enhanced natural capital; and (iv) improved inclusivity.

The National Forestry Policy (1998) main objectives were to: (i) formulate appropriate policies on environmental protection, as well as management and development of natural resources; (ii) ensure sustainable forest resources management; and (iii) develop the capacity of all stakeholders in sustainable forest resources management and utilization. The 1998 Policy was revised in 2014, prompted by escalating demands on Zambia's forest resources, necessitating a response to emerging challenges like climate change, bioenergy development, prioritizing agriculture, eco-tourism, and environmental considerations as catalysts for Zambia's development. The revised Policy (2014) will further promote: (i) participatory forest management involving local communities, traditional institutions, the private sector, and other stakeholders; and (ii) elucidate stakeholder roles, cost-sharing mechanisms, and benefit-sharing related to forest resources management and investments. Furthermore, the new Policy aims to combat deforestation and forest degradation, expand forest cover, and boost carbon stocks through integrated participatory forest management, law enforcement, and increased private sector investments.

Despite Zambia's vast renewable and non-renewable energy sources, little of these have been utilized. The energy market structure and consumption shows that traditional wood fuels (biomass), such as

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<sup>17</sup> Source: GRZ, 2021: *Comprehensive vulnerability and adaptation assessment for Zambia*  
Zambia Nature People Climate Investment Plan, Ministry of Green Economy and Environment



firewood and charcoal sourced from natural woodlands and agricultural lands dominate the energy market. Woodlands and forests are estimated to cover about 50 million hectares or 66% of Zambia's total land area. Currently, more than 70% of Zambians use biomass sources such as charcoal (firewood) for heating and cooking. This has increased the levels of deforestation in the country because it is a cheaper energy source. Faced with the challenges of climate change, the need has arisen to promote the transition away from fossil fuel consumption. The National Energy Policy (NEP 2019) outlines the government's vision and goals for the sector and provides a framework for action. The policy aims to increase access to modern and reliable energy services, promote the use of renewable energy sources, and diversify the energy mix.

Zambia is committed to the implementation of the 2030 Agenda for Sustainable Development and its 17 sustainable development goals (SDGs) including the goals on climate action (SDG13) and protecting, restoring and promoting sustainable use of terrestrial ecosystems (SDG15). Zambia mainstreamed SDGs in the 8<sup>th</sup> National Development Plan (8NDP, 2022-2026) to the extent of 86% of the SDGs of applicable targets being fully aligned to the national plan. The country has also conducted two (2) Voluntary National Reviews (VNRs) on tracking the execution of SDGs at the High-Level Political Forum on Sustainable Development in 2020 and 2023.

At regional level, Zambia is a Party to the African Union Agenda 2063 and its accompanying African Union Climate Change and Resilient Development Strategy and Action Plan (2022-2032). The country also espouses the African Union Green Recovery Action Plan (2021-2027) whose objective is to enable Africa to recover in a sustainable manner from the impacts of the COVID-19 pandemic. In addition, Zambia, being a member of the Southern African Development Community (SADC), fully embraces the SADC Green Economy Strategy and Action Plan for Sustainable Development.

At national level, Zambia formulated and is implementing various policies, plans and strategies that foster climate action. In 2006, Zambia articulated its vision 2030 which defines the country's development agenda in the long term and emphasizes development that is anchored on sustainable environment, ecosystems and natural resource management principles. Closely after that, in 2007, the country formulated the National Adaptation Programme of Action (NAPA, 2007) to steer the country forward in adapting and ameliorating challenges related to climate change. This was followed by the 2010 National Climate Change Response Strategy (NCCRS) which was developed to support and facilitate a coordinated response to climate change issues in the country. In 2014, Zambia formulated its Nationally Appropriate Mitigation Actions (NAMAs) to chart a low-emissions development pathway in the agriculture, energy, transport, waste and forestry sectors.

Zambia also prepared the National Strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD+) with the support of the Climate Investment Funds, under the Forest Investment Program, which provides a framework for reducing emissions from deforestation and forest degradation and ensures conservation and enhancement of forest carbon stocks and sustainable management of forests, contributing to the fight against climate change. In addition, in 2016, the country put in place the National Policy on Climate Change which seeks to provide a framework for coordinating climate change programmes and charts resilient and low carbon development pathways for sustainable development.

The country also submitted the first generation Nationally Determined Contribution (NDC) to the Paris Agreement in 2016 which included both mitigation and adaptation components with the mitigation component focusing on three programmes, namely sustainable forest management; sustainable agriculture; and renewable energy and energy efficiency while the adaptation component was focused on the adaptation of strategic productive systems namely, agriculture, wildlife and water; the adaptation

of strategic infrastructure and health systems; and enhanced capacity building, research, technology transfer and finance for adaptation. In 2021, the country submitted the second generation NDC which enhances both the mitigation and adaptation components comparative to the first NDC by broadening the scope of sectors covered by the mitigation component by adding transport, liquid waste and coal (production, transportation and consumption). It also elaborates the adaptation component of the NDC by developing indicators that will enable the country to track progress on building resilience in both the human and physical ecosystems and on adaptation actions. Currently, Zambia is reviewing the second generation NDC and will be submitting the third generation NDC to the UNFCCC in February 2025.

In 2023, Zambia submitted the National Adaptation Plan (NAP) to the UNFCCC Secretariat. The NAP identifies nine (9no.) vulnerable sectors including water, agriculture, energy, forestry, infrastructure, health and wildlife, and outlines priority actions to build the adaptive capacity and resilience to climate change in each of the sectors. To ensure that Zambia's economic growth supports environmental sustainability and low-carbon development while promoting social inclusion, in 2024, Zambia launched the National Green Growth Strategy. Zambia is also finalizing legislation on climate change to ensure that the response to this challenge is enhanced.

Although Zambia endeavored to mainstream climate change in the 8NDP, mainstreaming of climate change is yet to be undertaken in several climate sensitive sectoral policies, plans and strategies including at sub-national level.

In terms of institutional framework, coordination of climate change in Zambia happens at three (3no.) levels namely, the Council of Ministers, the Steering Committee, and the Technical Committee. The Council of Ministers, chaired by the Republican Vice President, is the supreme decision-making body for overseeing climate change interventions in the country while the Steering Committee of Permanent Secretaries is the main advisory body to the Council of Ministers on policy and programme coordination and implementation. The Technical Committee reports to the Steering Committee on the implementation of climate change programmes and projects. However, there are no climate change coordination structures at sub-national level although the national development planning coordination structures namely, the Provincial Development Coordinating Committees (PDCCs) and the District Development Coordinating Committees (DDCCs) to a certain extent, also implement climate change interventions.

## **2.4 GAPS/BARRIER ANALYSIS AND NEEDS ASSESSMENT**

The country context outlined in preceding sections show that, over the last 10 years, Zambia has made efforts in revising and harmonizing various policies, legal and regulatory frameworks. This is to enhance coordination of climate change, ecosystem-based adaptation and mitigation responses in sectors such as agriculture, forestry, energy and water. While Zambia has made remarkable progress in its efforts to grow its economy over recent years, major challenges remain. Economic activities and local livelihoods are highly dependent on the country's natural resource base, making it vulnerable to multiple factors that affect it. Land degradation associated with rapid population growth, urbanization and persistent poverty levels are putting pressure on the country's limited natural resources, while climate change poses an increasing and exacerbating threat. Despite the strides to achieve economic progress, there is still need to strengthen land management and administration as espoused in the 8<sup>th</sup>NDP. Detailed gap analysis report is in Annex A.3. Major gaps are outlined here below:

### **1. Financial Resources**

There is a general inadequacy of financial resources for the implementation of climate change interventions. This is coupled with insufficient budget allocation to forest management and protection, agriculture extension and gender equality and social inclusion mainstreaming. Additionally, initial high transaction and operational costs, lack of existing and proven NbS business models and the long-term returns for green infrastructure impedes sustainability for private sector participation. Further, inadequate climate service and weather infrastructure hinders the development of insurance products to support NbS investment. The constrained financial space further compounds access to resources for women, youths and PWDs have

## **2. Policy, Legal and Regulatory Framework**

The country has adequate policies, legal and regulatory frameworks. However, there are notable policy gaps that hinder the full implementation potential of NbS. These include limited policies, inadequate integration of climate change across sectors. Furthermore, there is insufficient understanding of NbS and inadequate human capacity across all levels, weak legal enforcement and absence of clear monitoring and evaluation frameworks. There is therefore critical need for comprehensive policies and regulations to for example, safeguard ecosystems and strengthened enforcement.

## **3. Human and Institutional Capacity**

Human capacity barriers relate to limited numbers and technical skills (forest management, ecosystem protection, agriculture extension, fisheries and livestock services, climate and weather data, gender mainstreaming focal persons and social inclusion) in various institutions and at community level. Institutional capacity barriers relate to the existing planning and coordination between relevant sector ministries and agencies, private sector, other interest groups and communities. There will be need to enhance community literacy levels, local governance improvement, enhance sub-committees at district and community levels.

## **4. Research and Technological Capacity**

There is inadequate research in forest value chain development, indigenous tree species to restore degraded landscapes and NbS technologies to support innovations. Furthermore, there is inadequate information sharing platforms between various multi-sectoral players. Inclusive Information needs assessments for Women, Youths and PWDs and identification of appropriate media engagement platforms has not been undertaken.

## **5. Social Cultural**

Gender inequality, social exclusion, traditional beliefs and customs limit women access to ownership and control of productive resources as well as effective participation in management of natural resources. Due to low literacy levels among women, there is minimal representation in decision making processes and structures which affect effective implementation of NbS.

While Zambia's agriculture and water sectors heavily rely on women's labor, significant gender disparities persist. In rural areas, women spend up to five hours daily fetching water, limiting their engagement in income-generating activities. Although they comprise 60-80% of the agricultural workforce, only 20% of women hold land titles, restricting access to finance and productive resources. Additionally, women's unpaid domestic responsibilities further constrain their economic participation and limit representation in decision-making roles across community organizations. Addressing these barriers with gender-responsive solutions, such as targeted financial products, inclusive water infrastructure, and leadership opportunities, will be crucial to advancing sector resilience and equity.

## **6. Land-Use Change**

Zambia's agriculture sector faces challenges and is likely to grow more vulnerable as a result of climate change and risk. Degradation of ecosystem infrastructure derived from human activities and extreme weather events, particularly excessive heat, droughts and floods, which have increased in frequency and severity. Climate variability has also been compounded by poor early warning systems for farmers to know when to plant and what to plant and the type of soil tillage. Indigenous drought resistant crops have been neglected and not propagated. Soil fertility have constantly been going down. There has been low uptake of green technologies due to lack of financing. At the same time, land use, land-use change and forestry (LULUCF), and agriculture sector account for approximately 93% of the country's carbon footprint<sup>18</sup>. The Government of the Republic of Zambia is integrating climate change concerns into its agriculture policy agenda. Under its Zambia climate-smart agriculture (CSA) strategy framework, the Government is promoting the rollout of CSA practices that will sustainably increase productivity, enhance resilience, and reduce greenhouse gas (GHG) emissions. The CSA investment plan (CSAIP, 2019) aims to identify and fill knowledge gaps about CSA's local- and national-level benefits, specifically under climate change, inform policy development, and prioritize investment opportunities.

Given the foregoing analysis and constrained fiscal space due to an external debt stock which stands at **US\$14.07 billion**<sup>19</sup> at the end of June 2023, Zambia has limited capacity to invest in natural capital. The country is losing approximately **276,021 Ha.** of forest cover annually. However, despite the deforestation rate, Zambia still remains a net carbon sink country. The Zambian government therefore views the Nature People Climate (NPC) initiative as a solution to reverse these negative trends. In that regard the Climate Investment Funds (CIF) will be used to promote sustainable land management through a holistic, integrated, socially inclusive, and gender-responsive approach.

### 3.0 NATURE BASED SOLUTIONS CONTEXT

#### 3.1 OVERVIEW OF COUNTRY EFFORTS

##### 3.1.1 Government Led NbS Programmes

NbS have the potential to reduce the vulnerability of communities, particularly with regards to natural disasters and food and water insecurity, by enhancing the resilience of the environment, promoting carbon-sequestration, fostering sustainable agriculture, and investing in natural infrastructure. Being proactive by addressing the root causes of vulnerability and building adaptive capacity can safeguard communities against the increasingly severe impacts of climate change. As defined by the International Union for Conservation of Nature (IUCN), "nature-based solutions are 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" (IUCN, 2016).

Although there is no single agreed definition for the term "nature-based solutions," they are considered an effective, long-term, cost-efficient and globally scalable approach for climate action<sup>20</sup>. Nature-based solutions represent an approach through which societal challenges are addressed by providing environmental, social, and economic benefits as well as contributing to climate change mitigation and adaptation. They offer an opportunity to unlock nature's transformative potential for climate action. NbS come in many variations, but protection and strengthening of the ecological integrity of natural

<sup>18</sup> Zambia Climate-Smart Agriculture Investment Plan: Analyses to Support the Climate-Smart Development of Zambia's Agriculture Sector: Zambia Climate-Smart Agriculture Investment Plan: Analyses to Support the Climate-Smart Development of Zambia's Agriculture Sector (English). Washington, D.C.: World Bank Group.

<http://documents.worldbank.org/curated/en/358291552021231101/Zambia-Climate-Smart-Agriculture-Investment-Plan-Analyses-to-Support-the-Climate-Smart-Development-of-Zambia-s-Agriculture-Sector>

<sup>19</sup> 2024 Budget Address by Honourable Dr. Situmbeko Musokotwane, MP, Minister of Finance and National Planning, Delivered to the National Assembly

<sup>20</sup> CIF Nature People and Climate Investment Programme Design Document

Zambia Nature People Climate Investment Plan, Ministry of Green Economy and Environment

ecosystems must lie at their core. The closer ecosystems are kept to natural patterns of biodiversity distribution and abundance, the higher the stability and quality of the ecosystem services that they provide. The Zambian government has been implementing a number of climate change interventions using nature-based solutions to adapt to climate change. The following are some of the projects:

- (i) Ecobased Adaptation Project; supported by Green Environment Facility (2019 – 2023), covering the 18,000 Hectares of ecosystems and agricultural land with improved resilience to climate impacts
- (ii) Expanded Response to Climate Resilience in Development supported by AfDB (2021 – 2023),
- (iii) Lake Tanganyika Development Project, supported by AfDB (2015 – 2022) covering Mpulungu and Nsumbu under the Lake Tanganyika catchment.
- (iv) Strengthening Climate Resilience in Agricultural Livelihood in Agro-ecological Regions I and II (2018 – 2025) supported by GCF/UNDP, covering selected districts in southern province.
- (v) Strengthening Climate Resilience in the Barotse Sub basin supported by WB (2013 – 2022) covering all the districts in western province.
- (vi) Strengthening Climate Resilience in the Kafue Sub basin supported by AfDB (2014 – 2022), covering selected districts of southern province.
- (vii) Transforming Landscapes for Resilience and Development supported by WB (2019 – 2025, covering Northern, Muchinga and Luapula Provinces.
- (viii) Zambia Integrated Forest Landscape Project supported by WB (2018-2022, covering eastern province.
- (ix) The United Nations Development Programme (UNDP) has been implementing the Biofin project since 2015, which has helped develop Zambia's Country Strategic Plan focused on integrating green finance into the financial sector framework.
- (x) The USAID economic development alternatives to Charcoal (A2C) project works to reduce deforestation related to the production of charcoal, covering most parts of the country.

Table 1. below outlines selected projects and their NbS impacts.

**Table 1. Selected Government Led NbS Programmes**

Project name and description	NbS
Ministry of Green Economy and Environment has been working with UNDP to secure funding for the "Nature Based Solutions for Agropastoral Resilience in Catchments (NbS-ARC) Programme" in the Lunsemfwa Catchment. This project aims to address climate change impacts on rural communities and restore degraded wetlands and forests, enhancing ecosystem services. A proposal for funding from the Green Climate Fund (GCF) is currently in preparation.	Livelihoods and resilience
Zambia Integrated Forest Landscape Project (ZIFLP): The ZIFLP is a project that was implemented under the MGEE and supported by the World Bank at a total project cost of US\$32.8 million. The aim of the project was to provide support to rural communities in the EP to allow them to better manage the resources of their landscapes. The implementation of the project started in August 2017 and closed on 29 February 2024. The Project is currently in the closing phase.	GHGs emission reduction and resilience
Eastern Province Jurisdictional Landscape Programme (EP-JSLP): The EP-JSLP is a Result-Based Climate Financing initiative under the Ministry of Green Economy and Environment (MGEE) developed to incentivize and reward climate change mitigation actions to reduce emissions coming from unsustainable land management practices in Eastern Province. The EP-JSLP, as a successor of the Zambia Integrated Forest Landscape Project (ZIFLP), which closed on 29 <sup>th</sup> February 2024. The EP-JSLP will achieve emissions reductions by promoting interventions that prevent deforestation and forest	GHG emissions



degradation, reduce agriculture emissions as well as through improved rural land-use planning and household energy generation.	
<p>Strengthening Climate Resilience in the Kafue Sub – basin. The overall objectives are:</p> <ul style="list-style-type: none"> <li>• Increase in income and food security.</li> <li>• Reduction in damage /loss from extreme climate events.</li> <li>• Opening up access to markets for the famers for selling their farm produce by construction and rehabilitation of all-weather road from Kalomo – Ndundumwezi road.</li> <li>• Lessons to be learnt for improving project implementation.</li> <li>• Districts expected to have improved and sustainable development planning which incorporates climate change.</li> </ul>	Livelihoods and resilience
<p>Zambia Strengthening Climate Resilience – Pilot Programme for Climate Resilience Phase II in the Barotse Sub – basin. The objectives include:</p> <ul style="list-style-type: none"> <li>• Increased income and food security.</li> <li>• Improved adaptive capacity due to increased availability of infrastructure.</li> <li>• Improved drainage and navigation in the Barotse sub basin.</li> <li>• Communities supported to address the impacts of extreme floods by providing them with climate smart infrastructure</li> <li>• Champions motivate other community members to adopt climate smart technologies which in turn improve their productivity and livelihoods.</li> <li>• Awareness raised among citizens on CC and its impacts enabling them make better eco-friendly decision.</li> <li>• Districts expected to have improved and sustainable development planning which incorporates climate change.</li> </ul>	Livelihoods and Resilience

### 3.1.2 Private Sector Led NbS

Engagement with stakeholders revealed that there are several Nature Based related activities as well as technological solutions already being undertaken by private sector entities. Some but not all are highlighted in the Table 2.

**Table 2. Private sector led NbS**

Private Sector	Nature Based Solutions	Contribution
<b>Mining Companies</b>	Land restoration activities through tree planning, eco-tourism and recreation, initiative to support sustainable agriculture in the communities, research on development of suitable tree species and planting material with universities and forestry department.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction.</li> <li>• Livelihoods</li> </ul>
<b>Financial Institutions</b>	Banks have robust institutional support for women empowerment (Tailor Made Accounts for women). Introduction of Green Loans from 25% to 15% interest to promote alternative sources of energy (Solar and Gas) Support to Biodiversity conservation. Administering climate funds to support bankable ideas under climate change financing, SME and smallholder farmer input financing for agriculture in collaboration with the relevant ministries.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction.</li> <li>• Livelihoods</li> </ul>
<b>Parrogate Ltd</b>	Under Just Transition to move away from coal burning machinery, pilot phase investment in Bio alternative fuel technology derived from Agri waste such as, maize cobs, soya husk, groundnut shells and any other agri waste is converted into Brickette and Pellets to produce clean energy. Farmers can deliver and earn income from Agri waste producing clean energy. Extension Support, Out-grower schemes, tree planting.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction.</li> <li>• Livelihoods</li> </ul>
<b>Community Market for Conservation (COMACO)</b>	Conservation agriculture; agro-forestry; Sustainable Forest Management (SFM); value chain development in tree crops; improved feed for animals, efficient cook stoves; solar pumping for irrigation and restoration of natural forest. Additionally, COMACO has been	<ul style="list-style-type: none"> <li>• GHG Emission Reduction.</li> <li>• Livelihoods</li> <li>• Resilience</li> </ul>



Private Sector	Nature Based Solutions	Contribution
	supporting initiatives for carbon trading as a means to conserve wildlife, forests and enhance the well-being of communities.	
<b>Biocarbon Partners (BCP)</b>	Large-scale Forest protection for carbon credits generation for emissions reduction. Main focus is forest protection. Biodiversity is used as additionality to the value of carbon credits generated.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction</li> </ul>
<b>ZAFFICO</b>	Produces quality tree crop seedlings and establishes forest plantations in the country.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction</li> <li>• Resilience</li> </ul>
<b>ETG Climate Solutions</b>	Making Biochar from local feedstock and incorporating into existing Zambian Fertilizer products with over 30% local organic content. Biochar Pyrolysis machinery transforming organic Agri waste which otherwise turns into decomposition resulting in GHG emissions. Biochar which is a fixed carbon that is Integrated with fertilizer that goes back into the soil improving carbon sequestration. Supporting communities with biodiverse agro-forestry seedlings and energy Efficient cookstove distribution in selected communities with extension support.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction.</li> <li>• Livelihoods</li> <li>• Resilience</li> </ul>
<b>Alliance Gineries</b>	Deforestation free cotton production, organic farming scheme with potential for expansion, reducing the negative impact of chemical fertilizer in efforts to improve soil fertility.	<ul style="list-style-type: none"> <li>• Livelihood</li> <li>• Resilience</li> </ul>
<b>Good Nature Agro</b>	Early Draught Resistant seed variety research and development including ground nut, soya bean, sorghum, investment in the communities with extension support and input finance scheme with CA.	<ul style="list-style-type: none"> <li>• Livelihood</li> <li>• Resilience</li> </ul>
<b>ZAMBEEF</b>	Engaging in sustainable manure management to reduce greenhouse gas emission, promotions of Biogas production and usage in local schools, provides free raw material to the community schools. Moving to organic farming under Just transition to produce maize and soya.	GHG Emission Reduction
<b>Community ECO-System Club</b>	making charcoal brickette from alternative source of agri-waste, by sourcing raw material from farming communities, teaching them carbonization process at their field level, selling in rural, peri urban and urban markets.	GHG Emission Reduction

### 3.1.3 NbS Supported by other Organizations

There are several non-governmental, civil society and not for profit organizations are implementing nature-based solutions and building resilience in the local communities while also supporting landscape restoration. Table 3 summaries some but not all.

**Table 3. NbS solutions supported by Other Organisations**

Private Sector	Nature Based Solutions	Contribution
The North Swaka Trust (NST)	Partners with the Forestry Department and Foundation Zambia, and works to reduce deforestation and forest degradation with local communities.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction,</li> <li>• Resilience,</li> <li>• Livelihood</li> </ul>
International Development Enterprises (IDE)	Focus on poverty alleviation through "Nutrition and Wash", climate smart agriculture technologies, with emphasis on strengthening women participation in the value chain by accessing finance and technologies.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction</li> <li>• Resilience,</li> <li>• Livelihood</li> </ul>
World Vision International	Engages in natural resource management program that addresses water, forest, and soil resources using a Farmer Managed Natural Regeneration (FMNR) approach. They also focus on market system development and financial inclusion.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction</li> <li>• Resilience</li> <li>• Livelihood</li> </ul>
Help to Help Youth and Women Educational Foundation (HHYWEF)	Promotes tree planting and citrus tree nursery development, empowering women and youth to establish citrus plantations and develop citrus value chains.	<ul style="list-style-type: none"> <li>• Livelihood</li> <li>• Resilience</li> </ul>

Private Sector	Nature Based Solutions	Contribution
Zambia National Farmers Union (ZNFU)	Provides extension services to small scale farmers on Climate Smart Agriculture practices.	<ul style="list-style-type: none"> <li>• Resilience</li> <li>• Livelihood</li> </ul>
SEPA	Addresses the adverse effects of climate change, environmental sustainability and social enterprises that uplift social and economic status of vulnerable households aimed at transforming rural communities in North-Western province.	<ul style="list-style-type: none"> <li>• Resilience</li> <li>• Livelihood</li> </ul>
We Forest	Focus on establishment and management of tree species nurseries for protection, restoration and regeneration of degraded land. In addition, We Forest, beekeeping, egg production, conservation agriculture and silvopasture with goats for income generation.	<ul style="list-style-type: none"> <li>• GHG Emission Reduction</li> <li>• Resilience</li> <li>• Livelihood</li> </ul>

### 3.2 ANALYSIS OF GAPS IN ACCESS TO RESOURCES, SERVICES AND MARKETS

Women in Zambia constitute the majority of the population whose livelihood depends on natural resources. Despite this, their low leadership and participation in decision making, social economic (employment, generation of incomes, etc.) and sharing of derived benefits from livelihood initiatives and various undertakings in their ecosystems, women still face significant challenges.

**Access to Land:** There are two systems of land tenure, statutory and customary. Statutory tenure is managed by the MLNR and applies to urban areas and district municipalities, while customary tenure is governed by traditional norms and administered by local leaders. Land ownership and tenure issues particularly affect women, youth, PWDs, and other marginalized groups, limiting their access and rights to own land as well as limits their collateral for loans. This constraint hinders their ability to grow crops of their choice, run small businesses, and actively participate in community decision-making. Land ownership and tenure issues complicate matters, among women and youth as it limits their access and ownership to land thereby stifling their rights to grow crops of own choice and run small businesses.

**Access to financial services:** Women, youth and PWD's adoption of nature-based solutions and the growth of business opportunities in the agriculture sector, is hindered by inadequate access to financial services. The experienced limitations in obtaining loans disadvantages' them as small-scale farmers to acquire improved and drought-resistant crop varieties needed for agricultural productivity. This is because all existing financial services require collateral in form of land ownership. Furthermore, most rural areas have few banking facilities which limits their access to financial services.

**Roads, markets and telecommunications infrastructure:** Poor infrastructure in rural areas means that women, youth, PWDs and elderly endure a livelihood based system that has minimal access to good roads, markets, communication channels and security services. The targeted rural district faces significant underservice in these aspects. The feeder roads network in targeted rural districts is in a deplorable condition, thus increasing transportation costs for inputs and outputs as well as restricting access to profitable markets. Currently there is poor irrigation infrastructure in the targeted districts to support crop diversification. These factors reduce income opportunities and incentives for vulnerable groups to invest in nature, based solution technologies or diversified production for market participation of women, youth, PWDs and elderly people. As a result, small-scale farmers remain vulnerable to exploitation by brief case buyers. The current ICT communication infrastructure in communities is lacking and affects facilitation of information sharing and social learning among small farmers, mores so, women, youth, PWDs and elderly, supporting the adoption of nature-based solutions.

**Extension Services:** Capacity building and agricultural extension services are essential for agricultural development and the adoption of improved technologies and nature-based solutions. However, current support for government extension operations, such as budgets for fuel, vehicles, and motorbikes, is insufficient. Extension staff struggle to reach small-scale farmers to promote and monitor the adoption of these solutions due to their limited resources. Additionally, the ratio of extension staff to farmers is low, particularly in the forestry department. The compromised status of women, youth, PWDs and elderly in households and communities further compounds their access to extension services. Often times, they are left out in organized extension meetings and programmes. Further inadequate public extension resources restrict public private partnership's, scalability and sustainability.

**Limited Value Addition:** The agricultural sector in Zambia employs 49% of the workforce but suffers from low value addition and productivity. Rapid urbanization has created significant challenges for the food system in urban areas, leading to the fragmentation of agricultural land and increased pressure on natural resources like water and forests. The infrastructure in cities is struggling to keep up with population growth, resulting in inadequate food storage and processing facilities, as well as distribution issues. This has led to substantial post-harvest food losses, particularly for perishable crops, due to poor transportation and storage infrastructure. Furthermore, the lack of industries for value addition of products like tomatoes, mangoes, pineapples, and groundnuts results in significant waste. Compounding these issues is a lack of knowledge regarding food production, processing, preservation, food safety, and value addition technologies, which contributes to food losses throughout the supply chain. Literature indicates that these losses reduce incomes for producers, particularly smallholder farmers, negatively affecting their households' well-being and increasing their vulnerability. Additionally, food loss has detrimental effects on the environment.

**Resource Access and Leadership Opportunities:** There are significant gender disparities in Zambia, particularly in sectors like water and agriculture. Women in rural Zambia spend up to five hours daily fetching water, limiting their time for income-generating activities. In agriculture, women make up 60-80% of the workforce but have limited access to land ownership, with only 20% of women holding land titles. Barriers to financial inclusion, such as collateral requirements, and low representation in community leadership roles, further restrict their participation in decision-making. The program will introduce gender-responsive interventions to address these disparities, ensuring equal access to resources and promoting inclusive leadership within the targeted communities.<sup>21</sup>

Based on these gaps/barriers in access to resources, services and markets, poverty remains pervasive among women, youth, PWDs and elderly. Women's representation in political and decision-making roles in Zambia remains low. As of 2021, only 16.8% of parliamentary seats were occupied by women<sup>22</sup>. The generally, low representation disparities deny women their rights to participate in critical decision making processes that lead to improved environmental outcomes, enhanced environmental policies and promoted NbS investments.

### 3.3 INSTITUTIONAL FRAMEWORK AND CAPACITY SUPPORTIVE OF NBS

Public sector engagements revealed a robust existing institutional framework (Figure 6) and capacity supportive of NbS. This framework encompasses national green growth plans, policies, jurisdictional approaches, relevant laws and regulations, ministries or state agencies and established standards. The Ministry of Green Economy and Environment (MGEE) was established in 2021 to spearhead national

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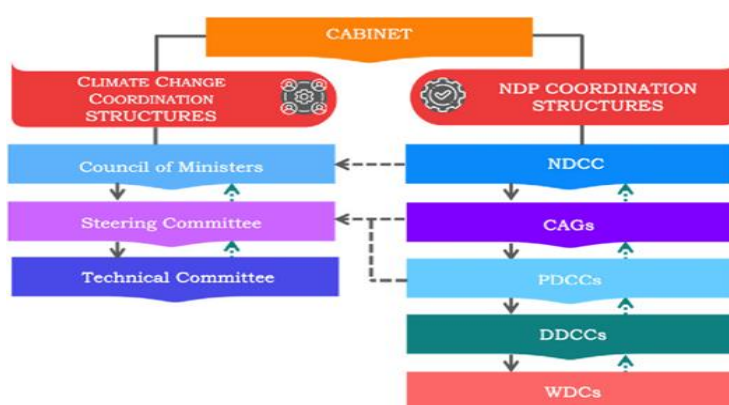
<sup>21</sup> Source: Zambia Statistics Agency, Zambia's National Gender Policy 2023

<sup>22</sup> <https://data.UNW.org?country/Zambia>

climate action plans and strategies. Further alignment to support NbS is drawn from the following official Government Policies and Acts highlighted below:

- i) **The National Climate Change Policy (2016)**, which supports actions aimed at mitigating and adapting to the impacts of climate change and promote green-growth across all sectors of the economy.
- ii) **The 2016 Second National Agriculture Policy**. The policy aims to integrate environmental and climate change consideration the agriculture sector by promoting resilient agriculture production methods, raising awareness about climate change adaptation and incorporate adaptation measures into plans and programs, besides the policy promotes agriculture diversification.
- iii) **Environmental Management Act of 2011**. The act provides an environmental sustainability framework which emphasizes on the ability to maintain an ecological balance in Zambia's natural environment and conserve natural resources to support the well being of current and future generations.
- iv) **The Forestry Policy of 2014**. This policy provides a framework for the sustainable management of forests in Zambia. It aims to increase forest cover, promote sustainable forest management practices and ensure that the benefits derived from forests are shared equitably among all stakeholders.
- v) **The Forest Act No. 4 of 2015**. This act provides for the regulation of forestry activities in Zambia. It establishes the Forest Department as the government agency responsible for the management of forests and provides for the establishment of community forests. It also provides for the establishment and declaration of National Forests, Local Forests, joint forest management areas, botanical reserves, private forests and community forests; provide for the participation of local communities, local authorities, traditional institutions, non-governmental organizations and other stakeholders in sustainable forest management; provide for the conservation and use of forests and trees for the sustainable management of forests ecosystems and biological diversity; establish the Forest Development Fund.
- vi) **The Community Forest Management Regulations of 2018**. These regulations provide a framework for the management of community forests in Zambia. They specify the procedures for the establishment, management, and use of community forests, as well as the roles and responsibilities of stakeholders involved in community forest management.
- vii) **The Carbon SI of June 2021**. This statutory instrument provides a legal framework for the implementation of Zambia's climate change mitigation policies, including REDD+ (Reducing Emissions from Deforestation and Forest Degradation) initiatives.

The institutional arrangement for NbS interventions aligns with the National Green Growth Strategy. The Council of Ministers on Climate Change, chaired by the Vice President, provides policy guidance for executing the Green Growth Strategy, which feeds into Cabinet for overall direction. The National



Development Coordinating Committee (NDCC), led by the Minister of Finance and National Planning, guides green growth policy, particularly within the Cluster on Environmental Sustainability. Cluster Advisory Groups (CAGs), co-chaired by Permanent Secretaries and non-state actors, offer sector-specific guidance. The Steering Committee of Permanent Secretaries on Climate Change,

chaired by the Secretary to the Cabinet, oversees the Technical Committee on Climate Change, which initiates technical matters on green growth (GRZ, 2024).

#### **Figure 6: Framework for the Green Growth Strategy**

The Technical Working Groups (TWGs) of the Cluster Advisory Groups (CAGs) address technical green growth issues and work closely with the Technical Committee on Climate Change. Provincial Development Coordinating Committees (PDCCs) and District Development Coordinating Committees (DDCCs) facilitate collaboration among state and non-state actors, including private sector, civil society, traditional leaders, and academia, in implementing and monitoring green growth initiatives (National Green Growth strategy 2024-2030). While the structures at community and district levels are in place, there are gaps in the level of competencies and skills required for effective performance. The following were identified as the major gaps during stakeholder engagements:

- (i) **Legal Provision:** There is no legal provision to facilitate the payment of remuneration to members of WDCs. This demotivates them to perform their functions.
- (ii) **Poor Communication:** Effective communication between LAs and WDCs is cited as one of the major challenges in that the two parts have not been able to effectively engage with each other.
- (iii) **Internal Conflicts:** There is perpetual interference by politicians in the effective operations of WDCs. Example cited included the difficulties in the management of CDF projects and disbursements. This creates frictions between the area MP and WDCs.
- (iv) **Limited Understanding of WDC Functions:** Most WDC members are only familiar with their CDF functions. In cases where they were familiar with the WDC functions (e.g. development planning, reporting, monitoring, health, water supply, etc) they did not have sufficient resources and appropriate training.
- (v) **Operations of DDCC:** The meetings of DDCC were very irregular and in most cases, senior departmental staffs often delegated to junior members. There is no single agreed framework for monitoring and evaluation at district level.

From the foregoing, it is recommended that scheduled capacity building activities of WDCs are budgeted and conducted. Private sector entities are part of the TWG on climate change and NDCC. In addition, a number of commercial banks, support Nature-based Solutions (NbS) through sustainable value chains, particularly in deforestation-free cotton production and Conservation Agriculture. Banks like Stanbic and FNB allocate funds towards environmental and social governance, with some resources directed to NbS-related activities like tree planting. Additionally, commercial banks have established Environmental and Social Management Systems to support NbS projects. NGOs and non-profit organizations also have institutional frameworks and capacities in place to support NbS initiatives.

### **3.4 ROLE OF PRIVATE SECTOR, INNOVATION AND LEVERAGE OF RESOURCES**

Climate induced changes are exerting considerable stress on some of Zambia's key economic sectors such as agriculture, health, water and energy, however, nature-based solutions point to potential investment opportunities in Sustained Diversified and Inclusive Livelihoods; Protection, Restoration and Conservation of Ecosystems; Climate Information and Service Enhancement; and Investment in Green Infrastructure and Human Resources. Evidence now shows that there has been a shift in the private sector, especially banks, in their traditional mandate by beginning to respond to climate change development demands and challenges although the inflows are not significant. While there is ample potential to strengthen Zambia's agriculture, the sector has become more vulnerable to the effects of climate change and climate-induced risks. In the context of private sector involvement in climate change



adaptation in Zambia, the private sector has can and has used NbS as an opportunity for investment and they have played a pivotal role in promoting economic development through Protection, Restoration and Conservation of Ecosystems this has been done through project financing around landscape restoration, introducing biodiversity in smallholding with expert extension, community nurseries and seedling support.

Seed companies are investing in research and development of early maturing and drought resistance seed varieties and promoting diverse crop production to build climate resilience while improving household nutrition. There are small scale out-grower schemes with private extension systems with emphasis on climate smart agriculture practices with greater emphasis on conservation farming approach, investment in rural infrastructure to increase access to inputs and markets, promoting tools and technologies to overcome barriers to adopt conservation agriculture. These may include access to investment capital, support to micro enterprises with scalable value chains like climate smart agriculture produce value addition, high value tree crop woodlot/plantation creation, community based eco-tourism development with unique experiences offered and sustainable alternative energy production like biochar production scaling up. Mining companies have integrated climate resilience initiatives including investment in green technologies within their business goal to ESG compliance, corporate social responsibility framework. Initiatives range from promoting conservation agriculture, landscape restoration with tree planting, input support to the communities, water, and solar energy infrastructure to improve the livelihoods, high value crop value chain development with market and subsequent job creation.

There are several companies in the market offering solar energy solutions and equipment. Pilot business models are being tested for solar mini grid investment in rural farming communities, such as, access solar power to operate solar irrigation and pay back with commodity instead of cash. However, there is a gap in targeted landscape due to low level of affordability in rural communities to access solar power for agriculture production. For an average smallholder farmer, the cost of irrigation set up is significantly high and for a renewable energy company, it is challenging to sustain their business with rural clientele. Hence, some interventions are hard to scale up. Critical to this is Investment in Green Infrastructure and Human Resources. This is pillar will guide investment and inform potential investors in the targeted landscapes.

Leveraging from private sector engagement: Stakeholder engagement revealed a strong motivation and action to innovate based on an organization's business model, expertise, and needs. By identifying and leveraging non-competing sectors (such as mining and agriculture) and collaborating with the private sector, organizations can facilitate income-generating out-grower schemes and address rapid deforestation. This approach ensures synergy by utilizing existing infrastructure, research, skills, experienced personnel, and strategic partnerships. It also encompasses data generation and analysis, performance management, water resource management, and renewable energy investments, including models that support small-scale farming communities.

It is important to increase awareness on the negative impacts of climate change and the need for a response to it, utilization of public-private partnerships in national climate change efforts, and to engage the private sector in developing products and services to reduce the costs and impacts of climate change. This is essential as the country engages private sector in climate change adaptation and resilience efforts. This can be achieved by well-coordinated research and data that lies with various ministries and institutions, funding allocations by public institutions in climate change adaptation and mitigation action information making accessible in intentional engagement with private sector stakeholders. While umbrella organizations such as, Zambia Chamber of commerce, Zambia chamber

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of Mines are some of the key vehicles for private sector engagement, but they are under-utilized and limiting to develop cross sectoral partnerships amongst private sectors, developing carbon offsetting programs that can be leveraged from ESG, community development, corporate social responsibility investments, green technological investments, and business investments that can be aligned to support GHG Emission reduction, climate resilience and livelihood development pillars of the climate investment plan.

In addition, capacity building of national and provincial umbrella organizations to be well informed in the contents of national documents such as National Adaptation Strategies or National Adaptation Programmes of Action (NAPAs) , intentional engagement with private sector including using PPDF (Public Private Dialogues Forum) platform with all stakeholders which could help improve understanding on the serious effects of climate change, its consequences to the economy as a whole and appreciate the strategies government is implementing.

### **3.5 PRIVATE SECTOR OPPORTUNITIES IN THE TARGETED LANDSCAPES**

Zambia's economy has experienced steady growth in recent years, driven largely by the mining sector. The country is rich in copper, cobalt, and other minerals, making it one of the largest producers of copper in Africa. Additionally, agriculture plays a significant role in the economy, with the country being a major exporter of crops such as maize, soybeans, and tobacco. The Central, Copperbelt and North-Western provinces of Zambia have a diverse economy driven by various sectors, including mining, agriculture, manufacturing and tourism. The ZNPC IP is targeting the landscape that covers two watersheds i.e. the Kafue and Zambezi for nature-based solutions to various climate change challenges. The proposed ZNPC IP interventions are planned for rural communities in selected districts. The ZNPC IP will also be focusing and assessing the potential that private sector involvement in providing NbS investments in Energy, Water, Agriculture and Agro-forestry with landscape restoration, building resilience, job creation and overall improving livelihoods in the selected landscapes.

Zambia's energy sector offers investment opportunities in mini hydro-electricity, solar mini-grids, and wind energy projects, which can address rural energy demand and support national energy integration. Establishing businesses for the distribution and installation of renewable energy systems, along with alternatives to charcoal briquettes, can facilitate a transition from charcoal to other fuel sources in both urban and rural areas that will reduce GHG emissions from rapid deforestation. Private sector involvement is crucial in design, construction and supply of hardware/software. However, high start-up costs and the need for nationwide awareness campaigns to promote alternatives to charcoal are essential for sustainable investment. Given that charcoal use is culturally preferred, multisectoral collaboration is necessary to inform users about the benefits of alternatives. Additionally, low payment capacity in rural areas poses a challenge for private sector investment in innovative projects. Annex A4: Clustered Private Sector in Landscape

## **4.0 PROGRAMME DESCRIPTION**

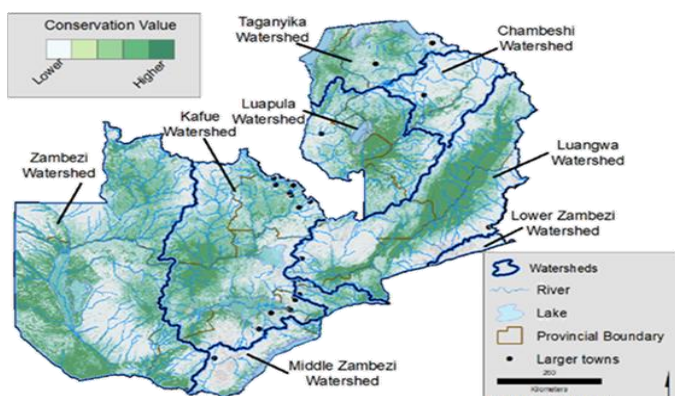
### **4.1 BACKGROUND**

Transitioning Zambia to a green economy entails changing the character of economic growth to one that is resource efficient, resilient, low carbon and socially inclusive. It means fostering robust growth while enhancing the interaction between the environment and the economy and creating green jobs. This is the economic growth Zambia will pursue in the 2024 to 2030 period during the implementation of the National Green Growth Strategy. The main objective of the Zambia Investment Programme is to attain a low carbon resilient economy, strengthened adaptive capacity and resilient communities,

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promote sustainable diversified livelihoods and support long term economic development in the Central, Copperbelt and North-western Provinces of Zambia.

The selection of the landscapes for the implementation of ZNPC IP is informed by and aligned with the



revised 2024 Risk and Vulnerability Report Green Growth Strategy of 2023, the 2021 National Determined Contribution, the 1998 National Biodiversity Strategy Action Plan II. The Risk and Vulnerability Report specifically, recognizes the importance of targeted landscapes or ecological regions for restoration and conservation considering the ecosystems fragility and value of the forests in these landscapes. The selected targeted areas for investment fall within the Zambezi and Kafue watersheds (Figure7).

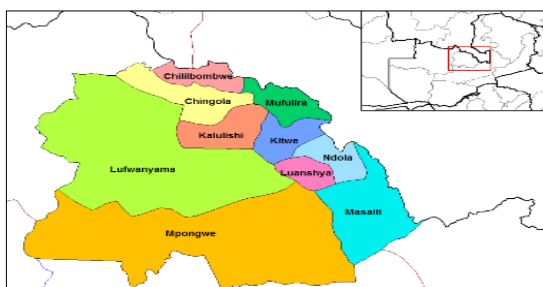
**Figure 7: Suitable Priority Landscape Watersheds**

## 4.2 LANDSCAPE DESCRIPTION

The Zambezi and Kafue watersheds are identified and listed as the most vulnerable and priority investment areas in the Country's Vision 2030, Eighth National Development Plan (8NDP: 2022-2026) and revised Nationally Determined Contributions (NDC, 2021), as well as in other policy documents.

**The Central Province** forms part of the Kafue watershed and is an important landscape, particularly the Lukanga swamps. The swamps act as a natural reservoir and helps regulate the flow of the Kafue River. It absorbs and stores excess rainwater during the rainy season, releasing it slowly during the dry season, which helps prevent flooding and maintain water flow downstream. Furthermore, the swamps support a wide range of flora and fauna, including many bird species. It is an important habitat for migratory birds and breeding ground for fish, making it crucial for biodiversity. The Lukanga wetlands play a critical role to climate regulation by sequestering carbon and moderating local temperatures. The vegetation in the swamps helps capture carbon dioxide contributing to mitigating climate change effects. The swamp helps filter and purify water by trapping sediments, pollutants, and nutrients from agriculture runoff which improves water quality down-stream in the Kafue water system. The target areas include the following: Kapiri Mposhi, Ngabwe, Mkushi, Serenje and Chitambo districts.

**The Copperbelt Province** forms part of the Kafue catchment area and constitutes the main mining region of Zambia. It is the smallest but highly populated province in Zambia, thereby making it the most vulnerable in terms deforestation and pollution occurrence. Further, it consists of a number of rivers which forms major source of Kafue catchment called the Lamba headwaters. The target areas include the Mpongwe, Masaiti, Lufwanyama and Mufulira districts



(Figure 8).

**Figure 8: The Copperbelt Landscape**

**The North-Western Province** forms part of the Zambezi watershed and it constitutes the source of the Zambezi River (Kalene hills). The landscape has vast miombo woodlands and the largest river system, comprising of Zambezi, Kabompo, Lunga and Kafue rivers. Additionally, the landscape is rich in mineral resources and has seen a significant increase in mining activities, especially recent decades. The



Zambezi watershed with relatively more existing patches of pristine forest mostly were target districts in North-western will require NbS that promote conservation and management of existing high value forests, to protect massive potential forest loss as well as the livelihoods of local communities the Kalene Hills (source of Zambezi River). The intervention areas include the following: Mwinilunga, Ikelenge, Kalumbila,

Mushindamo, Zambezi, Chavuma and Kasempa (Figure 9).

**Figure 9: North-western Landscape**

In these selected landscapes and target areas, there are increasing threats to the ecosystems which include the negative impacts due to pressure exerted by increasing population of people as they exploit the various natural resources and ecosystem services. Some of the negative impacts include high water abstraction for irrigation and mining, inequitable water allocation, river-banks erosion, soil erosion and siltation, water pollution from agriculture and mining activities, loss of biodiversity, poaching, encroachment into the game management areas, high rate of deforestation, overfishing, increasing pests and disease burden on local people, livestock and crops. There is need to stress that the landscapes in the Kafue catchment which coincides with the existing line of rail within which the selected districts in the Copperbelt and Central Province are, require recovery and restoration focused NbS actions due to increased populations that has exerted pressure on the forest as illustrated above. While the targeted landscapes within the Zambezi catchment with relatively more existing patches of pristine forests will require NbS actions that promote conservation and management.

### 4.3 PROGRAMME DESIGN

**The analysis and stakeholder engagements identify three main Programmes, namely: (1) Building Resilience of Food, Livelihoods and Ecosystem Services (2) Promotion of Climate-Smart Agriculture, Climate Resilience; and (3) Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources.** Detailed Concept Briefs for each of these three programmes are provided in Annex A2.

The three programs will be implemented concurrently, recognizing that any efforts to restore Zambia's degraded ecosystems need to be accompanied by efforts to improve the livelihoods that depend on them, thereby removing the underlying drivers of impact. The components of the three programs have been designed to complement each other. The first programme: **Building Resilience of Food, Livelihoods and Ecosystems Services**, focuses primarily on increasing agricultural productivity and production systems as well as enhancing the adaptive capacity to prepare for, and managed climate change. The program will rehabilitate climate resilient infrastructure, develop sustainable community value chains, assist natural regeneration of the ecosystem, inculcate climate smart farming, sustainable land management, climate smart practices as well as supporting climate information service at the landscape level. The second programme: **Promotion of Climate Smart Agriculture, Climate Resilience**, will establish a financing facility that will support specific projects, products and initiatives

to promote climate-resilient farming, provide capacity-building to farmers, cooperatives, financial intermediaries and other stakeholders. It will also provide a private sector financing window to co-invest, de-risk, and provide performance based incentives for specific projects. The third programme: ***Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources*** will improve natural resource management, support sustainable livelihoods, and strengthen climate resilience of communities and ecosystems in select districts, improve the livelihoods of forest dependent communities through market linkages for forestry products. It will also promote non-wood forest products value chains through sustainable harvesting and processing of forestry products.

## **Expected Results**

Together, these three programs are anticipated to enhance citizens' **particularly women, youth, PWDs and elderly** quality of life by prioritizing landscape restoration, sustainable agriculture and forestry, and resilient livelihoods. As a result, these initiatives will boost the adaptive capacity and economic potential of the Central, Copperbelt and North-western Provinces, ensuring a more sustainable and prosperous future for communities in the three landscapes. Program outcomes include but are not limited to:

- (i) Natural forests protected, connected and made more resilient to climate impacts and risks;
- (ii) Improved biodiversity;
- (iii) Increased carbon sequestration;
- (iv) Alternative incomes generated for rural livelihoods, reducing pressure on forests and other natural resources;
- (v) Strengthened agro-forestry value chains;
- (vi) Sustainable flows of finance generated;
- (vii) Empowered women, youth, PWDs and elderly.
- (viii) Developed Small and Medium Enterprises

Nature-based solutions being considered include the protection and management of forests, grasslands, and wetlands, as well as the promotion of low-carbon, climate-resilient agriculture and the safeguarding of headwaters. The specific nature-based solutions associated with each pillar are detailed below, with further elaboration on the activities tailored to each landscape provided in the Annex A2.1

## **4.4 SPECIFIC NBS ACTIVITIES FOR EACH PROGRAMME**

The proposed Nbs interventions are divided into three programmes which are further broken down into components and activities as elaborated below.

### **Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services**

#### **Component 1.1: Sustainable and Diversified Livelihoods**

- a) Enhance good governance, policy, legal and institutional framework, implementation, enforcement and compliancy at district and community levels.
- b) Promote climate smart agriculture, targeted at up to 60% women (especially female headed households).
- c) Develop market-driven value chains and enhance existing market linkages while establishing new ones.
- d) Promote improved animal nutrition.

- e) Improve public extension services to support good agricultural practices information dissemination (agroforestry, intercropping, crop rotation, integrated pest management, etc)
- f) Increase access to crop insurance services for agriculture with specific focus on women and vulnerable community members.

### **Component 1.2: Green Inclusive Infrastructure**

- a) Enhance good governance, policy, legal and institutional framework, implementation, enforcement and compliancy at district and community levels.
- b) Train agricultural extension officers and community members in the interpretation of weather and climate information.
- c) Develop effective communication channels to ensure that climate information reaches all relevant stakeholders.
- d) Strengthen resource management around community and GMAs water points and set-up solar powered boreholes.
- e) Rehabilitate boreholes, wells, weirs, small earth dams, reservoirs and canals with full participation of communities under cash for work strategy.
- f) Scale up the development of weirs and small earth dam that are manageable by the communities.
- g) Promote establishment of artificial groundwater recharge ditches among communities and households.

## **Programme 2. Promotion of Climate-Smart Agriculture and Climate Resilience**

### **Component 2.1: Climate-Smart Agriculture**

#### **and Climate Resilience**

- a) Increase access to financial facilities for value addition, mechanization and irrigation equipment especially among women and vulnerable groups.
- b) Support SME development in non-timber and timber forest products (sustainable charcoal production using retort kilns and coupe system) targeting up to 50% youth groups.
- c) Provide investment finance to promote suitable and sustainable clean cooking technologies that are user friendly among women and vulnerable groups.
- d) Increase access to insurance services for agriculture for upto 60% women and vulnerable groups

Detailed activities and costs are provided in Annex A2.1.

## **Programme 3: Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources**

Component 3.1 Fostering implementation of the National Green Growth Strategy 2024-2030

Component 3.2 Promoting climate-smart livelihoods and value chains and green and inclusive jobs

Component 3.3 Project and Knowledge Management, Coordination and Collaboration:

The overall objective would be to improve natural resource management, support sustainable livelihoods, and strengthen climate resilience of communities and ecosystems in select districts and the Miombo region. With this objective, the NPC project would focus on Nature-based Solutions (NbSSs) and contribute to improving livelihoods of forest-dependent communities through improved market linkages for forestry products. Promoting value chains of non-wood forest products has the potential to positively impact on local area economies and improve household incomes. Strengthening Community



Forest Management Groups (CFMGs) with skills on sustainable harvesting and processing of forest products will allow regeneration and maintenance of forest health, and provide additional income to communities for livelihoods improvement and local development.

The project's entry point to the socioeconomic and environmental challenges will be NbSs to achieve systemic change and adaptive sustainability and contribute to a transformational impact on how natural resources are managed and used and environmental challenges are addressed while building alternative and climate resilient community livelihood options in Zambia. The focus on NbSs to achieve systemic change and adaptive sustainability will therefore demonstrate value for financial resources that will be used to build stakeholder and community capacities and invest in sustainable natural resources management and community well-being. By establishing and strengthening strong market linkages, the project will create economic incentives for sustainable forest use, providing communities with income from forestry and non-timber forest products (NTFPs) while preserving natural resources. This dual approach will foster environmental stewardship and stimulates local economies, promoting long-term sustainability and resilience against environmental, climatic, and economic challenges.

Detailed activities and costs are provided in Annex A2.1.

## **4.5 DEDICATED GRANT MECHANISM**

The Dedicated Grant Mechanism (DGM) in Zambia's Nature, People, and Climate Investment Plan is a key component designed to empower local communities, including indigenous peoples and local forest-dependent communities, to actively participate in climate-related initiatives. The DGM facilitates direct access to financial resources, capacity building, and technical support, enabling communities to manage natural resources sustainably while addressing the challenges of climate change. Key aspects of the DGM include: Empowerment to local communities with decision-making authority over how resources are used, ensuring that funds are directed toward projects that address their specific needs and priorities. Capacity Building to enhance their knowledge and skills to engage in sustainable natural resource management, climate resilience, and biodiversity conservation. Inclusivity mechanism that prioritizes inclusion of marginalized groups, particularly women, youth, and indigenous populations, ensuring equitable access to benefits and opportunities. In that regard the grant mechanism is part of broader global efforts to integrate community-driven approaches into climate action and environmental conservation, recognizing the essential role that local communities can and play in protecting natural resources and ecosystems.

## **4.6 INVESTMENT PREPARATION ACTIVITIES INCLUDING TECHNICAL ASSISTANCE**

The Investment Preparation Activities for the Zambia Nature, People and Climate Investment Plan involved several important stages:

### **4.6.1 Stakeholder Engagement**

The Key stakeholder's engagements included: government ministries and agencies, MDBs, UN Agencies, Bilateral Partners, civil society, public/private sector, Faith Based Organizations, Decentralized Structures, NGOs, public/private sector entities, were consulted to gather their insights and ensure widespread support for the investment plan. The list of all stakeholders consulted in the highlighted categories is presented in Annex A.3.



Technical Assessments were carried out in the landscapes to analyze the current environmental, social and economic conditions. This involved examining biodiversity, climate vulnerabilities and land-use patterns within the Northwestern, Copperbelt and Central provinces. iii) Capacity Building gaps and Evaluations were conducted to identify training and resource needs for local communities and stakeholders, aimed at improving their understanding of climate change impacts in the promotion of sustainable practices. Further technical engagements included Multilateral Development Banks Joint Missions, AfDB Technical missions and the GRZ Technical Working Group.

These preparatory activities were succeeded by the creation of Investment Proposals, which involved formulating specific proposals that align with goals for climate change adaptation and mitigation, particularly in areas like sustainable agriculture, forestry, and renewable energy. Additionally, potential funding sources were identified and financial models were developed to facilitate the implementation of the investment plan. A framework was also established to track progress and assess the effectiveness of the planned activities over time. All these activities were designed to develop a thorough and practical investment plan that tackles the intertwined challenges of nature conservation, climate change and the livelihoods of communities in the three targeted Provinces.

#### **4.7 TYPES OF INNOVATIVE NbS MODELS**

Stakeholder consultations revealed some existing business models that relate to Nature based solutions and are elaborated below. An NGO-led model with private sector partnership in building climate resilience ecosystem in agriculture communities: demonstration farms to promote crop diversification with climate smart agriculture practices, including Conservation Agriculture (CA) with small scale technologies in effort to increase adaptation of CA. Proactive and early adopters from the community are identified and trained as Farm Based Agents (FBA) to expand extension and advisory services within the community. Gradually, the FBA's are linked with various private sectors offering market, inputs, technologies to improve eco system within the community. The focus is on reducing GHG emissions from agriculture, increase adaptation by establishing market linkage to access new technologies including early draught resistant seed varieties, small scale tools to reduce farm labor for conservation agriculture, especially for women, and elderly. Skill development and knowledge transfer for women and youth, bringing financial inclusion with financial literacy, and market development for sustainability.

Two non-competing, complimentary private sectors partnering to Increasing farmer's access to agriculture equipment and renewable energy solutions to support climate mitigation. The business model bridges the market gap left from banking institutions for small, emerging to commercial farmers, especially women beneficiaries. The service delivery under this model includes pre and post financing and equipment delivery training and technical support that strengthens. The business model allows public private partnership to support financing with appropriate technologies to increase implementation of NbS in agriculture sector.

A developmental fund led model with a mix of grant, concessionary loan, to address unsustainable agriculture practices to reduce GHG emissions and sustainable land use by bridging the gap among Commercial, emerging and small-scale farming practitioners. By tapping into the knowledge, practices with successful practical farming experience from commercial farming sector and transfer to emerging farmers (with 5-20 Ha located close to the commercial enterprise) and gradually link small scale farmers through cluster farming approach. The model is aimed at expanding the circle of influence from commercial farming practices that are climate resilient with sustainable use of inputs, timely planning including input package recommendations, tools and technologies with assured market The commercial

enterprise may apply and qualify for a concessional loan to support their enterprise. This model is in development and yet to be tested in the community.

#### **4.7 ACTIVITIES TO ADDRESS GENDER GAPS**

To enhance GESI-responsive planning, the IP will expand on its outlined interventions by incorporating detailed, concrete actions aimed at addressing identified gaps in gender equality and social inclusion. Key approaches will include fostering leadership among women and vulnerable groups within community organizations by providing capacity-building and mentorship opportunities tailored to increase their participation and influence in decision-making processes. The plan will also focus on removing specific barriers, such as restrictive social norms and discriminatory practices, which hinder the visibility and engagement of underrepresented groups. The IP commits to facilitate inclusive leadership within local decision-making frameworks and to create a more equitable approach to project implementation, ensuring that the voices and needs of all groups are actively considered.

The significant GESI challenges and proposed interventions are outlined below:

- i) There remains notable policy, legal and regulatory gaps that hinder women access to productive assets and the full implementation potential of NbS across sectors. Furthermore, there is insufficient human capacity across all levels, weak legal enforcement and absence of clear monitoring and evaluation frameworks. There is therefore a critical need for comprehensive policies and regulations to for example, safeguard ecosystems and strengthened enforcement.
- ii) The prevalent customary and statutory provisions are in contradiction when it comes to women's access, ownership and control of land. Women in their rights do not own land. Customary law is rooted much more strongly in rural areas than urban areas. It is therefore proposed to firstly rectify the dual structure of statutory and customary laws; secondly, utilize gender mainstreaming opportunities such as sensitization of the communities, traditional leaders, councilors and technical staff at district levels and thirdly, adopt an approach based on localized analysis to facilitate advocacy and awareness raising. Here, there will be need to maximize the use of grassroot networks of local NGOs for gender mainstreaming activities at the local level.
- iii) Women's limited access to productive assets, information and financial support which confines them to the home, reduces their capacity to contribute to the development of themselves and their communities, lessens their ability to adapt to external shocks and stressors, and leads to an over-reliance on male counterparts (especially during climate change extremities whose consequences also leads to increased rates of sexual and gender-based violence in the course of executing their tasks). There is need for sensitization campaigns on the vulnerable groups to productive assets, appropriate technologies in Climate Smart Agriculture (CSA), information and financial support. For women and youth, this will entail establishment of a wide range of financial resource products (low interest loan within the DGM, long payback period, relaxed collateral requirements, etc.) and establishment of women savings group under the DGM. For the PWDs and elderly, the special GRZ Social Cash Transfer (STC) and Input Packs (seeds and fertilizers) mechanisms be supported.
- iv) Social cultural norms and patriarchal practices in rural societies limit women's agency, mobility, and independence regarding access to and management of natural resources, household assets, incomes, and even decisions about children. Typically, men serve as heads of households and dominate decision-making bodies such as farmer cooperatives and community resource management boards. Men predominantly engage in the sector's income generating activities, whilst women rely on land for production of crops for household food security and forest ecosystems for both forest and non-forest products (timber, handcrafts, fuel wood and mushrooms, caterpillars and herbs). This extends to decision making forums, whereby women's representation in especially forest-related meetings is inadequate. There is also a risk of women completely being excluded from participating in environmental protection, conservation and restoration

communities planned activities. There is urgent need to engage the traditional leaders, men, women, the youth and other vulnerable groups in understanding and spearheading human rights for mindset changes. Education, sensitization workshops and advocacy activities that encourage mindset changes would go a long way to addressing the noted disparities.

- v) High incidences of poverty (60% at National Level)<sup>23</sup> experienced by women, more so, women-headed households (widowed, divorced, or whose partners and sons have moved away), who bear heavy caregiving and domestic responsibilities are restricted from taking advantage of new opportunities related to the environment, the economy, or society. Poverty also limits opportunities for the youth to receive education and seek employment, which either drives them to relocate or results in early pregnancies, Sexual Gender Based Violence (SGBV) in the case of girls, or youth delinquency (drug use, alcoholism, etc.) among boys. There will be need to explore locally based alternative livelihoods. For both women and youth, the development of small and medium business models, accompanied with capacity building in entrepreneurship, organised adult literacy education and advocacy activities on SGBV. Additionally, community service centres (to offer - literacy training, kinder gardens, ICT, trading, rural financial support, etc) to meet women, youth, children, PWD and elderly demand for inclusion in new emerging opportunities will be established.
- vi) Despite the high adult rates of literacy (the adult male literacy rate stands at around 90%, while female is lower estimated at 80%)<sup>24</sup>, women's representation in leadership and decision-making processes is generally low. This situation denies their rights to participate in critical decision-making processes that lead to improved environmental outcomes, enhanced environmental policies, promoted NbS investments and strengthened access to climate change services/information. The following activities are proposed to addressing these gaps: i) establishment of women lead community forest management groups, ii) recruitment of women forest rangers, iii) developing women affirmative oriented group guidelines on conservation and management, and climate smart agriculture, vi) development of reliable water supply and sanitation facilities, (iv) Development of reliable and adequate water supply and sanitation facilities with 500 metre radius, v) training in NbS data collection, assessment, management and public engagement skills, vi) strengthen women networks and forum and vii) introduction of gender sensitive green technologies.
- vii) Zambia has strong policies, legal and regulatory framework to support climate, environmental conservation, gender equality and social inclusion mainstreaming. There are also established institutions to support the government to achieve its international and national climate, environmental conservation and GESI goals and targets. The GESI will adopt responsive approaches that will be embedded within the proposed programme components and activities. These will be further detailed during the design phase. These approaches will be aligned to the CIF NPC Program's gender integration requirements and guidelines, contained in the Gender Integration Guidance Note, CIF NPC Investment Program Design Document, CIF Gender Policy and CIF Gender Action Plan Phase 3.

The Programme design would be participatory by nature and will include specific provisions to target the most vulnerable households per landscape, this includes about 75% of all women-headed households (which in turn comprises about a third of the total households in target district). The project will allow for the deliberate targeting and monitoring the impact of the project on women and women-headed households and the youth. The support systems will target enterprises that can be operated by such groups to link to enhance productivity and market linkages. The project will partner with and build upon the experience of NGOs to identify and assist vulnerable households. The civil works will also promote additional income generating activities involving women, such as supply of food and many

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<sup>23</sup> 2022 ZAMSTATS, LCMS

<sup>24</sup> *ibid*

other sale items for workers; thereby allowing them to raise some income in the short term. The youth will be specifically targeted for community accessibility works that is compatible with their other economic and social activities. Capacity building and training for youth and women enterprise groups will be targeted and performance measurement of the project will be tied to this. The key gender impacts of the programme will include 70% proportion of women's engagement in (i) Positions and participation in Leadership and decision making, (ii) in the conducted literacy classes (iii) Number of business established and owned by women (iv) Increased percentage in land ownership (v) Percent increase in women access to financial products management of data and information on floods and droughts, (ii) management of local level disaster risk management activities, and (iii) employment generated through civil works and other project related activities.

Dedicated financial mechanisms, such as low-interest loans and relaxed collateral requirements, will be established for women and youth-led enterprises in sustainable agriculture and NbS initiatives. Monitoring, evaluation and reporting will involve GESI-specific indicators to track participation rates, leadership roles, and access to resources, ensuring equitable benefits across all groups. Gender-responsive actions under this Program include targeted measures to enhance women's leadership and participation in community organizations, focusing on addressing barriers such as restrictive social norms, lack of access to land, and limited assets. Concrete interventions will include promoting women's financial inclusion through partnerships with financial institutions offering bundled or digital services tailored to women. The Program will create new job opportunities for women, such as tree planting, and train them in alternative energy production. Revised environmental standards will incorporate GESI principles, ensuring enforcement and women's employment in sectors like forestry and water utilities. Capacity building for women-led community groups and extension agents will be prioritized, along with providing targeted climate information to women and marginalized groups. These comprehensive measures will ensure women's participation and leadership in key decision-making processes across sectors. In a nutshell, the Programme integrates GESI-specific measures throughout its design. GESI-specific indicators will track the participation of women, youth, PWDs, and marginalized groups in decision-making and project outcomes. Livelihood programs will set specific targets for their inclusion. Private sector engagement will promote women-led businesses and gender-responsive financial mechanisms, such as collateral-free loans, to enhance participation in climate-smart agriculture and restoration efforts.

## **5.0 FINANCING PLAN AND INSTRUMENTS**

### **5.1 REQUESTED BUDGET ENVELOP FOR INVESTMENT**

The total required funding to implement the ZNPC -IP in the three landscapes of the Copperbelt, Central and Northwestern provinces is projected at US\$255.75 million, MPIS inclusive (Table 4) over a five-year period. The budget has been developed based on data and information from various sources, including the NDC implementation framework. The estimated budgetary allocation per pillar across the landscapes are as follows: i) Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services - US\$119.40 million (Component 1.1: Sustainable and Diversified Livelihoods - US\$86.46 million; Component 1.2: Green Inclusive Infrastructure - US\$32.94 million); (ii) Programme 2: Promotion of Climate Smart Agriculture, Climate Resilience - US\$6.00 million and (iii) Programme 3. Strengthening Community Livelihoods and Resilience Through Sustainable Management of Natural Resources. US\$47.00 million (Component 3.1: Fostering Implementation of the National Green Growth Strategy 2024-2030 US\$19.80 million Component 3.2: Promoting Climate-smart Livelihoods and Value Chains and Green and Inclusive Jobs:

US\$102.00 million). Component 3.3: Project and Knowledge Management, Coordination and Collaboration - US\$6.90 million.

**Table 4: Cost of Implementing NbS for Each Component**

<b>Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services</b>	
<b>Component 1.1: Sustainable and Diversified Livelihoods</b>	86,460,319
<b>Component 1.2: Green inclusive infrastructure</b>	32,939,681
<b>MPIS</b>	1,000,000
<b>Sub-Total</b>	<b>120,400,000</b>
<b>Programme 2: Promotion of Climate Smart Agriculture, Climate Resilience</b>	
<b>Climate Smart Agriculture, Climate Resilience</b>	<b>6,000,000</b>
<b>MPIS</b>	<b>150,000</b>
<b>Sub-Total</b>	<b>6,150,000</b>
<b>Programme 3: Strengthening Community Livelihoods and Resilience through the Sustainable Management of Natural Resources</b>	
<b>Component 3.1 Fostering Implementation of the National Green Growth Strategy 2024-2030</b>	19,800,000
<b>Component 3.2: Promoting Climate-smart Livelihoods and Value Chains and Green and Inclusive Jobs:</b>	102,000,000
<b>Component 3.3: Project and Knowledge Management, Coordination and Collaboration</b>	6,900,000
<b>MPIS</b>	500,000
<b>Sub-Total</b>	<b>129,200,000</b>
<b>Grand Total (Programmes 1, 2 and 3)</b>	<b>255,750,000</b>

## 5.2 COSTS AND SOURCES OF FUNDING

The sources of funding for the Zambia NPC IP are provided in Table 5.

**Table 5. Sources of Finance**

<b>Concept/Project Name</b>	<b>MDB Funding Amount (USD million)</b>				<b>CIF Funding (USD million)</b>					<b>Grand Total (USD million)</b>
	<b>Name</b>	<b>Grant</b>	<b>Loan</b>	<b>Subtotal</b>	<b>PPG</b>	<b>Grant</b>	<b>Loan</b>	<b>MPIS</b>	<b>Subtotal</b>	
<b>Concept 1:</b> Building Resilience of Food, Livelihoods and Ecosystem Services	AFDB	76.0	23.4	<b>99.4</b>	0.4	19.6		1.0	21	<b>120.4</b>
<b>Concept 2:</b> Promotion of Climate Smart Agriculture,	IFC	0.0	3.0	<b>3.0</b>	0.0	3.0		0.15	3.15	<b>6.15</b>

Concept/Project Name	MDB Funding Amount (USD million)	CIF Funding (USD million)					Grand Total (USD million)			
Climate Resilience										
Concept 3: Strengthening Community Livelihoods & Resilience through Sustainable Management of Natural Resources	WB	118.7	0	118.7	0.0	10.0		0.5	10.5	129.2
TOTAL		194.7	26.4	221.1	0.4	32.6	0.0	1.65	34.65	255.75

The target for resource mobilization is highly ambitious, as it will require US\$255.75 million over a five-year period to implement projects in the Copperbelt, Central and Northwestern provinces in Zambia. The NPC IP aims to support the Government to operationalize priority actions identified in this document which are also in line with NDC and its Implementation Plan Framework. The NPC IP is also in line with the Zambian Green Growth Strategy. The distribution of funding to finance activities in the NPC IP among the participating financing institutions is provided in Table 6. The financing of activities is expected to be undertaken by AfDB, World Bank, IFC and GRZ. Additionally, the Ministry of Green Economy and Environment and the MDBs (the AfDB, the World Bank and the IFC) will continue to engage cooperating and development partners outside the MDBs as well as the private sector for co-financing of the implementation of the Z NPC IP particularly during the preparation of projects to be implemented under the Z NPC IP.

**Table 6: Distribution of funding by Recipient of the NPC IP**

	Implementation Agency(ies)	Total Estimated cost (US\$ millions)	CIF IP (US\$ millions)	World Bank (TRALARD II), AfDB, IFC, GRZ, Other* (US\$, millions)
<b>Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services</b>				
Component 1.1: Sustainable and Diversified Livelihoods	Ministry of Agriculture and Ministry of Fisheries and Livestock, Ministry of Water Development and Sanitation	86,460,319	10,000,000	76,460,319



	<b>Implementation Agency(ies)</b>	<b>Total Estimated cost (US\$ millions)</b>	<b>CIF IP (US\$ millions)</b>	<b>World Bank (TRALARD II), AfDB, IFC, GRZ, Other* (US\$, millions)</b>
Component 1.2: Green Inclusive Infrastructure	Ministry of Agriculture, Ministry of Water Development and Sanitation and Ministry of Infrastructure, Housing and Urban Development Zambia Meteorological Department	32,939,681	10,000,000	22,939,681
	<b>Subtotal</b>	<b>119,400,000</b>	<b>20,000,000</b>	<b>99,400,000</b>
<b>Programme 2: Promotion of Climate Smart Agriculture, Climate Resilience</b>				
Climate Smart Agriculture, Climate Resilience	Private Sector	6,000,000	3,000,000	3,000,000
	<b>Subtotal</b>	<b>6,000,000</b>	<b>3,000,000</b>	<b>3,000,000</b>
<b>Programme 3. Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources</b>				
Component 3.1: Fostering Implementation of the National Green Growth Strategy 2024-2030	Ministry of Green Economy and Environment	19,800,000	2,800,000	17,000,000
Component 3.2: Promoting Climate-smart Livelihoods and Value Chains and Green and Inclusive Jobs	Ministry of Green Economy and Environment	102,000,000	6,000,000	96,000,000
Component 3.3: Project and Knowledge Management, Coordination and Collaboration	Ministry of Green Economy and Environment	6,900,000	1,200,000	5,700,000
	<b>Subtotal</b>	<b>128,700,000</b>	<b>10,000,000</b>	<b>118,700,000</b>
	<b>Grand Total</b>	<b>254,100,000</b>	<b>33,000,000</b>	<b>221,100,000</b>

### 5.3 TYPES OF FINANCING TO BE REQUESTED

The financing mechanism for ZNPC IP focuses on transforming climate-affected landscapes into sustainable, market-driven and resilient areas while creating income opportunities for rural populations.

This will be achieved through a combination of grant financing, co-financing, loans and green finance mechanisms. The approach aims to attract institutional and private sector funding by addressing barriers to investment and providing solutions.

The mechanism supports nature-based solutions and value chains by offering financial instruments such as low-interest loans and grants to incentivize companies. These companies, driven by sound business opportunities in Zambia, will aim to generate social benefits like improved nutrition, job creation, and women and youth empowerment by connecting producers and processors to markets. The approach involves strengthening both upstream (processors/traders) and downstream (producers) components of agricultural value chains, selected based on district-level assessments. It emphasizes support for small agricultural businesses, promoting job creation, and encouraging investment in climate-friendly technologies to enhance local production and accessibility. The strategy includes developing sustainable practices, such as climate-resilient agriculture and renewable energy adoption, while building capacity and raising awareness among communities to better tackle climate challenges.

#### 5.4 RECIPIENTS OF FUNDING

The main beneficiaries of the funding are GRZ and communities via the MDBs. The government may engage the private sector, NGOs, and other organizations, such as relevant UN agencies, to carry out specific components of the project. The goal is to foster synergies between non-competing sectors, such as mining and agriculture, and to collaborate with the private sector to enhance income generation while reducing deforestation. This approach emphasizes utilizing nature-based solutions, along with knowledge, skills, and resources like experienced personnel, research, and subject matter expertise. There will be need to establish collaboration and synergy among the mining, agriculture, and conservation sectors (e.g., national parks) to promote economic development without harming the environment. This includes forming private sector partnerships that engage companies to support out-grower schemes, empowering small-scale farmers and providing alternative income sources to reduce reliance on activities that contribute to deforestation. Data-driven decision-making shall be implemented to monitor and enhance performance, optimize resource management, and achieve sustainable outcomes. Resource management will prioritize water and land, focusing on renewable energy investments that benefit small-scale farming communities, thereby integrating them into sustainable business models. Additionally, developing business strategies that combine environmental stewardship with economic growth, particularly for small-scale farmers, shall leverage renewable energy solutions and responsible resource use. For effective implementation of these activities among recipients, the following steps will be necessary:

- **Collaboration between Private Sector and Government agencies** to enhance the market systems supporting small and medium agribusinesses, ensure the production of a broader range of nutritious foods, encompassing both crops and livestock value chains. GRZ to improve supply chain logistics and support market-driven production practices (road, telecommunication network) etc.
- **Promote Sustainable Farming:** enhance climate-friendly farming practices that conserve soil and water resources and minimize production risks for producers.
- **Implement 'Farming as Business' Strategy:** Promote the "farming as business" approach, equipping small agribusinesses to effectively manage climate-induced production fluctuations, market uncertainties, and economic disruptions.
- **Facilitate Technology and Innovation Transfer:** Collaborate with the private sector (including financial institutions), and other institutions such as: EU, UNDP, FAO, USAID, USDA, US

Department of Commerce, Land Grant Universities, and other collaborating domestic, regional and global research institutions to facilitate the transfer of cutting-edge technology and innovative climate-smart practices and technology, nutrient- dense improved seed varieties, livestock breeds, irrigation techniques, improved machinery to Zambian small agribusinesses.

## **5.5 ANTICIPATED CO-FINANCING**

Climate finance is one of the key enablers in ensuring climate change adaptation and mitigation. Climate finance covers the entire cycle – from mobilizing resources to using, tracking and reporting climate change-related expenditures by government and non-government entities. Opportunities will be explored to access co- financing during appraisal from among the following: Finnish Embassy, Swedish Embassy, Nordic Development Fund, GEF and GCF.

### **GRANT Mechanism/Co-Financing**

Grant mechanism will be applied for the following:

- i) Provision of improved crop varieties, improved irrigation methods, rainwater harvesting, conservation agriculture, pest and disease management, and organic farming.
- ii) Establish for-profit and/or GRZ extension services that offer improved seed delivery, guidance on livestock management, breeding, and health practices.
- iii) Training/improved technologies in sustainable fish farming practices, including pond construction, fish health management, and feed management.
- iv) Training/improved technologies in climate preparedness and risk reduction strategies to withstand extreme weather events.
- v) Engage with Domestic and International Companies: Collaborate with both domestic and international businesses to develop strong business cases for the marketing and sales of nutritious crops and food products. Enhance market linkages at local, regional, and international levels to expand market access and increase the diversity of food production.

## **6.0 ADDITIONAL DEVELOPMENT ACTIVITIES**

The UNDP Climate Hub is collaborating with Zambia, Eswatini, and Zimbabwe to develop a Multi-country Project for submission to the Green Climate Fund. The project, titled "Nature-based Solutions for Agro-pastoral Resilience to Climate Change in Catchments of Southern Africa (NbS-ARC)," aims to enhance climate resilience in watershed ecosystems and smallholder production systems. Using an integrated-systems approach, the project will support these countries in designing, executing and coordinating GCF-financed investments to strengthen their climate adaptation efforts. The Zambian part of the Nature-based Solutions for Agropastoral Resilience to Climate Change in Southern Africa (NbS-ARC) project will be carried out through catchment Investment Programmes (CIPs). These CIPs will be responsible for financing and executing activities in designated catchments, using a mix of grants, loans, and fiscal resources. Several potential sites were identified using a multi-criteria analysis. These sites were presented to key stakeholders at national and sub-national levels for confirmation and feedback. Four potential sites were identified, one in the Zambezi catchment, one in Kafue, and two in Luangwa<sup>25</sup>. The highest-ranking proposed site – identified as the 'Upper Lunsemfwa Sub-catchment' falls within the Luangwa catchment around Mkushi and Luano in the Central province.

Restoration of forestry, grassland and wetlands will involve; forest restoration mapping, assisted forestry regeneration, afforestation/Reforestation and promotion of community woodlots for the provision of fuel wood and as sources of alternative cash income. Protection and management of forests, grassland

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<sup>25</sup> **Note: the northern-most site in the Luapula catchment was excluded as it falls outside of the targeted greater Zambezi Basin**  
Zambia Nature People Climate Investment Plan, Ministry of Green Economy and Environment

and wetlands will involve; establishment of Community forest management Groups(CFMG) in line with the National Guidelines for Community Forestry in Zambia; sustainable forestry management to include, establishment of boundary marking and maintenance for forests, grassland and wetlands and Forest fire management and access control control); Sustainable Forestry utilization and enterprise development (non-timber forestry products); Sustainable charcoal production using Retort Kilns and sustainable wood harvesting through introduction, and promotion of coupe system (managed by community cooperative) and Improved cooking devices to include improved biomass stoves.

Implementation of enhanced low carbon climate resilient agriculture will involve activities to include; agro-forestry, Conservation farming, Solar water pumping for irrigation, establishment of weirs and water harvesting, promotion of organic fertilizer and composting, promotion of Improved animal feed. Others actions are to promote natural restocking in fishery management areas and other fish depleted water bodies by protecting fish breeding areas and promotion of irrigation and efficient use of water resource.

Headwater protection in the Lunsemfwa and Mkushi watersheds focuses on conserving catchment forests and implementing sustainable land use practices to prevent deforestation and land degradation. Key areas for protection include the Mushibemba and Chibefwe rivers in the upper Lunsemfwa, and the headwaters of the Mkushi river.

## **7.0 IMPLEMENTATION POTENTIAL WITH RISK ASSESSMENT**

### **7.1 IMPLEMENTATION POTENTIAL**

The 2024 outlook has deteriorated due to the drought. Agriculture is expected to contract by 19%; electricity blackouts are anticipated to reduce productivity; and copper production will recover more gradually than projected; thus, real GDP growth is now projected at 2.3%. Inflation, which is being more persistent than initially envisaged, is expected to remain elevated due to continued fuel and food inflation and exchange rate depreciation. Lower non-mining exports due to the drought, lower-than-expected copper exports, and drought-related imports of maize and electricity will worsen the trade balance, and the current account deficit is now projected at 0.2% of GDP. The financial account is projected to improve supported by FDI inflows. The deteriorated outlook is expected to weigh on the kwacha, inflation, and reserve accumulation in 2024, with limited impact over the medium term.<sup>26</sup>

There is a dedicated Ministry responsible for green economy and environment with a mandate to formulate and implement low-carbon and resilience interventions. Within the Ministry, there is a specific department tasked with executing green economy initiatives, and climate change mainstreaming into various policy frameworks, including the 8<sup>th</sup>NDP, the Comprehensive Agriculture Transformation Support Programme (CATSP), and the 2<sup>th</sup>NAP among many policy frameworks. Over the years, the Ministry, in collaboration with other key line ministries such as Agriculture, Fisheries and Livestock, Energy, and Water etc., has overseen several climate change projects. These include the PPCR, TRALARD, Zambia Integrated Forest Landscape Project (ZIFLP), PIDACC, LTDP and the Climate Resilient Livestock Management Project (CRLMP).

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<sup>26</sup> *Country Risk Assessment, 2024-IMF*

Lessons and best practices from these projects and initiatives will be incorporated to enhance the design of this NPC-IP. Further consultations will be conducted during the design phase, and any opportunity to leverage with any potential synergies with existing projects will carefully be considered. The IP-project design draws on both regional and global expertise, while also taking into account local and indigenous contexts. The successful implementation of phase 1 will be crucial in laying the groundwork for the IP. The implementation process will follow a structured approach but remain flexible, allowing organic growth based on community involvement.

Despite limited uptake in previous private sector renewable energy projects, there is clear willingness and potential for success with proper resource support. This includes providing beehives, local capacity building for the production of efficient beehives, and integrating these efforts with the distribution and sales of alternative charcoal products. Engaging the private sector as ambassadors for environmental protection is crucial. Implementing nature-based climate solutions in water-stressed national parks and game management areas can significantly promote gender equity through women's empowerment, income generation, and well-being. Social inclusion, traditional knowledge, and conflict resolution around water points also enhance potential. With existing infrastructure and strong support from forest resources, policies, traditional leadership, academia, and civil society organizations, the Investment Plan has a high potential for successful implementation in the targeted landscapes.

## **7.2 COUNTRY RISKS**

The ZNPC IP faces several implementation risks across various sectors, including institutional, technological, environmental, social and financial. These risks could impact the successful absorption and sustainability of climate-related investments and projects. Notwithstanding the foregoing, there are still lingering risks that could affect the effective implementation of the Investment Plan. Summarised these may include but not limited to:

1. **Institutional and Governance Capacity:** As nature, people, and climate change issues typically involve investments in multiple sectors i.e. (agriculture, environment, forestry, water management, etc.), weak inter-institutional coordination has potential to lead to inefficiencies, duplications, or gaps in implementation. For example, decentralization in Zambia is currently devolving to local level governance processes. However, capacity of local governments to absorb and implement investments appear to be limited, especially in rural areas, where weak local governance structures can impede project execution at the grassroots level, especially when it comes to issues of procurement and fiduciary management for which mitigation measures are required in the design of the IP and accompanying sub projects to ensure timely implementation.
2. **Monitoring and Evaluation (M&E) Expertise** There will be need to improve monitoring and evaluation and results tracking for NbS. Climate and environmental programs require robust M&E frameworks to track outcomes. Zambia might face challenges in having enough skilled personnel to implement these frameworks, to monitor impacts and adapt sub projects based on real-time data.
3. **Infrastructure and Resource Limitations:** -In rural settings poor or inadequate infrastructure, such as transport, energy and water supply systems, can hinder absorption of climate and environmental investments. These gaps can slow down the implementation of sub projects or limit their effectiveness. Adoption of climate-smart technologies in agriculture, forestry, or renewable energy can be challenging where inadequate infrastructure, expertise or financial resources to support these innovations is lacking.
4. **Environmental Degradation of Natural Resources:** Zambia's absorptive capacity is significantly challenged by ongoing environmental degradation, that includes deforestation, soil erosion and water resource depletion. These pressures undermine effective investments in nature-based solutions and climate resilience sub projects. Severely degraded ecosystems require longer timelines

and higher initial inputs for restoration. The country's vulnerability to climate change impacts, such as droughts, floods and changing rainfall patterns, currently being experienced further strains local institutions and communities, making it difficult to implement and sustain sub projects at community level.

5. **Capacity for Long-Term Planning:** Effectiveness of climate investments like ZNPC depends on long-term planning. However, Zambia's capacity for sustaining these investments can be hindered by short-term Governance priorities. Additionally, weak enforcement of environmental laws, even with sound policies, can impede climate programs, especially efforts to curb deforestation, reduce emissions or protect biodiversity. Complex, outdated, or unharmonized regulations in areas like land use, water rights and forest management, along with insecure land rights, further hinder the absorption of climate and nature-related investments.
6. **Capacity for Social Inclusion:** Effective social inclusion, of local communities, especially marginalized groups like women, youths and smallholder farmers, must be top priority in decision-making. Without inclusive engagement, programs risk conflicts and lack of local support, undermining long-term sustainability. Awareness is critical, as communities with low awareness may struggle to engage effectively with climate programs, limiting their capacity to absorb and benefit from such initiatives.
7. **Relevant Policies:** Zambia has related to climate change, biodiversity, and rural development, but weak governance and policy fragmentation hinder effective implementation. Similarly, the country faces significant skills gaps in human resources and technical capacity, particularly in climate science, biodiversity conservation, environmental management, and sustainable development. This shortage limits the ability to efficiently absorb investments. Many local councils lack the capacity to adopt and manage new climate-resilient technologies or sustainable land use practices, further constraining the successful implementation and maintenance of sub projects. On the other hand, conflicting policies and laws pose significant challenges to the implementation of nature-based solutions (NbS) for climate change mitigation and adaptation. For instance, the Cotton Act (Chapter 227) mandates the uprooting and burning of ratoon cotton stalks post-harvest, which contradicts NbS principles that advocate for their use in enhancing soil fertility through biochar and alternative energy production. Additionally, the Farmer Input Support Programme (FISP) promotes conventional farming methods, further undermining the potential benefits of NbS. These inconsistencies hinder effective climate action and sustainable agricultural practices.
8. **Financial Management and Resource Allocation:** Efficient management of climate funds require strong financial systems to allocate, track and account for spending. Weaknesses in budgeting, procurement, and financial reporting can undermine the effective use of investment funds.

### 7.3 ABSORPTIVE CAPACITY FOR NPC PROGRAMME AND ASSOCIATED INVESTMENTS

In the context of ZNPC IP, absorptive capacity refers to the ability of a country to effectively manage, utilize and sustain investments flows aimed at promoting environmental sustainability, community welfare and climate resilience. It is acknowledged in the IP that macroeconomic issues such as inflation, currency devaluation and high debt levels can diminish Zambia's ability to absorb and maintain substantial investments in climate resilience and environmental protection. If the government does not prioritize climate and environmental initiatives, it may lead to ineffective implementation, insufficient funding or inconsistent policies. In Zambia's case preliminary estimates for 2023 show a real GDP growth of 5.4%, slightly up from 5.2% in 2022, primarily driven by the information and communication technology and construction sectors. However, crucial sectors like agriculture and mining experienced negative growth. Additionally, external debt rose by 4.4% to \$14.57 billion by the end of 2023, up from \$13.96 billion in 2022, largely due to increased disbursements from multilateral creditors. This debt



burden poses a significant risk for Zambia in providing counterpart funding for sub projects that rely heavily on external financing, especially without proper planning for long-term sustainability. Consequently, ensuring the financial and technical capacity to sustain projects after initial investments will remain a major challenge.

Table 7 below provides a quick visual of Zambia's absorptive capacity and experience in budget execution.

**Table 7: Zambia's Absorption capacity**

<b>Year</b>	<b>Total Budget</b>	<b>Total Expenditure</b>	<b>Absorption Rate</b>
<b>2019</b>	97,284,367,363	66,503,764,985	68%
<b>2020</b>	27,783,423,691	87,988,810,083	69%
<b>2021</b>	58,596,855,632	119,913,506,788	76%
<b>2022</b>	175,242,643,149	133,758,040,041	76%
<b>2023</b>	78,449,779,438	156,548,922,235	88%
	<b>737,357,069,273</b>	<b>564,713,044,132</b>	<b>77%</b>

**Source: MoFNP Financial Annual Reports: 2019-2023**

Even though the overall absorption percentage is relatively high, the general project expenditure of funds from cooperating partners by public institutions, particularly government ministries, has been low for several reasons, which include delayed disbursements due to tight fiscal space, budget misallocation, and slow responses to partner requirements. Further the low absorption rate can also be attributed to procurement delays, inefficient project and contract management, and inadequate adherence to existing financial management and procurement standards. This situation underscores the necessity for ongoing capacity building in public financial management and procurement procedures<sup>27</sup>. For the ZNPC IP a Project Management Team (PMT) will be established, led by the Ministry of Green Economy and Environment (MGEE), which will be responsible for coordinating and supervising the implementation activities given its experience.

To ensure the success of the ZNPC IP, it will therefore be essential to address the absorptive capacity issues outlined. This will include strengthening institutional governance, improving technical and financial management, and fostering community participation. Additionally, long-term planning, robust regulatory frameworks, with private sector engagement will be crucial for building resilience and achieving sustainable development goals that will be embedded in the ZNPCIP. It is recognized that the private sector can play a significant role in supporting climate resilient investments, especially in renewable energy, sustainable agriculture and eco-tourism. Zambia's capacity to absorb private sector investment in these areas may be limited by regulatory barriers, lack of incentives, or insufficient collaboration between the public and private sectors.

## **8.0 MONITORING AND EVALUATION**

To effectively monitor and evaluate the implementation of the NPC investment plan, a comprehensive M&E framework will be developed. The framework will emphasis on regular progress monitoring and periodic in-depth evaluation to ensure that expected outputs, outcomes and impacts are achieved. The Ministry responsible for National Development Planning will provide overall oversight on M&E of

<sup>27</sup> SREP Investment Plan For Zambia Revised

sectoral plans and programmes on climate change. The Ministry responsible for Environment and Natural Resources will facilitate the M&E of climate change plans and projects. The M&E will be reviewed periodically to take on board new and emerging issues related to climate change. The Investment Plan will be monitored through the Theory of Change discussed below. The overall approach will be build on the Zambia's experience with the PPCR implementation, including a national IP-level monitoring and evaluation approach involving an important participatory mechanism – a national multi-stakeholder workshop – in which the country will validate its expected IP results, monitor and assess progress across projects and thematic areas, and discuss implementation updates. This approach is based on the participation and contribution of different stakeholder groups representing diverse project-level, program-level, and national constituencies.

## 8.1 THEORY OF CHANGE

The Theory of Change is premised on the identification of barriers against the attainment of the desired goal for a low carbon climate resilient economy, strengthened adaptive capacity and resilient communities, promoting sustainable, diversified livelihoods, and supporting long-term economic development in the targeted landscapes. To this effect, barriers that include static environmental policies, high rate of deforestations, over dependence of the communities on natural resources, and gender inequality and social exclusion, were derived through a root cause analysis. It is envisaged that the solutions to these barriers that should mainstream GESI responsive measures would bring about short term results such as increased opportunities for diversified local livelihoods and reduced dependency on ecosystem; increased investments in climate information on infrastructure, human capacity and technology; and improved climate smart agriculture practices; better protected forests, reduced deforestation and increased productivity among other short term results. The short term outputs would then translate into the intermediate and sustained results among them improved productivity in agriculture, forestry, fisheries, livestock, conserved biodiversity and reduced disaster risk. However to move towards the illustrated results, deliberate investment actions using a landscape approach<sup>28</sup> should be undertaken to bring about long term desired outcomes of: i) Sustained diversified and inclusive Livelihoods, Enhanced resiliency to climate change and minimized vulnerability to climate risks; ii) Protected, Restored and conserved Ecosystems. managed and minimized human driven environmental changes caused by agriculture, mining, wildlife resources and unsustainable harvest forest resources; iii) Accessible and reliable climate information and services mechanisms for improved disaster and risk mitigation planning; and iv) Investment in Green Infrastructure and Human Resources for increased availability and uptake of green technologies to support NbS development.

### 8.1.1 Guiding Principles

The development of the presented TOC was informed by the guiding principles explained below. Each NbS action/intervention was well thought out using the Transformative Change CIF Principles<sup>29</sup>/matrix where each matrix was fully analyzed and scored to determine the top best interventions that met the scoring criteria. A score of 55 was the highest and interventions that scored 40 and above were selected. Throughout the implementation of the IP intervention, particular focus will be placed on the poorest and most vulnerable groups such as women (inclusive of female headed households), youth, and persons with disabilities, the elderly and marginalized communities.

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<sup>28</sup> A landscape approach deals with large-scale processes in an integrated and multidisciplinary manner, combining natural resource management with environmental and livelihood considerations. The landscape approach also factors in human activities and their institutions, viewing them as an integral part of the system rather than as external agents. (FAO 2012).

<sup>29</sup> Relevance; 2.Potential for creating Systemic Change;3. Speed for Implementation; 4. Adaptive sustainability; 5. Climate Change Resilient Development; 6. Financial effectiveness; 7. Value for Money; 8. Mobilization Potential and 9. Alignment to Sustainable Development Goals  
Zambia Nature People Climate Investment Plan, Ministry of Green Economy and Environment

### 8.1.2 Theory of Change Assumptions

The successful implementation of the theory of change will depend on the following assumptions:

**Stakeholder Collaboration:** Effective collaboration among diverse stakeholders, including governmental, NGOs, private sector, communities will enhance the implementation and scaling up nature-based solutions. **Monitoring and Evaluation:** Robust monitoring and evaluation framework will be in place to track progress, measure impact; and enable adaptive management of nature-based projects. **Knowledge Sharing:** Best practices and lessons learned from nature-based climate solutions will be effectively shared and adopted across different 17 targeted districts across the landscape. **Financial Investment:** Sufficient financial resources will be available and effectively allocated to the proposed nature-based climate solutions attracting both public and private sector.

**Climate Change:** Proposed nature-based solutions will help communities and ecosystems adapt to changing climate conditions, reducing vulnerability and enhancing resilience. **Policy Support:** Government and policy makers will create and enforce supportive policies and regulations that facilitate the implementation and scaling up the proposed nature-based solutions. **Community Engagement:** Local communities will participate in and support the conservation and restoration projects, recognizing the benefits of their livelihoods and wellbeing. **Biodiversity Benefits:** Increasing biodiversity through nature-based interventions will enhance ecosystem services and resilience supporting both climate adaptation and mitigation. **Ecosystem Resilience:** Restored and conserved ecosystems will be resilient to climate change impacts and can continue to provide essential services such as carbon sequestration, water filtration, and habitat for biodiversity. **Carbon Sequestration:** Nature based solutions like reforestation; afforestation and wet land restoration will sequester significant amount of carbon contributing to climate mitigation goals. **Gender Inclusiveness:** Whichever stakeholder operating in targeted landscapes should ensure that their undertaking is gender and social inclusive.

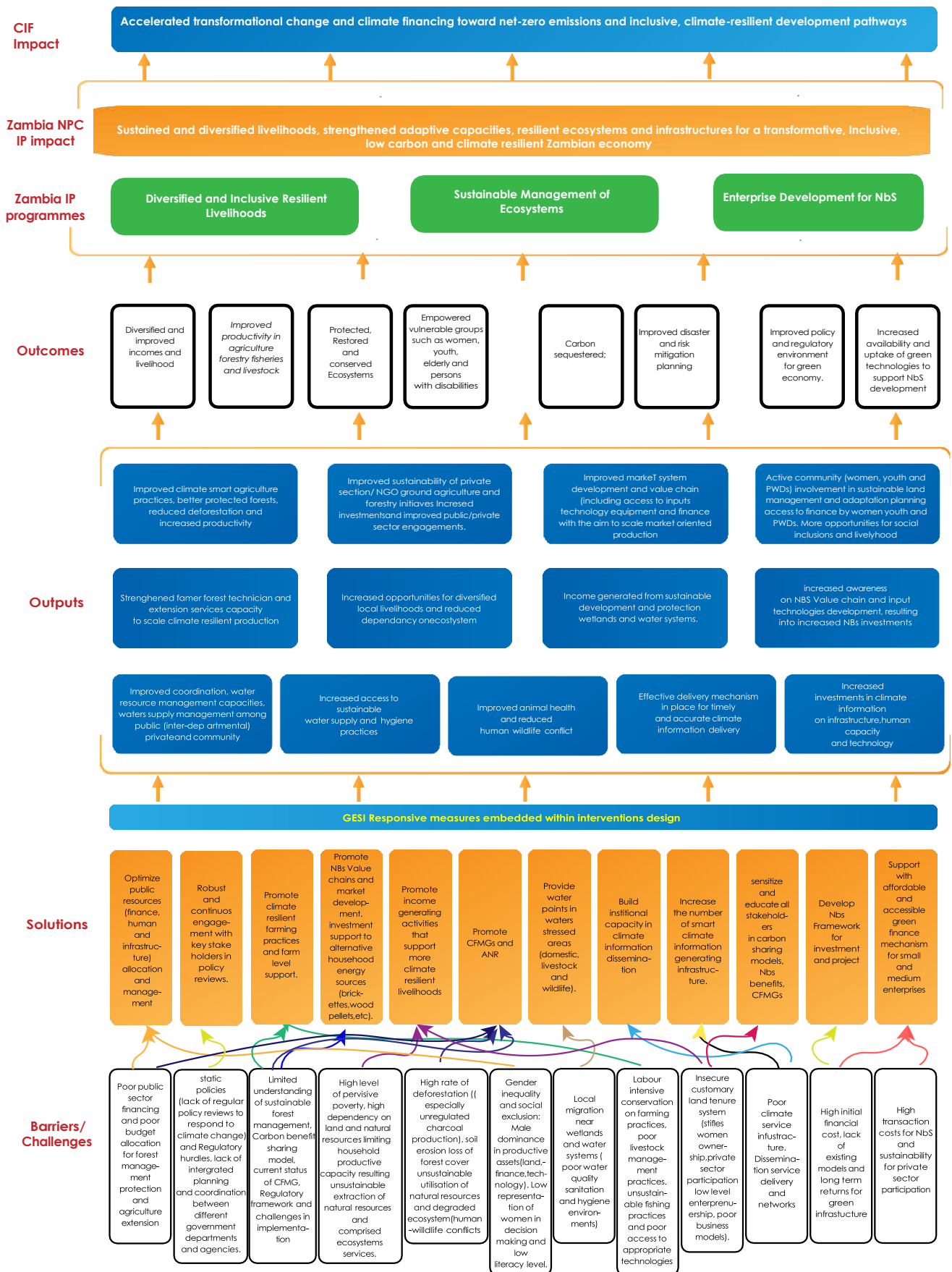


Figure 8: Theory of Change

## 8.2 INTEGRATED RESULTS FRAMEWORK

Provided in Table 8 is the Integrated Results Framework

**Table 8. Zambia Nature People Climate Integrated Results Framework**

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Baseline	Target (Date)	Assumptions	Evaluation and Learning Approach Key Areas
CIF-LEVEL IMPACTS									
Accelerated transformational change and climate financing that enable progress toward net-zero emissions and adaptive, climate resilient development pathways, in a just and socially inclusive manner	CIF 1. Mitigation: GHG emissions reduced or avoided	Mt CO <sub>2</sub> e	Calculated using areas from NPC CORE 2 and standard emissions factors	Annual and lifetime by project and report on Zambia's NPC-IP	MGEE	TBD	Cumulative (2035): 2.69 Direct: 2.69 Indirect: TBD	Avoided GHGs will need to be calculated using an agreed methodology using the land area from the various initiatives incorporated under NPC CORE 2.	This impact area will be measured through CIF-driven evaluation and learning activities, which will not be the direct responsibility of MDBs for annual reporting.
	CIF 2. Adaptation: Strengthened climate resilience of land (ha), people (#(number of women and men), youth and physical assets (\$)) through a CIF supported adaptation mechanism	Ha, #, \$	Project reports	Annual and lifetime by project and report on Zambia's NPC-IP	MGEE	TBD	Land: 5,800 ha  People: 220,000 (45% women, 20% youth)	To be disaggregated by ecosystem type (forests, wetlands, farmlands), and gender	

	CIF Beneficiaries: Number of women, youth, PWDs, elderly and men benefiting from CIF investments	3. #	Project reports	Annual and lifetime by project and report on Zambia's NPC-IP	MGEE	TBD	Total: 625,300 (45% women 20% youth)  Direct: 625,300 (45% women 20% youth) Indirect: TDB		Transformative gender impacts will be assessed through evaluative and learning based approaches, in combination with monitoring data on the following areas: increasing access to climate finance for women and their organizations, promoting women's leadership and participation in the design and implementation of natural solutions.
	CIF Co-Finance: Volume of co-finance leveraged (USD)	4. \$		Annual and lifetime by project and report on Zambia's NPC-IP	MGEE	0	Total: xx USD million  AfDB: xx USD million World Bank: xx USD million IFC: xx USD million Others: xx USD million		New and additional climate finance mobilized: As CIF-NPC resources are intended to have a catalytic effect on climate and nature finance in Rwanda, various evaluation and learning approaches will be used to better understand CIF's contribution to mobilizing public and private resources for ecosystem protection, restoration and more sustainable and diverse livelihood opportunities.
Result Statement	Indicator	Unit	Data Source/Means of Verification	Frequency	Responsibility	Baseline	Target	Assumptions	Evaluation and Learning Approach Key Area
ZAMBIA NPC PROGRAMME LEVEL- IMPACTS									
Improved use and management of land and other natural resources for low-carbon and climate-resilient livelihoods and business	Various impact proxies including: Poverty rates (%)disaggregated by sex Prevalence of moderate and severe food insecurity (%) disaggregated by sex National / provincial agricultural land (%) National / provincial rates of	See adjacent column on the left	National statistics and MRV systems; macro-level indicators; World Bank (or other MDB) country data	Semi annual	MGEE DMMU	TBD	TBD	Farmer will adopt the smart agriculture practice	We will seek to understand the effectiveness, adoption, sustainability, and impact of the smart agriculture and Sustainable forest management practices among rural communities.



	deforestation (ha per year) National / Provincial rates of land degradation (ha per year) National / provincial rates of erosion (ha per year)								
<b>ZAMBIA NPC PROGRAM LEVEL-OUTCOMES</b>									
(A) Improved Management of Natural Resources	NPC CORE 1  Mitigation: GHG emissions reduced or avoided or enhancement of carbon stocks	mt CO2 eq) – direct/indirect	Survey and Mapping	Annual	MGEE Water Resources Management Agency	TBD	Cumulative (2035): 2.69  Direct: 2.69 Indirect: TBD	Avoided GHGs will need to be calculated using a transparently stakeholders agreed upon methodology incorporated under NPC CORE 2	Type of Land scape that yield moe carbon sinks
	NPC CORE 2. Land Area: Area of land or other physical environments covered by climate-responsive natural resource management practices	ha	Remote sensing and other available spatial collection tools	Annual	MGEE	TBD	Total: 105,800 ha  Mitigation: 100,000 ha Adaptation: 5,800 ha  Direct:105,800 Indirect: 0	Land area targeted will include initiatives related to forestry, CSA, and the rehabilitation of wetlands and the data will be disaggregated by ecosystem type and adaptation vs. mitigation.	Motivation for community involvement in the conservation and restoration of forest and wetlands

(B) Increased adoption of sustainable supply chains	NPC CORE 3. Sustainable Supply Chains: Number of firms, enterprises, associations, including XX% of those led by women, or women groups that have adopted a sustainable supply or value chain approach (#)	#	Project Report	Annual	Office of the President-Disaster Risk Management Unit	TBD	TBD	Sustainable supply chains and value approach will have embedded value for money and that the Nbs technologies are suitable as well as easily adaptable to the intervention land scapes	Signals of transformational change and related learning activities might focus on the interlinkages of individual supply chains, such as those featuring commodity certification standards, with the broader landscape or ecosystem in which they operate. Special attention may also be given to how various forest, farm and wetland communities and households with limited access to productive assets stand to gain or lose in the proce
	NPC CORE 4. Policies: Number of gender responsive policies, regulations, strategies amended	#	MDB project results data			0	Total: TBD National: TBD Sectoral: TBD Local: TBD		
	NPC CORE 5 (= CIF 4). Co-Finance: Volume of co-finance leveraged	US\$	MDB project results data			0	Total: xx USD million AfDB: xx USD million World Bank: xx USD million IFC: xx USD million Others: xx USD million		
(F) Rural communities Peoples' sources of livelihoods improved	NPC CORE 6. Livelihoods: Number of people receiving livelihood benefits (of which XX% FHHs)	#	Project and LA Annual District Report	Annual	Local Authorities MGEE	TBD	Total: 515,000 (45% women) Direct: 515,000 (45% women) Indirect: TBD	There will be predicable and stable microeconomic environment in the country	Most suitable Nbs business model preferred

							Mitigation: 295,000 Adaptation: 220,000	Enabling plocie environnement for business development	
(D) Increased access to capital and budgeting for sustainable uses of land and other natural resources	NPC CORE 7. Jobs: Number of jobs created – direct and indirect for women, men, youth, PWDs	#	Zamstat MSME Reports	Annual	MSME MoFND	TBD	Total: 6,000 (45% women)  Direct: 6,000 Indirect: TBD  Permanent: TBD Temporary: TBD  Based on 200 Jobs per province and per year <sup>30</sup>	There will public and private sector investment in th Nbs development	Opportunities Nbs Investment
	OPTIONAL: Increase in annual mean household income/ consumption (of which for FHHs)	Currency	Zamstat Quaterly Bulletin	Annual	MoFNP	xx% <sup>31</sup>	25% <sup>32</sup>	Communities will have interest to take up alternative sources of income	
	NPC CORE 8. Private Sector Investments: Number (#) and value (\$) of CIF-supported	#	MDB project results data	Annual		TBD	TBD		

<sup>30</sup> This based on employment projection for the country as projected in the 8<sup>th</sup> NDP

<sup>31</sup> Jesuit Center for Theological Reflection (JCTR) quarterly Projections

<sup>32</sup> This is based on MoFNP projection in terms of annual economic growth and Inflation

	private sector investments in sustainable land or natural resource management – mitigation/ adaptation								
G. Business case for private sector investments demonstrated	NPC CORE 9 (= CCV 1). Innovation: Number of innovative businesses, entrepreneurs, technologies, and other ventures including those led by women, demonstrating a strengthened climate-responsive business model	#, USD	Project Report	Annual	ZDA	TBD	TBD	Private sector Financiers perceive climate-smart projects as financially attractive, offering competitive risk-adjusted returns and potential for long-term growth.	Tracking of private sector investments for mitigation vs. adaptation to generate lessons on increasing the deployment of private sector adaptation financing toward the Paris Goal of 50/50 parity in total climate financing.
ClF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Baseline	Target (Date)	Assumptions	Evaluation and Learning Approach Key Areas
Zambia NPC PROGRAM-LEVEL Co-Benefits									
Social, economic, and environmental development co-bene	CO-BENEFIT 1. Green Growth: Economic growth of targeted sectors or industries within the landscape or ecosystem Indictors such as: Number of inclusive	Ha	Project Reports	Annual	Ministry of Agriculture Department of Forestry	TBD	TBD	Land, agriculture , Forest policies will be fully operational  CFMG guidelines will be reviewed and barrier for implementation of addressed  Benefit Sharing Mechanism for Carbon trading will be determined	The impact of the enabling policy and regulatory environment on agriculture and forestry projects  CFMG governance and leadership dynamics  Impact of literacy and capacity building on women youth PWDs and elderly

	<p>Community Forest Management Groups or producer groups established or strengthened, with a focus on ensuring women's participation in leadership and decision-making</p> <ul style="list-style-type: none"> <li>• Number of new or strengthened value chains established</li> <li>• Increase in the volume of agricultural and forestry products sold through market channels, disaggregated by gender of producers</li> </ul>								
	CO-BENEFIT 2. Just Transition: Social Inclusion and Distributional Impacts	#/Species Type	District /Provincial statistics	Annual	MGEE MOA MOE Project Implementers	TBD	TBD	<p>There will be willingness and full community participation</p> <p>There will be adequate human and financial resources investment</p>	<p>Interest and willingness for sustainable management of Natural Resources</p> <p>Knowledge and the gap to be addressed</p> <p>Opportunities for income generation from tree planting</p>

	<p>Indictors such as:</p> <ul style="list-style-type: none"> <li>• Number of extension workers trained on climate-resilient practices for high-value crops and forestry, of which XX% women disaggregated by gender</li> <li>• Number of people of which XX% women receiving livelihood co-benefits (monetary or non-monetary)</li> <li>• Improved livelihoods of communities directly surrounding the parks/forested areas (no interventions, % increase in earnings, disaggregated by sex, livelihood increase</li> </ul>							<p>multi-stakeholder engagement and sensitization at target district and community levels</p>	
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	<p>indicator)</p> <ul style="list-style-type: none"> <li>Development of community enterprise development (no. enterprises, increased earnings, of which % female-led enterprises)</li> </ul>								
	<p>O-BENEFIT 5. Biodiversity Indictors such as: Improved habitat:</p> <ul style="list-style-type: none"> <li>Improved in the number and type of flora and fauna offering beneficial ecosystem services (Type and number)</li> <li>Improvement of indigenous trees to provide palatable fruit and food (no. trees &amp; no. ha covered)</li> <li></li> <li></li> </ul>	#	District provincial statistics, MDB project estimates	/	Mid-term and lifetime	implementing Agencies	TBD	TBD	

	<p>Forest cover: NDVI (Normalized Difference Vegetation Index); measure forest cover change (e.g., density, aka increasingly closed canopy); hectares of farmland in the project landscapes with increased tree density</p> <ul style="list-style-type: none"> <li>• Hectares of biologically significant area demonstrating improved biophysical condition</li> <li>• Number and size, shape of forest patches</li> <li>• Hectares of ecologically important land in the project landscape under restoration</li> </ul>								
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	Reduction in human and animal conflicts (number of water points established in the GMAs)								
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### 8.3 ANTICIPATED PROGRAMME LEVEL IMPACTS

The anticipated program-level impacts of the Zambia Nature, People, and Climate Change Investment Plan (ZNPC-IP) include, but not limited to the following broad thematic areas:

**Enhanced Climate Resilience:** by improving the capacity of communities and ecosystems to withstand climate-related shocks, leading to reduced vulnerability and increased adaptive capacity in the three (3no.) targeted landscapes of Central, Copperbelt and North Western Provinces, in addition to Biodiversity Conservation, strengthened protection and restoration of natural habitats, that will result in improved biodiversity and ecosystem services.

**Sustainable Livelihoods:** Creation of new income-generating opportunities through nature-based solutions, to support local economies and the enhancement of food security through the adoption of sustainable agricultural and land-use practices, leading to better soil health and increased agricultural productivity.

**Increased Investment in Green Initiatives:** that will attract both domestic and international investments in climate resilience and environmental sustainability projects. Mitigation of Greenhouse Gas Emissions through reduction in emissions by promoting low-carbon practices and technologies.

**Strengthened Institutional Frameworks:** Enhanced capacity of government and local institutions to manage and implement climate-related initiatives effectively. Increased involvement of local communities in decision-making processes, fostering ownership and stewardship of natural resources, through enhanced awareness and education of climate change issues and the importance of nature-based solutions, that will lead to greater community action and support. The programme-level impacts of the IP will incorporate gender-specific and social inclusion impacts. Specifically, household income levels should be tracked separately for female- and male-headed households, ensuring a clear understanding of the economic benefits and challenges faced by different groups. Additionally, the impacts on other vulnerable and disadvantaged groups, such as youth, persons with disabilities, and marginalized communities, should be measured to ensure equitable outcomes. These impacts collectively aim to foster a sustainable and resilient future for Zambia, addressing both environmental challenges and socio-economic needs, while developing policies that align to environmental, social, and economic goals, which promote sustainable development across landscapes.

### 8.4 TRANSFORMATIONAL CHANGE

#### NbS Transformation Changes

Transformational change can also advance other key focus areas included in the NPC investment criteria, such as the potential for reducing or avoiding GHG emissions; the potential to significantly contribute to the principles of just transition; the gender equality and social inclusion impact potential; and the transformational climate finance and development impact potential. Potential for transformation change for energy activities were assessed using the elements to include relevance, potential for creating systemic change, speed of implementation, scale and adaptive sustainability and are elaborated below.

#### (i) Relevance

Implementing sustainable forest management (SFM) as a nature-based solution is important due to its numerous benefits for environmental biodiversity, climate resilience, and human communities. SFM helps reduce greenhouse gas (GHG) emissions by preventing deforestation and degradation caused by charcoal burning, a major source of carbon emissions in targeted areas. Nature-based solutions in

agriculture offer tools and technologies for conservation agriculture with integrated farming systems, addressing labor reduction challenges. Embedding GESI principles in environmental standards and policies ensures that SFM and other nature-based solutions are inclusive and accessible, giving women, youth, and marginalized groups equal access to sustainable practices and economic opportunities. However, green technologies for commercial, emerging, and small-scale farming communities remain largely inaccessible and unaffordable. A successful transition to alternative energy sources relies on changing behaviors that favor the use of wood fuel and other natural biomass.

## **(ii) Potential for Creating Systemic Change**

There is considerable potential for implementing sustainable forest management (SFM) practices as nature-based solutions across environmental, social, and economic dimensions. SFM enhances the capacity of forests in targeted landscapes to sequester carbon, thereby mitigating climate change. It promotes biodiversity conservation by protecting habitats, maintaining ecosystem balance, and ensuring the survival of various species, including endangered ones. Additionally, prioritizing training for women and marginalized groups in clean energy and sustainable forest practices enhances systemic change by involving these groups in new economic roles and supporting their empowerment. SFM supports the livelihoods of local communities through sustainable income-generating activities, such as non-timber forest products (NTFP) and sustainable timber harvesting.

## **(iii) Speed of Implementation**

The implementation of sustainable forest management (SFM) in the landscape is facilitated by a supportive policy and regulatory framework established by the Forest Act of 2015. Strong traditional leadership enhances stakeholder engagement, which is vital for the successful and swift adoption of SFM. Engaging women, youth, and marginalized groups in SFM implementation speeds up adoption through community buy-in and local ownership, facilitated by capacity-building opportunities in leadership and resource management. Applying nature-based solutions (NbS) requires a thoughtful approach to behavioral change for long-term adaptation and sustainability. However, green technology innovations are relatively new in the market, making them less accessible and affordable in many regions.

## **(iv) Scale**

To effectively scale up sustainable forest management (SFM) in the targeted landscape, challenges like land tenure and resource constraints must be addressed. Approximately half of the targeted districts exhibit higher scalability rates than the other half due to factors such as low population density, limited information technology, lower outreach numbers, inadequate road infrastructure, and underdeveloped markets. Integrating GESI into scaling efforts, including involving women, youth, and PWDs in decision-making and implementation, helps overcome these barriers by ensuring that scaling efforts consider diverse needs and benefit all community members equitably. These issues will require more time and effort to facilitate market development and achieve scaling.

## **(v) Adaptive Sustainability**

The adaptive sustainability achieved through implementation of sustainable forest management (SFM) as a nature-based solution will be significant. SFM enhances resilience by promoting biodiversity conservation, sustainable livelihoods, economic diversification, and adaptive management practices. Regular monitoring of GESI impacts ensures that policies and practices remain inclusive and adaptable to the needs of marginalized groups, strengthening the program's ability to sustain long-term environmental, social, and economic benefits. By integrating traditional knowledge, encouraging community engagement, utilizing technological advancements like GIS applications, and securing

strong policy support, SFM will yield long-term environmental, social, and economic benefits in the landscape.

#### **(vi) Climate-Resilient Development**

Sustainable forest management (SFM) as a nature-based solution has significant potential to enhance resilience to climate change and reduce greenhouse gas (GHG) emissions. It promotes biodiversity conservation of water and soil resources, supports community adaptation, and enhances carbon sequestration, provide a comprehensive approach to climate change mitigation and adaptation. Training women in clean energy technologies, such as solar, biogas, and improved cookstoves, directly supports climate-resilient development by equipping them with skills that reduce GHG emissions, promote sustainable energy use, and improve household health. The proposed technologies within NbS are environmentally friendly and support climate-smart agricultural practices, resulting in smaller fields with higher yields that minimize GHG emissions from agriculture. Additionally, transitioning from diesel-powered generators to cleaner energy sources for operations will significantly reduce GHG emissions.

#### **(vii) Financial effectiveness**

The NPC program aligns with the broader CIF impact statement and its commitment to "accelerated transformational change and climate finance" aimed at achieving net-zero emissions and fostering adaptive, climate-resilient development pathways in a just and socially inclusive manner. The program addresses the impacts of climate change while improving livelihoods through the sustainable use of land and natural resources, focusing on key CIF investment criteria. Investing in GESI-inclusive projects, such as women-led renewable energy and clean technology initiatives, enhances financial effectiveness by creating broader socio-economic benefits that reach diverse community groups. These criteria include enhancing potential for transformational change, GHG emission reduction, just transition, financial effectiveness, implementation potential, gender equality, social inclusion impacts, and overall development impacts. Financial effectiveness is evaluated with an emphasis on value for money and mobilization potential, which is further detailed.

#### **(viii) Sustainable Development Goals (SDGs)**

The project will impact several Sustainable Development Goals (SDGs): SDG 3: - that promotes health and well-being, particularly for women and girls, by reducing their exposure to smoke from cooking. SDG 8: - that ensures access to affordable, reliable, sustainable, and modern energy sources in rural areas, through sustainable development. SDG 13: - that contributes to climate action by reducing greenhouse gas emissions from wood fuels, by aiding efforts to combat climate change and limit global warming. SDG 15: - which aims to preserve and restore ecosystems, protect biodiversity, and promote sustainable land use, contributing to the conservation of terrestrial ecosystems, halting deforestation, and restoring degraded lands. The GESI approach within the IP directly supports these goals by empowering marginalized groups and creating gender-responsive pathways for engagement, enhancing the program's contribution to a just transition and climate-resilient development for all.

### **8.5 JUST TRANSITION AND INCLUSIVITY ASPECTS**

Some of the NPC IP outcomes are focused on reducing deforestation and conserving biodiversity. Communities whose livelihoods depend on collection of timber and non-timber forest products like caterpillar harvesting will be affected as these outcomes are being pursued under the programme. As this will lead to loss of income. To mitigate this effect, there is need to focus more on strategies to create alternative income sources (i.e. non timber products value



chain development like bee keeping and mushroom) for the affected communities. It will be crucial to incorporate GESI-responsive strategies that consider the unique needs and barriers faced by marginalized groups, including women, youth, PWDs, and the elderly, in accessing alternative livelihoods and adapting to new income opportunities. Specifically, the effects related to forestry, agriculture, water and energy are elaborated below.

### **Forestry**

Implementation of sustainable Forestry Management in the targeted landscape will create sustainable livelihoods for local communities through activities such as Non-Timber Forestry Products (NTFP), sustainable timber harvesting and eco-tourism. These jobs are more stable and less environmentally damaging compared to unsustainable practices like slash and burn agriculture or illegal logging. By providing sustainable economic opportunities, fostering community empowerment, including marginalized voices in decision-making processes promoting social equity and enhancing environmental resilience, SFM will contribute to a fair and inclusive transition to carbon and climate resilient economy. The involvement of women, youth, PWDs, and the elderly will be prioritized to ensure that benefits are shared equitably and that all community members can participate in sustainable forestry initiatives.

### **Agriculture**

The upliftment of women and youth, persons with disability and elderly in the communities would significantly contribute to agriculture production growth, directly impacting the socio-economic and physical conditions of working in agriculture sector. A primary objective of the IP is to promote women's leadership within community organizations, where their voices have traditionally been underrepresented. This will be achieved by directly addressing structural and societal barriers that limit women's participation. Targeted initiatives will include the establishment of community-based women's networks and advisory groups to ensure that women's perspectives and needs are incorporated into planning and implementation.

### **Energy**

Sustainable cooking solutions are based on the principles of just transition as the eco-system with alternative source of energy is being developed and made accessible, the communities are being transforming in their attitude, value system and behaviour towards adapting to alternative approaches in their daily lives with increased emotional security. The adoption of alternative, cleaner energy solutions, such as charcoal briquettes, will take into account both producer and consumer perspectives, particularly ensuring access for marginalized groups who rely on traditional fuels. Approaching from producer and consumer behaviour and adaptation perspective, offering alternatives that are cleaner energy sources such as charcoal briquettes are all well-fitting with just transition phase.

### **Water**

Implementation of community managed weirs and earth dams would ensure diverse community representation, including marginalized groups in decision making processes thus addressing social inequalities and ensures that benefits are widely shared. The construction and maintenance of these infrastructures would create local employment opportunities thus boost local economy. The implementation of these interventions will benefit all stakeholders equitably, particularly local communities and vulnerable groups. Local communities would be involved in the planning, implementation, and management of water points fosters ownership and ensures that the intervention is aligned with community needs and priorities. The skills development to be provided through training and capacity-building opportunities related to water management, tourism, and conservation would

create employment and enhances local skills and thus would promote economic empowerment across all community groups.

## **8.6 OTHER ANTICIPATED IMPACTS**

### **GHG Emissions Reduction**

Implementation of sustainable forest management and forest fire management will result in annual reduction of greenhouse gases amounting to 2,666,893 tons CO<sub>2</sub> equivalent. For a period of 10 years, an estimated 2,666,893 tons CO<sub>2</sub> equivalent of GHG emission will be reduced from sustainable forest and fire management. Assuming the fire disturbances are reduced from 20% of area is affected by fire disturbances to 10% as result of project intervention. The involvement of women, youth, and marginalized groups in forest management will be prioritized, providing them with training and roles in sustainable practices, which will not only reduce emissions but also promote community empowerment. Implementation of sustainable conservation farming will result in annual reduction of greenhouse gases amounting to 21,980.36 tons CO<sub>2</sub> equivalent. Total GHG emissions reduction from agriculture and forest nature-based solutions interventions was estimated at 2,688,872.8 tons CO<sub>2</sub> equivalent. The methodology used to estimate the emissions reduction were 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. To support these initiatives, marginalized groups, including women and youth, will receive targeted training on sustainable agriculture and conservation practices, enabling them to actively participate in climate resilience activities and enhancing their economic opportunities.

### **Adaptation Impact**

Number of beneficiaries about 220,000 farmers, in conservation agriculture and improved animal feed. About 13,000 households will benefit from alternative livelihoods to charcoal production in forest areas with a focus on ensuring these opportunities are accessible to women, youth, and marginalized communities. About 250,000 will benefit from clean cooking solutions. with training initiatives specifically directed at women to support their adoption of cleaner energy alternatives and reduce health risks from traditional cooking methods. Recognizing the critical role of women in managing household energy needs, the IP will prioritize training women in the production and use of alternative and clean energy sources. This includes initiatives such as solar energy, biogas, and improved cookstoves. Through targeted training programs, women will gain technical skills that can open pathways to sustainable employment, support clean energy adoption, and reduce reliance on environmentally damaging practices. This approach will also have the added benefit of improving household health and reducing environmental impacts, further aligning with climate resilience goals. About 100,000 hectares will be put under sustainable forestry management over a five-year period. About 5,800 hectares will be put under woodlot over the same period. About 30 boreholes with solar pumps will be drilled for the communities for irrigation and livestock. with the active involvement of community members, particularly women and youth, in the management and maintenance of these water resources. Three dams/weirs will be constructed. About 300 farmers will be supported with rain water harvesting. The IP will ensure that marginalized groups, including PWDs and the elderly, benefit equitably from these resources, thereby enhancing community resilience through inclusive infrastructure development.

## 8.7 PROPOSED APPROACHES FOR TRACKING AND EVALUATING TRANSFORMATIONAL CHANGE

Government in 2022 developed a draft MRV system which is hosted on the ZEMA server. The MRV system was developed through a Technical Working Group which involved institutions to include; Ministry of Green Economy, ZEMA, Ministry of Finance and National Planning, Smart Zambia Institute, Ministry of Green Economy and Environment, Ministry of Agriculture and Livestock, Ministry of Energy, Ministry of Infrastructure, Housing and Urban Development, Ministry of Higher Education- Department of Science and Technology, Ministry of Health, and Gender Division, and freelance software developer.

The draft MRV system has not yet been operationalized due to some constraints. The Government through Ministry of Green Economy and Environment in collaboration with the European Union, and the Germany Government (through SPAR6C project) aspires to advance the operationalization of the National integrated measuring reporting and verification (iMRV) to meet the requirements of the enhanced transparency framework under the Paris agreement. This initiative is being implemented by Zambia Environmental Management Agency (ZEMA). It is worth noting that the Integrated Measuring Reporting and Verification comprises of 4 major components namely; MRV of Emissions, MRV of Adaptation, MRV of Mitigation Actions and MRV of Support which are elaborated as follows:

Further, The Ministry of Finance and National Planning has so far been able track public finance and are not able to fully track donor financing especially that which is given directly to the line ministries. It was pointed out that finance flow has not been adequate to support such initiatives at scale as some commitments are made and never fulfilled accordingly. -The Ministry has not had specific budget allocated to NBS as the line ministries provide them with the priority areas for financing and is financed according to implementation plans. In this case, the ministry does not prioritize activities to finance but disburses according to priorities given by the line ministries. The Budget however remains flexible and can be adjusted according to need. Case example of the recent adjustment to prioritize RE in the wake of drought. To ensure that the right projects are implemented using national resources, project guidelines have been developed to which line ministries adhere. The Monitoring and Evaluation department monitors and evaluates the effectiveness and impact of these projects. To fully understand the use of funds and implementation of projects, the Ministry chairs the National Cluster Advisory Groups (NCAP) which coordinates with various ministries for high level reporting.

## ANNEX A1.1: ASSESSMENT OF COUNTRY'S ABSORPTIVE CAPACITY FOR INTEGRATING ACTIVITIES

Zambia's absorptive capacity to implement the NPC IP is described through the macroeconomic, institutional and technical, and managerial capabilities.

### A1.1 Macro Economics

In 2023, preliminary estimates indicate real GDP growth was 5.4% compared to 5.2% in 2022. The key drivers of growth were the information and communication technology and construction sectors. Key sectors such as agriculture and mining posted negative growth. The stock of external debt increased by 4.4% to US \$14.57 billion as at end 2023 million from

US\$13.96 billion in 2022. This was on account of increased disbursements from multilateral creditors.

### **A1.2 Institutional Considerations**

The Ministry of Green Economy and Environment has some experience in implementing project related to Nature based Solutions having implemented the Ecosystem-based Adaptation in Zambia for the period 2021-2025. The Government through Ministry of Lands and Natural Resources and Ministry of Tourism also implemented the Strengthening Management Effectiveness and Generating Multiple Environmental Benefits Within and Around The Greater Kafue National Park and West Lunga National Park In Zambia. Implementing partners have been categorized as those involved in (i) general coordination, (ii) restoration, protection and management of forestry, grassland and wetlands, (iii) enhanced low carbon climate resilient agriculture, and (iv) headwater protection of catchment forests in the Lunsemfwa and Mkushi watersheds. General coordination of the project activity will be provided by Department of Climate Change under the Ministry of Green Economy and Environment as provided in Table 9.

**Table 9: General Coordination**

	<b>Name of Organisation</b>	<b>Type of organisation</b>	<b>Role in implementation</b>
<b>1</b>	Ministry of Green Economy and Environment- Department of Climate change	Government	Overall coordination involving relevant cooperating partners, sector lead institutions, statutory bodies, private sector, farmers union, Civil Society Organisation (CSO), Policy Guidance, approval of activities through Technical Committee on Climate Change

Provided in Table 10 are institutions involved in the implementation of activities related to restoration, protection and management of forestry, grassland and wetlands.

**Table 10: Restoration, Protection and Management of Forestry, Grassland And Wetlands**

	<b>Name of Organisation</b>	<b>Type of organisation</b>	<b>Role in implementation</b>
<b>1</b>	Forestry Department	Government	Sector lead institution, approval of formation of Community Forestry management groups in line with the National Guidelines for Community Forestry in Zambia, oversee implementation of forestry restoration activities
<b>2</b>	Community Forestry Management	Civil Society Organisation	Implementation of sustainable forestry management for forestry restoration, protection and management.

	Groups (CFMGs)		
3	Civil Society Organisation	Civil Society Organisation	Implementation of sustainable forestry management for forestry restoration, protection and management
4	Community Cooperatives	Civil Society Organizations	a) Sustainable Forestry utilization and enterprise development (non-timber forestry products) b) Sustainable charcoal production using Retort Kilns and a coupe system(managed by community cooperative) c) Deployment and upscaling of improved biomass stoves

Provided in Table 11 are institutions involved in the implementation of activities related to enhanced low carbon climate resilient.

**Table 11 Enhanced Low Carbon Climate Resilient Agriculture**

	<b>Name of Organisation</b>	<b>Type of organisation</b>	<b>Role in implementation</b>
1	Ministry of Agriculture	Government	Sector lead institution, policy guidance, oversee implementation of agriculture activities
2	Ministry of Livestock and Fisheries	Government	Policy guidance, oversee implementation of livestock and fisheries activities promotion of improved animal feed Promote natural restocking in fishery management areas and other fish depleted water bodies by protecting fish breeding areas.
	Ministry of Water Development	Government	Development of weirs, water harvesting and water efficient technologies
4	Small scale farmers	-	a) Upscaling of conservation farming and agro-forestry b) Use of organic fertiliser and composting c) Use of improved animal feed
5	Commercial Farmers	-	Sensitization and awareness and support in capacity building of local farmers in adopting sustainable farming practices such as agro-forestry, ripping, drought tolerant crops, early maturing varieties, manure application among others.
6	Private Sector	Private Sector	Promote natural restocking in fishery management areas and other fish depleted water bodies by protecting fish breeding areas. Support in upscaling of conservation farming and agro-forestry

The absorption capacity of budgets and cooperating partner funds by public institutions particularly Government ministries has been low and several reasons are provided ranging from

late disbursements, misallocation of budgets and slow to meet partner requirements. The cause of low absorption is due to delays in procurements and eventually in project and contract management and failure to effectively apply the existing financial management procedures and procurement standards. This points to the need for on-going capacity strengthening in public financial management and procurement procedures<sup>33</sup>. Project management Team (PMT) will be created led by the Ministry of Green Economy and Environment (MGEE) with overall role for coordination and supervision of the implementation of the NPC IP activities.

## A1.2: STAKEHOLDER CONSULTATIONS

Stakeholders consulted during the preparation of the Zambia NPC IP fall into seven categories namely, Multilateral Development Banks (MDBs); cooperating and development partners; public sector institutions; Non-Governmental organizations; the private sector including financial institutions; academic and research institutions; and decentralised structures. Table 12 below shows the specific stakeholders that were consulted during the preparation of the Zambia NPC IP.

*Table 12: Stakeholders Consulted During the Preparation of the Zambia NPC IP*

S/No.	Stakeholder Category	Stakeholder
1	Multilateral Development Banks	African Development Bank
		World Bank Group
		International Finance Corporation
2	Cooperating and Development Partners	United Nations Development Programme
		World Food Programme
		International Fund for Agricultural Development
		Food and Agriculture Organization
		International Labour Organization
		Common Market for Eastern and Southern Africa
		Zambezi Watercourse Commission
		Foreign, Commonwealth and Development Office
		European Union Delegation to Zambia

<sup>33</sup> SREP INVESTMENT PLAN FOR ZAMBIA  
REVISED



S/No.	Stakeholder Category	Stakeholder
		and COMESA
		Netherlands Development Organization
		United States Agency for International Development
		Japan International Cooperation Agency
		German Agency for International Development
		Embassy of Finland
		Embassy of Ireland
		Embassy of Sweden
		Global Green Growth Institute
3	Public Sector Institutions	Ministry of Finance and National Planning
		Ministry of Green Economy and Environment - Forestry Department, Green Economy and Climate Change Department, Zambia Meteorological Department and Environment Management Department
		National Designated Authority
		Supporting Preparedness for Article 6 Cooperation Programme
		Ecosystem-based Adaptation Project
		Transforming Landscapes for Resilience and Development Project
		Ministry of Water Development and Sanitation
		Ministry of Agriculture
		Ministry of Energy
		Ministry of Fisheries and Livestock
		Gender Division at Cabinet Office

S/No.	Stakeholder Category	Stakeholder
		Ministry of Local Government and Rural Development
		Ministry of Community Development and Social Services
		Ministry of Infrastructure, Housing and Urban Development
		Disaster Management and Mitigation Unit
		Securities and Exchange Commission
		Water Resources management Authority
		Zambia Environmental Management Agency
4	Non-Governmental Organizations	World Wide Fund for Nature
		The Nature Conservancy
		Community Based Natural Resources Management Forum
		International Development Enterprises
		World Vision Zambia
		Care International Zambia
		Conservation Farming Unit
		Zambia Climate Change Network
		Agriculture Consultative Forum
		Centre for Environment Justice
		ActionAid Zambia
		Caritas Zambia
5	Financial Institutions and the Private Sector	Catholic Relief Services
		Non-Government Gender Organizations' Coordinating Council
		Public Private Dialogue Forum
		Zambia Industrial Commercial Bank

S/No.	Stakeholder Category	Stakeholder
		Zambia National Commercial Bank
		Musika Zambia
		Community Markets for Conservation
		Zambia National Farmers Union
		Zambia Chamber of Commerce and Industry
		Zambia Association of Manufacturers
		BioCarbon Partners
		Alliance Ginnery
		Good Nature AGRO
		Synergy Solar Company Ltd
6	Academic and Research Institutions	Zambia Institute for Policy Analysis and Research
		Zambia Agriculture Research Institute
		Centre for International Forestry and World Agroforestry Research
		WorldFish Zambia
		University of Zambia - School of Agricultural Sciences and Department of Geography and Environmental Studies
		Indaba Agricultural Policy Research Institute
		Copperbelt University - School of Natural Sciences
7	Decentralized Structures	Mulungushi University - School of Agriculture and Natural Resources
		Provincial Administration Central Province
		Provincial Administration Copperbelt Province
		Provincial Administration

S/No.	Stakeholder Category	Stakeholder
		North-Western Province
		Ngabwe Town Council
		Chitambo Town Council
		Serenje Town Council
		Mkushi Town Council
		Kapri Mposhi Town Council
		Mpongwe Town Council
		Masaiti Town Council
		Mufulira Town Council
		Lufwanyama Town Council
		Chavuma Town Council
		Zambezi Town Council
		Ikelenge Town Council
		Mwinilunga Town Council
		Kasempa Town Council
		Mushindamo Town Council
		Kalumbila Town Council
		Local communities and Ward Development Committees in all the targeted districts
		Traditional leaders and representatives of traditional leaders

### A 1.3 DEVELOPMENT CO-BENEFITS

The benefits of implementing enhanced low carbon climate resilient agriculture include; increased income and household food availability, increased crop yields, improved soil health, conserved water by reduced run-off, improved livelihoods, trees and shrubs in agroforestry systems, provision of food, shelter, and nesting sites for wildlife, including birds, insects, and mammals, increased carbon sequestration in the soil, improved water quality, reduced fertiliser consumption, reduction in soil erosion leading to reduced maintenance costs of roads, dams and hydroelectric power plants . Enhanced low carbon climate resilient agriculture also leads

to improved feed for animals thereby reducing the risk of disease and improve their growth and productivity.

The benefits of implementing forest restoration, protection, and management include; reduced deforestation, reduced soil erosion and siltation in water bodies, improved productivity, diversity, and resilience of forest ecosystems. Other benefits are improved water quality, reduced GHG Emissions, increased carbon sequestration, job creation and improved income for communities. Reduced charcoal and firewood consumption and hence deforestation. Support the well-being of rural communities by preserving landscapes on which local economies rely, and increase economic opportunities in forest management. Improves water quality by avoiding threats to downstream water quality from post-fire erosion following high-severity wildfires. Increase water supply by increasing streamflow. It also increases carbon uptake.

Climate information and associated services have demonstrably led to improved agricultural and food security outcomes and benefits for stakeholders in the sector. The ability to make better decisions through climate services leads to the generation of more value for farmers. Climate information informs decisions on when to plant and harvest, irrigate and fertilize and how to invest in drought resilient crops and livestock and more efficient irrigation systems.

The intervention could contribute to development of rural infrastructure, such as roads, irrigation systems, and storage facilities. These developments not only support agriculture but also improve connectivity, making rural areas more accessible and conducive to economic activities. Green infrastructure captures, absorbs, and reduces runoff; filters stormwater; and delivers other environmental, social, and economic benefits. Investing in green infrastructure restores wildlife habitat and enhances natural systems while improving the health of residents through greater access to green space. It can improve community resiliency and provide economic stability by adding green local jobs, reducing infrastructure costs, and decreasing property damage from flooding.

## A 1.4 EXISTING ACTIVITIES AROUND NATURE BASED SOLUTIONS FOR CLIMATE MITIGATION

### EXISTING NBS

#### **Private Sector led NbS initiatives in Project Areas**

Engagement with stakeholders revealed that there are some Nature Based Related activities already being undertaken by private sector entities and these are elaborated below.

#### **1. Zambeef**

Zambeef is a group of companies that is involved in the production, processing, distribution and retailing of beef, chicken, milk, dairy products, stock feed and flour. The Group also has one of the largest row cropping operations in Zambia, growing maize, soybeans and wheat. Zambeef is currently blending inorganic fertiliser with compost and are currently conducting trials with use of nano technology in fertiliser application to increase efficiency and reduce on

fertiliser use per hectare. The company is implementing activities related to nature-based solutions such as tailoring fertiliser to crop requirements thereby reducing fertiliser consumption and hence GHG emissions. The company is also employing use of agriculture residues and manure to form compost with the aim of replacing inorganic with organic fertiliser. Currently the total hectareage under compost is less than 5% out of the total estimated 10,000 Ha but is looking towards increasing the area. In this connection the company has partnered with Zambian Fertiliser and the former will supply compost to the latter so as to blend with the inorganic fertiliser. However, the challenge the company is facing is limited organic materials for composting. To address this challenge, company has since partnered with an international organisation to supply organic materials called Guano Boost which is derived from the highest quality Sea- Bird Guano, that is sustainably harvested. Sea Bird Guano is the world's most nutrient rich source of organic plant nutrients. Zambeef strongly supports nature-based solutions, including zero<sup>34</sup> grazing and effective manure management. Additionally, the framework promotes catchment area management through forest protection and afforestation initiatives.

## **2. Community Market for Conservation (COMACO)**

COMACO is an agri-business social enterprise organization that supports wildlife conservation and working to alleviate poverty amongst small scale farmers by teaching them sustainable agriculture practices as well as provision of markets for sustainably produced agriculture products, which in turn are processed and sold to the general public as health products. Some of the nature-based solutions that the organization support and promote, include; conservation agriculture; agro-forestry; Sustainable Forest Management (SFM); value chain development in tree crops; improved feed for animals, efficient cook stoves; solar pumping for irrigation and restoration of natural forest. Additionally, COMACO has been supporting initiatives for carbon trading as a means to conserve wildlife and forests.

## **3. Parrogate**

Parrogate is one of the top players in the cotton, edible oil, maize and fertilizer industries. It also deals in grain trading and milling, real estate development, commercial farming and Ferro Alloys. Through its operations the group provides direct input support to over 100,000 farmer's families in Africa, to improve their yield and realization. This has a direct positive bearing on the rural economies of the countries which provides transparent market access to small farmers.

The organization is engaged in tree planting, provision of extension training services to farmers in Climate change smart agriculture and Good Agriculture practices. Further the organization considers charcoal production as a critical issue to the challenges of deforestations and has unwavering commitment to seeking alternative measures to addressing the demand for charcoal from hard wood natural forests. Among the nature-based solutions initiative to curb charcoal production that were shared are, investing into bamboo plantation for charcoal production, making cooking briquets from cow dung, using cotton stalks as biomass resource

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<sup>34</sup> Zero grazing is a livestock management practice where animals, typically cattle are kept in a confined area and provided with cut fodder rather than being allowed to graze freely in pastures



for energy production for cooking including the production of bio-fuels or as feedstock for bio-energy. Biochar from ratoon cotton crop can be used for soil amendments to improve soil fertility and carbon sequestration, instead of uprooting and burning them as prescribed by the Cotton Act Chapter 227 of the Laws of Zambia. The promotion of efficient cook stoves was another nature-based solution initiative suggested.

#### **4. ZANACO and NATSAVE**

Banks have robust institutional support for women empowerment. They offer specialized women's accounts and policies tailored to support women. They also provide collateral free loans for small and medium enterprises. Additionally, ZANACO supports green solutions through financing from multilateral development banks having received \$50 million and an additional €30 million from the EU Climate Finance Facility.

The Banks on the other hand, have imbedded in their Corporate Social Responsibility (CSR) plans, targets to contribute to restoration of forests through tree planting. FNB has a target to plant 1 million trees by 2030 while Stanbic seeks to plant 10,000+ trees a year and have done the tree planting for 2 years now. Additionally, they have been financing projects which are growing different trees such as the Gum trees and Macadamia, which are also strategically supported for the purposes of preserving water. The Financial Institutions have been providing financial support to companies who produce and aggregate animal feed. They have been supportive of legume-based feed due to their high protein content and other beneficial nutrients, in return they indirectly support the local communities who are growing the legumes and at the same time improving their soils through nitrogen fixation. Financial institutions have been allocating budgets for CSR activities which has seen them support restoration of water through partnerships with organizations such as World Wild Fund (WWF) for Nature Zambia and National Heritage Conservation Commission on projects such as the Save the Zambezi which Stanbic has been involved in which seeks to provide key information towards ensuring sustainable natural resource use - and biodiversity conservation management, within the broader landscape.

The mining stakeholders such as the Limestone Resources Limited, Greasley Mine, Mopani Mine, KAGEM Mine, and Emerald and Semi-Precious Mineral Association of Zambia have established NbS interventions in their operations.

#### **NbS Initiatives Supported by Other Organizations**

Provided below are the nature-based solution activities being implemented by several organizations in the project areas.

##### **1. North Swaka Trust**

North Swaka Trust (NST) has been working in partnership with the Forestry Department of Zambia, traditional leaders, Foundation Zambia and the local communities to reduce deforestation and forest degradation through promoting sustainable forest management, promotion of natural regeneration and conservation farming. The Trust is working with over 700 farmers divided into 66 groups with each group having 12 members on average. The

approach is based on three key elements which are community engagement, conservation, and sustainable commercial development. The organization only implements and encourages programs to the communities. North Swaka Trust works with the local community to reduce illegal activities in the Forest Reserves through the introduction of multiple alternative livelihoods. The activities undertaken include a) Conservation Farming; b) Provision of training, business and market to sell cover crop seeds such as sun hemp and pigeon pea; c) Supporting the growth of community banking; d) Village nurseries for reforestation; e) Assisted regeneration and promotion of indigenous trees and f) Bee Keeping as a monetary incentive to protect trees.

## **2. International Development Enterprises (IDE)**

The International Development Enterprises (*IDE*) is a non-government organization dedicated to ending poverty. The organisation is working on a project called Nutrition and Wash in Chief Machiya in Mpongwe to enhance value chain and markets for the farmers. This project is promoting climate smart agriculture and improving market access and value chain. As part of this project, Farm Business Advisors (FBA) have been recruited as service providers who participate in the project as entrepreneurs and provide advisory on Climate Smart Agriculture (i.e. suitable varieties to grow, suitable tillage practices) and also supply inputs to farmers. Farm Business Advisors (FBA) provide market to the farmers by being crop aggregators. FBAs are linked to grain buying companies such as NOVATEC. The IDE is also partnering with Ministry Fisheries and Livestock in promoting small livestock as part of nutrition improvement in the project area. Other activities include promotion of Improved animal feed.

## **3. World Vision**

World Vision International is an ecumenical Christian humanitarian development and advocacy organization. World vision has a development programme focused on natural resource management aimed at water, forest and soil resources applying a Farmer Natural Resources (FMNR) approach. Other activities include Market System Development and Financial Inclusion.

## **4. Help to Help Youth and Women Educational Foundation**

Help to Help Youth and Women Educational Foundation (HHYWEF) is a local based organization based in Serenje. The organization is engaged with tree planting and citrus tree nursery development. The organization target groups for empowering are women and youths, who are promoted to establish citrus plantations and development of citrus value chain.

## **5. Zambia Rainbow Development Foundation (ZRDF)**

This is a donor funded local NGO in Mkushi that has existed since 2014 with the aim of fostering development in the district through implementation of tested social inclusion approaches. The organization is involved in implementing nature-based solutions such as beekeeping and tree planting. This is in addition to aquaculture and rearing of goats utilizing pass on the Gift approach as model for empowering the community. The organization support conservation agriculture through the promotion of green manure and fallowing practices. The organization bemoans lack of seeds on the market for cover crops such as velvet beans and Sun hemp.

## 6. ZAFFICO

Aligned with one of ZAFFICO's core values of being environmentally friendly, the corporation promotes sustainable innovations by establishing forest plantations. ABSA collaborated with ZAFFICO by supporting the growth of seedlings in ZAFFICO nursery which were distributed to farmers and communities.

## 7. Zambia National Farmers Union (ZNFU)

The Zambia National Farmers Union (ZNFU) actively supports nature-based solutions by implementing Climate Smart Agriculture practices. These initiatives help farmers adapt to climate change, improve productivity, and enhance sustainability.

## 8. The Dignified Disability Trust

The Dignified Disability Trust based in Mpongwe district is working with the disabled by introducing small livestock particularly genetically improved village chicken that is used to produce eggs to improve nutrition in rural households.

The Japan International Cooperation Agency (JICA) has been supporting Ministry of Agriculture in Mkushi to develop permanent weirs in Chalata, Musakamba and Maloso Camps.

**Table 13: Proposed NbS**

Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
<b>Component 1.1: Sustainable and Diversified Livelihoods (Restoration and Management)</b>	Raise awareness on climate smart agricultural technologies	Number of trainings	850,000.00	850,000.00
	Capacity building through farmer field schools/demonstration sites approach			
	Conduct sensitization campaigns on the use of drought tolerant crop varieties and promote use of short maturing varieties in drought prone areas.			
	Create awareness among all farmers on weather forecasting including availability and access to early warning systems (e.g. through mobile devices)			
	Develop different types of agriculture projects for different target groups and scale in each of the targeted landscapes in collaboration with private sector.		50,000.00	
	Promote crop residue retention (e.g., Mulching).	Number of farmers trained	50,000.00	2,665,000.00
	Promotion of environmentally friendly input for soil fertility enhancement (i.e., biochar, liming, composting, etc.)		50,000.00	
	Promote potholing and/ or ripping of fields.		50,000.00	

Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
	Promote the incorporation of green manure (cover crops).		-	
	Create awareness on agroforestry and contour planting		-	
	Promote the raising of seedlings and distribution through community farmer training.		40,000.00	
	Engagement of private sector and NGOs/CSOs to enhance synergies in delivery of climate smart agriculture extension services.	Number of farmers trained	40,000.00	2,132,000.00
	Support public and private research and create a seed bank for indigenous crops with improved variety for higher productivity and nutrition.		90,000.00	
	Increase access of farming households to insurance against climate-induced risks related to agriculture, livestock and infrastructure.	Number of farmers	91,000.00	1,200,000.00
	Enforcement of animal husbandry and quality control standards for livestock.	Number of law enforcement operations conducted in gazetted forests and protected areas	500.00	30,640.00
	Promoting setting up of sustainable livestock pastures, fodder banks, range land, high density grazing, rotational grazing and conservation for dry season feed.	Cost of restoring 1 ha. of degraded rangeland	15,000.00	1,988,000.00
		Cost of supporting 1 farmer Sustainable forage seed production programme with private sector participation	2,000.00	9,940,000.00
	Sustainable land use through agroforestry including fruit trees and gardening of high value crops.	Hectare	1,000.00	1,600,000.00
	Promote alternative livelihoods such as aquaculture, fingerling production, mushroom and apiculture.	Number of Households taking up alternative livelihoods in forest areas	5,000.00	1,147,510.00

Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
	Promote value addition for enhanced livelihoods.	Number of enterprises involved in agro - processing and value addition	150.00	33,750.00
		Number of meetings	200.00	750,000.00
		Number of man days	150.00	75,000.00
		Number of cooperatives supported	100.00	1,500,000.00
	Encourage integrated approaches among public, private and development stakeholders to promote CSA across farming communities with a mix of conservation, regeneration and organic agriculture practices.	Number meetings	200.00	250,000.00
	Conditional survey of un-utilised existing community infrastructure for rehabilitation and transformation into farmer service centres, linking multiple service providers including buyers.	Number of days for the consultancy survey	120.00	32,500.00
	Mapping and assessment of available surface and ground water resources in collaboration with MWDS.			56,637.00
	Strengthen communication linkage with CDF (Constituency Development Fund) in Local Govt where eligible cooperatives receive grant or small loans for irrigation.			4,750,000.00
	Forge Linkages with private sector and donor funded programs in targeted area to access financial facility.			-
	Support the development and promotion of rainwater harvest mechanism at public institutions, small-scale farming households in close collaboration with MWDS.			20,451,600.00
	The rationale is to encourage investment from the community members, to empower them with skill development and ownership for sustainability.			-
	Identify skilled professionals in the ministries (MoA, MLNR, MWDS) to forge linkages with private sector and NGOs to integrate wetland protection approach to prevent further degradation.			-
	Improving access to clean water and sanitary facilities and Leverage funds to support water Utility companies to improve access to rural communities.			20,451,600.00

Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
<b>Component 1.2: Climate Resilient Infrastructure (Restoration and Management to be supported by the AfDB)</b>	Establish weather radar stations to improve weather monitoring.	Number of stations	3.00	1,500,000.00
	Establish one Upper-Air station at each Airport in targeted landscapes.	Number of stations	-	900,000.00
	Expansion of the weather observation network including installation of one automatic weather station in each farming block in the three targeted landscapes.	Number of stations	-	2,550,000.00
	Installation of rain gauge and soil temperature probes in each agricultural camp.	Number of rain gauges	-	237,000.00
	Rehabilitation of dilapidated ZMD office buildings in the three targeted Provinces	Number of sites	-	1,400,000.00
Programme 3: Strengthening Community Livelihoods and Resilience through Sustainable Management of Natural Resources				
<b>3.1 Fostering implementation of the National Green Growth Strategy 2024-2030 (Protection)</b>	Establishment of early warning forestry fire and rapid response system (including development of forest fire management plan).	Number forest fire management plans developed	16.00	153,000.00
	Recruitment of forest guards in the project areas and capacity building at community level.	Number of forest guards	35.00	18,000.00
	Law enforcement operations conducted in gazetted and protected forest areas.	Number of law enforcement operations conducted	2,000.00	61,310.64
<b>3.2: Promoting climate-smart livelihoods and value chains and green and inclusive jobs (Restoration)</b>	Forest restoration mapping in the three targeted landscapes.	-	-	200,000.00
	Promote assisted natural regeneration (ANR) in indigenous forests restoration in degraded areas with active involvement of women and youth.	hectares	70,000.00	4,130,059.00
	Promote collaboration among research institutions, forestry department, private sector and academia, on research of indigenous tree species suitable for specific degenerated landscapes.			
	Forge linkages (i.e., to leverage knowledge, resource management, infrastructure) among ZAFFICO, Forestry Department, communities and private sector to upscale pellet production using wood waste.	Tons	30,000.00	1,500,050.00
	Promote afforestation/reforestation.	hectares	25,000.00	22,917,666.67
	Promote community woodlots for the provision of fuel wood and as sources of alternative cash income.	hectares	15,000.00	13,750,966.67
<b>3.3: Project and Knowledge</b>	Conduct forest restoration mapping in the three targeted Provinces.	-	-	200,000.00

Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
<b>Management, Coordination and Collaboration (Management)</b>	Establish Community Forest Management Groups (CFMG) in line with the National Guidelines for Community Forestry in Zambia.	Days	100.00	50,500.00
	Review of current CFMG implementation framework for efficiency/effectiveness and participation of women, youth, people with disabilities and elderly.	Meeting	20.00	32,298.00
	Conduct training and awareness campaign on carbon market, community benefit sharing mechanism and general climate change issues.	Days	2.00	60,000.00
	Promote sustainable utilisation through enterprise development of non-timber and timber forest products (sustainable charcoal production using retort kilns and coupe system).	Number of Production entities	2.00	450,000.00
	Create awareness campaigns to adopt energy efficient and clean cooking.	Number of meetings	13.00	130,000.00
	Conduct sensitisation and awareness campaigns on alternative sources of energy (e.g. alternative charcoal, biogas and dry wood pellets, ratoon cotton, solid bamboo).	-	500,010.00	10,000,200.00
	Design and Implement a Clean Energy for Cooking Programme aimed at Increasing the Uptake of Clean Cooking Solutions in the landscapes.	Number of clean cooking stoves deployed	500,010.00	-
	Identify and learn from existing energy projects within and outside of Zambia.	-	11.00	-
	Develop Financing Mechanisms to Improve Access to Clean Energy Technologies for Productive and Domestic Use.	Number of training meetings	11.00	-
	Train women on existing best practices in the use of alternative sources of energy (e.g., solar, improved charcoal and cookstoves, biogas, dry wood pellets).	-	-	110,000.00
	Train women and youth in the production of alternative energy sources.	-	-	-
	Train personnel in data capturing in energy efficiency and renewable energy technologies.	-	24.00	360,000.00
	Develop the capacity of women on the use and benefits of renewable energy.	Number awareness campaigns	24.00	-
	Develop Information Education Campaign (IEC) materials to raise awareness of energy sources, energy efficiency and the impact of climate change.	-	-	-



Programme 1: Building Resilience of Food, Livelihoods and Ecosystem Services				
Components	Activities	Units	Target	Costs (US)
<b>Component 2.4: Information service enhancement (Management)</b>	Train agricultural extension officers in the interpretation of weather and climate information in all camps in the three targeted landscapes.	Number of training sessions	-	600,000.00
	Provide training for community members on how to interpret and use climate information for agricultural planning, disaster preparedness, and resource management.	Number of training sessions	-	900,000.00
	Strengthen the capacity of the ZMD and other institutions to model climate data and generate tailored weather and climate services that are usable by local communities and sectors.	Number of training sessions	-	300,000.00
	Develop effective communication channels to ensure that climate information reaches all relevant stakeholders, including remote and vulnerable communities.	Number of communication channels established	-	450,000.00
	Share seasonal forecasts, agrometeorological bulletin, and weekly and daily forecasts in Seven (7) main local languages, including Brail.	Number of bulletins shared in local languages	-	250,000.00
	Create localized climate information products that are easily understandable and actionable.	Number of products	-	250,000.00
<b>Component 2.5: Green inclusive infrastructure (Restoration and Management)</b>	Strengthen resource management around community and GMAs water points and setting up solar powered boreholes.	Number of boreholes drilled	60.00	1,887,840.00
	Rehabilitation of boreholes, wells, small dams, reservoirs, canals.	Number of well fields developed	33.00	24,495,537.00
	Scale up the development of weirs and small earth dam that are manageable by the communities	Number of dams/weirs	60.00	11,327,220.00
	Promote establishment of artificial groundwater recharge ditches.	Cost per hectare	5,000.00	4,815,000.00

**Table 14: Activities Related to the Four Pillars in the Selected Provinces**

S/N	Action	Central Province	Copperbelt Province	Northwestern Province
<b>Pillar 1</b>	<b>Sustained Diversified and Inclusive Livelihoods and suitable sites</b>			
1	Raise awareness on climate smart agricultural technologies	X	X	X
2	Capacity building through farmer field schools/demonstration sites approach	X	X	X

S/N	Action	Central Province	Copperbelt Province	Northwestern Province
3	Conduct sensitization campaigns on the use of drought tolerant crop varieties and promote use of short maturing varieties in drought prone areas.	X		
4	Create awareness among all farmers on weather forecasting including availability and access to early warning systems (e.g. through mobile devices)	X	X	X
5	Develop pilot projects for different target groups and scale in each of the targeted landscapes in collaboration with private sector.	X	X	X
6	Promote crop residue retention (e.g., Mulching).	X	X	X
7	Promotion of environmentally friendly input for soil fertility enhancement (i.e., biochar, liming, composting, etc.)	X	X	X
8	Promote potholing and/ or ripping of fields.	X	X	
9	Promote the incorporating of green manuring in the main crop.	X	X	X
10	Create awareness on agro-forestry and contour planting	X	X	
11	Promote the raising of seedlings and distribution through community farmer training	X	X	
12	Engagement of private sector and CSOs to enhance synergies in delivery of climate smart agriculture extension services	X	X	X
13	Support public and private research and create a seed bank for indigenous crops with improved variety for higher productivity	X	X	X
14	Increase access of farming households to insurance against climate-induced risks related to agriculture, livestock and infrastructure	X	X	
15	Enforcement of animal husbandry and quality control standards for livestock	X		
16	Promoting setting up of sustainable livestock pastures, fodder banks, range land, high density grazing, rotational grazing and conservation for dry season feed	X		
17	Sustainable land use through increased planting of fruit trees and gardening of high value crops	X	X	
18	Promote alternatives livelihoods such as aquaculture, fingerling production, mushroom and apiculture		X	X
19	Promote value addition in agriculture production for enhanced livelihoods	x		
20	Encourage integrated approaches among public, private and development stakeholders to promote CSA across farming communities with a mix of conservation, regeneration and organic agriculture practices	X	X	X
21	Conditional survey of un-utilised existing community infrastructure for rehabilitation and transformation into farmer service centres, linking multiple service providers including buyers		X	X
<b>Pillar 2</b>	<b>Protection, Restoration and Conservation of Ecosystems</b>			
22	Forest restoration mapping in each province	X	X	X
23	Promote assisted natural regeneration (ANR) in indigenous forests/ or restoration of degraded areas with active involvement of women and youth		X	
24	Create linkages among research, forestry, private sector, financial institutions and academia on planting	X	X	

S/N	Action	Central Province	Copperbelt Province	Northwestern Province
	of variety of indigenous tree species suitable for specific degenerated landscapes and conservation			
25	Forge linkages (i.e., to leverage knowledge, resource management, infrastructure) between ZAFFICO, Forestry Department, communities and private sector to upscale pellet production using wood/crop waste	X	X	
26	Afforestation/Reforestation	X	X	
27	Promotion of community woodlots for the provision of fuel wood and as sources of alternative cash income	X	X	
28	Establishment of Community Forest Management Groups (CFMG) in line with the National Guidelines for Community Forestry in Zambia			X
29	Review of current CFMG implementation framework for efficiency/effectiveness and participation of women, youth, people with disabilities and elderly			X
30	Training and awareness campaigns (traditional leaders, community members, forestry department, and district technical staff) on carbon market, community benefit sharing mechanism and general climate change issues			X
31	Establishment of early warning forestry fire and rapid response system (including development of forest fire management plan)	X	X	X
32	Recruitment of forest guards in the project areas and capacity building at community level	X	X	X
33	Law enforcement operations conducted in gazetted and protected forest areas	X	X	X
34	Sustainable forestry utilisation and enterprise development (non-timber forestry products) - Sustainable charcoal production using Retort Kilns and a coupe system (30,000 tons production per year)	X	X	
35	Undertake awareness and advocacy for supportive policies and regulations that promote the adoption of clean cooking solutions	X	X	
36	Conduct sensitisation and awareness campaigns on alternative sources of energy (e.g. alternative charcoal, biogas and dry wood pellets, ratoon cotton, solid bamboo).	X	X	
37	Design and Implement a clean energy cooking programme aimed at Increasing the uptake of clean cooking solutions in the landscapes.	X	X	
38	Identify and learn from existing energy projects within and outside of Zambia.	X	X	
39	Train women on existing best practices in the use of alternative sources of energy (e.g., solar, improved charcoal and cookstoves, biogas, dry wood pellets).	X	X	
40	Train women and youth in the production of alternative energy sources.	X	X	
41	Train personnel at district level in data capture in energy efficiency and renewable energy technologies.	X	X	
42	Build capacity of women's groups to develop strategic action such as advocate, develop financing programmes, and make use of renewable energy.	X	X	
43	Create media campaign materials to raise awareness of clean energy, energy efficiency and the impact of climate change.	X	X	
44	Mapping and assessment of available groundwater resources.	X		X

S/N	Action	Central Province	Copperbelt Province	Northwestern Province
45	Strengthen resource management around community and GMAs water points and setting up solar PV boreholes.	X		X
46	Rehabilitation of boreholes, wells, small dams, reservoirs, canals.	X		X
47	Scale up the development of Weirs and small earth dam that are manageable by the communities			X
48	Strengthen communication linkage with CDF fund in Local Government to provide grant or small loans for irrigation to cooperatives	X	X	X
49	Forge linkages with private sector and donor funded programs in targeted area to tap into specific financial facility on offer for small scale irrigation for farmer groups/individual.		X	
50	Support the development and promotion of rainwater harvest mechanisms at household level.	X	X	
51	Identify skilled professionals, forge linkage with communities, private sector, CSO/NGO to integrate wetland protection approach across the board to prevent further degradation.	X		
52	Promote establishment of artificial groundwater recharge ditches.	X	X	
53	Improving access to clean water and sanitary facilities and Leverage funds to support water Utility companies to improve access to rural communities for women, youth, persons with disabilities and elderly	X	X	
<b>Pillar 3</b>	<b>Climate Information and Services Enhancement</b>			
56	Establish weather radar stations to improve weather monitoring	X	X	X
57	Establish one Upper-Air station at each Airport			
58	Expansion of the weather observation network Installation of one automatic weather station in each <b>farming block</b>	X	X	X
59	Installation of rain gauge and soil temperature probes in each <b>agricultural camp</b> .	X	X	X
60	Rehabilitation of dilapidated office buildings in project areas	X	X	X
61	Train agricultural extension officers in the interpretation of weather and climate information in all camps in the project areas	X	X	X
62	Provide training for community members on how to interpret and use climate information for agricultural planning, disaster preparedness, and resource management.	X	X	X
63	Strengthen the capacity of the Zambia Meteorological Department (ZMD) and other institutions to model climate data and generate tailored weather and climate services that are usable by local communities and sectors.	X	X	X
64	Develop effective communication channels to ensure that climate information reaches all relevant stakeholders, including remote and vulnerable communities.	X	X	X
65	Share seasonal forecasts, agrometeorological bulletin, and weekly and daily forecasts in Seven (7) main local languages, including Brail.	X	X	X

S/N	Action	Central Province	Copperbelt Province	Northwestern Province
66	Create localized climate information products that are easily understandable and actionable.			
<b>Pillar 4</b>	<b>Investment in Green Infrastructure and Human Resources</b>			
67	Strengthen resource management around community and GMAs water points and setting up solar PV boreholes.	X	X	
68	Rehabilitation of boreholes, wells, small dams, reservoirs, canals.	X	X	
69	Scale up the development of Weirs and small earth dam that are manageable by the communities	X	X	
70	Promote establishment of artificial groundwater recharge ditches.	X	X	

## A 2.1 INVESTMENT COMPONENT BRIEFS

### 11.1: CONCEPT BRIEF: BUILDING RESILIENCE OF FOOD, LIVELIHOODS AND ECOSYSTEM SERVICES IN CENTRAL, COPPERBELT AND NORTH-WESTERN PROVINCES (BREFOLES/C2N)

#### LEAD MDB: AFRICAN DEVELOPMENT BANK

#### A1.1 Problem Statement

Climate change and policy implementation challenges have significantly constrained livelihoods, agriculture production and productivity in Zambia in recent years. Climate change threats have become more frequent and pronounced in magnitude as droughts and floods have affected livelihoods and landscapes. Climate change therefore poses a significant threat to Zambia's socioeconomic stability and could potentially reduce GDP growth by 0.9% annually and increase poverty levels. Furthermore, the impact of climate change will cost Zambia approximately 0.4% of annual economic growth. As communities try to survive these natural occurrences, they resort to practices that lead to severe deforestation, forest and landscape degradation. The Central, Copperbelt and North-Western landscapes in Zambia have not been spared from climate change effects. In the absence of investments in adaptation measures, more people are more likely to fall below the poverty line and with an economic loss of US\$4.3 billion in GDP over the next decade. Building resilient livelihoods through adaptation and nature based interventions will ameliorate the impact of climate change in these landscapes and bolster Zambia's economy. The proposed Zambia Building Resilience of Food, Livelihoods and Ecosystem Services in Central, Copperbelt and North-Western Provinces (BREFOLES/C2N) program is designed to complement existing and planned initiatives in the region. The project is focused on increasing agricultural productivity and production systems and enhancing populations' adaptive capacity so that people can better prepare for and manage climate change, climate risks, and climate variations. The project will be anchored on and draw lessons from the previous Pilot Programme on Climate Resilience (PPCR) projects implemented in Southern, Central and Western Zambia, especially the Kafue and Barotse Sub-basins.

## **A1.2 Proposed Contribution to Transformational Change**

The BREFOLES/C2N programme comprise of a packaged combination of Nature-based Solutions (NbS) and other interventions that will initiate and maintain transformational changes in the short, medium and long term, leading to sustainable livelihoods and resilient landscapes. The project will generate improved food security, stable livelihoods, and ecosystem services in the communities. The proposed nature-based interventions shall include rehabilitation of climate-resilient infrastructure, sustainable commodity value chains and value addition, assisted natural regeneration (ANR), sustainable land management practices, adopting climate-smart practices and sustainable landscape management. The project will also integrate innovative financing for climate project with improved bankability by deploying risk sharing mechanisms to attract private sector participation in investments.

### **A.1.3 Implementation Readiness**

As indicated in Zambia's NPC IP, the Ministry of Green Energy and Environment (MGEE) has legal, policy, and strategy framework and institutional capacity to coordinate the implementation of the project. The project is anchored on Zambia's Vision 2030, National Green Growth Strategy (NGGS): 2024-2030, Climate Smart Agriculture Investment Plan 2019, the Eighth National Development Plan (8NDP), National Policy on Climate Change (NPCC, 2016), National Forest Policy (ZNFP, 2014), Forestry Act (2015), Forestry Investment Plan (FIP, 2017), Second National Biodiversity Strategy and Action Plan (NBSAP2, 2015), Second National Agriculture Policy (SNAP, 2016), National Policy on Wetlands (2018), Strategic Program for Climate Resilience (SPCR, 2010), National Climate Change and Gender Action Plans, policies and strategies, Carbon Credit Policy, Forestry Extension and Development, Biosafety Policy, Environmental Policy, Green Growth Strategy, Climate Change Bill, National Adaptation Plan, Revised and Updated Nationally Determined Contribution for Zambia, Livestock National Development Policy, National Fisheries and Aquaculture Policy and Comprehensive Agriculture Transformation Support Programme. The AfDB has been working on the project in the NPC IP locations, which implements the project an investment-ready project. Various feasibility studies have been undertaken to inform the technical design of the project.

### **A1.4 Potential implementing Partners**

The lead MDB shall be the AfDB, supporting MGEE and other line sector Ministries as implementing agents. Financing is being sourced from CIF, GCF, AfDB, ADF, bilateral and multilateral partners as well as the private sector. Supporting partners shall be CSO/NGOs, private sector, other line Ministries and academic institutions.

### **A1.5 Rationale for NPC Financing**

Support is being solicited from CIF, MDBs and bilateral partners to re-inforce government efforts to promote and scale up NbSs and climate-resilient and adaptation interventions to ensure food security, improved livelihoods and resilient landscapes in Central, Copperbelt and North-Western provinces that have thus far suffered from under-investment. Available public

and private finances are far below the amounts required to achieve meaningful transformational change. Without the CIF-financed intervention, the impacted communities, which are highly dependent on rainfed agriculture shall continue to be at risk and undermine ecological integrity of their landscapes. The CIF investment will leverage about USD135 million of co-financing and play a critical role in achieving climate-resilient and integrated landscape and ecosystem services restoration in the selected provinces.

## **A1.6 Monitoring and Evaluation**

The approach to project monitoring, evaluation, and learning (MEL) will be guided by the CIF-NPC Results Framework, while also aligning with both the MDBs' own project-level monitoring and reporting systems and those already in use by the MGEE. The performance indicators shall include but not restricted to the following: Number of women and men farmers improving knowledge and skills on climate-resilient practices, deforestation rate, GHG emission rate, improved food and livelihood security for women, men, youth and PWDs, reduction in soil erosion, water use expected to be avoided or reduced.

In addition to the key performance indicators mentioned, it is essential that the MEL framework for the entire IP integrates GESI considerations. The MEL approach should incorporate sex-disaggregated data to track the differentiated impacts of the programme on women, youth, persons with disabilities, and other vulnerable groups across all interventions. This includes measuring their access to climate-resilient infrastructure, financial resources, and decision-making opportunities, ensuring that the benefits of the programme are equitably distributed. Furthermore, income-level indicators should distinguish between female- and male-headed households to capture economic disparities and ensure that all groups benefit fairly from programme activities. By embedding GESI within the overall IP monitoring and evaluation process, the programme will enhance its capacity to promote social equity as well as ensure that interventions are inclusive, responsive, and adaptive. The gender-responsive MEL framework will provide the necessary insights to assess gaps, adjust strategies, and improve outcomes for marginalized groups, ensuring that no one is left behind in the transition to sustainable, climate-resilient livelihoods.

## **A1.7 Financing Plan, Including Financial Instruments**

The financial plan for the estimated USD120.40 million project cost is shown in the table below. There will be a co-financing in the amount of USD99.40 million from the AfDB.

Table 15: Financing Plan

<b>Components</b>	<b>USD</b>		
	<b>Total</b>	<b>CIF</b>	<b>AfDB</b>
1. Sustainable and Diversified Livelihoods	<b>86.46</b>	10.0	76.46
2. Climate Resilient Infrastructure	<b>32.94</b>	10.0	22.94
<b>Total</b>	<b>119.4</b>	<b>20.0</b>	<b>99.4</b>



## **A1.8 Environmental and Social Risk Management**

The Zambia Environmental Management Agency (ZEMA) reviews project-level environmental and social impact assessments and mitigation plans. The ZEMA and AfDB will assess what ratings are required for the projects and recommend what compliance studies are required and collaborate in conducting in-depth reviews of project activities.

## **A1.9 Full Project Preparation Timetable**

The project preparation timetable is shown in the table below with an indicative period of six months.

Table 16: Project Preparation Timetable

<b>Stage</b>	<b>Date or Period</b>
Launch of the project (1 month)	January 2025
Feasibility and Environmental Studies – Project appraisal, preparation, missions, and negotiations (4 months)	February – May 2025
Submission to Board (1 Month)	June 2025

## **A1.10 Requests, if any, for Investment Preparation Funding**

Given the complexity of the intended pilot activities, US\$400,000 will be requested for the full proposal and compliance studies.

## **CONCEPT BRIEF – PROMOTION OF CLIMATE-SMART AGRICULTURE, CLIMATE RESILIENCE: ZAMBIA**

### **Lead MDB: International Finance Corporation**

#### **PROBLEM STATEMENT**

Zambia is a landlocked Southern African country that heavily relies on its abundance of natural resources, including land, rains, minerals, freshwater, forests, and wildlife. However, extreme weather events, such as floods and droughts, have increased in frequency and intensity over the last 30 years, affecting local communities and the nation's economic development by 0.4%. Climate change, particularly affecting vulnerable groups like women, the elderly, children, and women-led families, has also negatively impacted other sectors. Climate change and policy implementation challenges have significantly constrained livelihoods, agriculture production and productivity in Zambia in recent years. Climate change threats have become more frequent and pronounced in magnitude as droughts and floods have affected livelihoods and landscapes. Climate change therefore poses a significant threat to Zambia's socioeconomic stability and could potentially reduce GDP growth by 0.9% annually and increase poverty levels. Furthermore, the impact of climate change will cost Zambia approximately 0.4% of annual economic growth. As people try to survive these natural calamities, they have resorted to practices that lead to severe deforestation, forest and landscape degradation, driven by charcoal production, agricultural production, urbanization and infrastructure development. The business case for climate-smart projects in the agribusiness sector is not always well

understood and often not prioritized, hindering the deployment of capital in the market. There is a 98% untapped gap in climate-smart agricultural financing. However, barriers such as access to sufficient and adequate finance due to high perceived risks, low margins for financiers, policy weakness, lack of awareness, and low provision for climate funding in national budgets hinder this climate finance potential from being met and addressed. IFC has the expertise and experience to identify and develop climate-smart projects into bankable projects for onward financing by IFC. It is essential to scale up the private sector's contribution, especially its capacity to access financing, to increase both climate mitigation and adaptation activities. This would lead to increased yields and reduced losses, resulting in increased farmer incomes and improved livelihoods. A systemic solution is required to boost capital inflow and de-risk corresponding projects.

## **PROPOSED CONTRIBUTION TO INITIATING TRANSFORMATIONAL CHANGE**

It has been established that when it comes to obtaining financing for climate projects, some may have limited bankability. The projects usually have a risk profile higher than that expected by the local and regional financial institutions, including against the sourcing of funding they have received from international lenders and multilateral financial institutions. The key institutions in the agribusiness sector have also indicated that an incentive-based approach should work well to offer financiers and end-borrowers (farmers) additional motivation to engage in more long-term initiatives. Therefore, it is proposed to create a financing facility that would support (eligibility criteria detailed in the IP): i) Structuring specific projects, products and initiatives to promote climate-resilient farming, ii) Providing capacity-building to farmers and cooperatives, financial intermediaries and other stakeholders involved in structuring those projects, products and initiatives; and iii) Consider a private-sector financing window, which constitutes a pre-allocated funding envelope to co-invest, de-risk and provide performance-based incentives for projects as stated above.

## **IMPLEMENTATION READINESS**

The regulatory framework for implementation is generally available (through the national investment policy, national green growth strategy, etc.) The existing GRZ CSA-IP will be utilized for the implementation of this project.

*Table 17: Enabling policies, strategies and plans*

<b>Agendas, policies, strategies and plans etc.</b>	<b>Summary</b>
Vision 2050	It sets Zambia's long-term strategic vision of becoming an upper-middle-income country by 2030 and a high-income country by 2050.
National Investment Policy	The framework outlining the government's strategy for promoting investment and driving sustainable economic growth.

Agendas, policies, strategies and plans etc.	Summary
National Green Growth Strategy (NGGS): 2024-2030	A delivery channel for NDC- To guide the process of mainstreaming climate resilience into key sectors of the economy.
Climate Smart Agriculture Investment Plan 2019	Identified climate-smart agriculture (CSA) technologies that offer the greatest potential.

## THE RATIONALE FOR NPC FINANCING

The risk/return profile of many projects across eligible program components which the private sector could implement may be considered inadequate by the financial institutions active in the country. The efforts of GRZ, including jointly with individual MDBs, may not be sufficient to bring the projects to bankability and/or facilitate access to capital on terms that allow the maintenance of financial subsistence for the end-borrowers (farmers). The local players may be unable to design complex financial products and models, allowing risk distribution across the value chain and maximising benefits at the 'bottom of the pyramid'. Therefore, NPC would play a critical role in bridging the gap.

## RESULTS INDICATORS

Table 18: Proposed Results Indicators

Activities	Indicators
Capacity building for farmers	<ul style="list-style-type: none"> <li>Number of farmers improving knowledge and skills on climate-resilient agriculture</li> </ul>
Capacity building for financial institutions	<ul style="list-style-type: none"> <li>Number of financial institutions introducing dedicated financing products and facilities for CSA</li> </ul>
Climate mitigation outcomes	<ul style="list-style-type: none"> <li>GHG emissions expected to be avoided or reduced by a project or a project portfolio (at financial institution level)</li> <li>Water use expected to be avoided or reduced</li> </ul>
Climate adaptation outcomes	<ul style="list-style-type: none"> <li>Soil erosion/deforestation expected to be reduced and/or avoided, ha of arable area</li> </ul>
Access to Capital	<ul style="list-style-type: none"> <li>Third-party financing facilitated by the program (Disaggregated into financing facilitated for men and for women)</li> </ul>
Improvement of livelihoods	<ul style="list-style-type: none"> <li>Number of farmers increasing income (Disaggregated into men and women)</li> </ul>

## FINANCING PLAN

Table 19: Funding plan

Component	Indicative Financing Source (US\$ million)				
	CIF NPC	IFC	Private Sector	Other	Total
Climate-Smart Agriculture, Climate Resilience	3.00	3.00	TBD	TBD	<b>6.00</b>

## EXPECTED PROJECT PREPARATION TIMETABLE

Table 20: Project preparation timeline

Stage	Deliverables	Timeline
1	Detailed set of eligibility criteria and rules for applying for the program support	4 months
2	A detailed description of the financing envelope, including the proposed breakdown of volumes by the types of instruments	2 months
3	An initial set of eligible projects to review	2 months
4	Closure of the window of the project support applications	18 months

## Proposed Program Title: Strengthening Community Livelihoods and Resilience through the Sustainable use of Natural Resources

### Partner: The World Bank

#### A1.1 PROBLEM STATEMENT

Zambia is richly endowed with natural resources, and its national economy is primarily driven by the exploitation of natural resources. Forests cover nearly 60 percent of the total land area of the country, with about 7 percent gazetted as protected forest reserves. For timber, traditional medicine, wood fuel, food and building materials, forests are a lifeline of rural economies where poverty levels are as high as 80.35 percent. Overall, poverty in Zambia is geographically enclaved: the higher the poverty levels, the higher the level of dependence on the use of natural resources for survival. In the national economy, forests play an important role. It should be noted that 73 percent of Zambia's total wealth comes from renewable natural capital including protected areas, pastureland, cropland, and forests. Additionally, forests support about 1.8 million people through the community forestry initiatives and creates about 1 million direct and indirect jobs, of which 60 percent are rural based.

The forestry sector presents a huge potential for investment and contributing to the socio-economic development and well-being of people. Furthermore, forests play major roles in both carbon and hydrological cycles. They are key factors in watershed and soil conservation, and are important for other landscape factors (e.g. soil erosion). However, forest resources are under pressure from the effects of several degrading factors including deforestation, encroachment, uncontrolled bush fires and

agricultural expansion. Forest degradation is primarily because of inappropriate management regimes and unsustainable harvesting systems. However, despite the preponderance of the sector in both national economy and local livelihoods, forests are under serious threats of degradation. Deforestation in Zambia is a complex issue driven by multiple factors. The primary drivers include charcoal production, agricultural expansion, and weak forest governance, proximity to roads and settlements, and economic factors. Charcoal production is a significant driver of deforestation, particularly in urban areas where it is used extensively for cooking and heating – and this is exacerbated by power outages that the country has been going through due to prolonged drought. The expansion of agricultural land, especially for smallholder farming, is a major cause of deforestation. This includes both the increase in production areas and shift cultivation due to poor crop management practices. Weak governance and poor implementation of forest management practices contribute to deforestation – and this calls for effective governance to regulate land use and controlling deforestation. In general, the management of natural resources in the country is plagued with lack of coordination and manpower among institutions, and limited technical capacity.

## **A1.2 Proposed Contribution to Transformational Change**

Potential Nature, People and Climate (NPC) funding in Zambia would be implemented as part of the \$117.7 million Transforming Landscapes for Resilience and Development in Zambia phase II (TRALARD II) project. With the overall development objective to improve natural resource management, support sustainable livelihoods, and strengthen climate resilience of communities and ecosystems in select districts and the Miombo region, the project will be phased in implementation. In the first phase, priority provinces include Muchinga, Copperbelt, Central and Southern Provinces. The NPC funding would be directed to drive transformational change by empowering local communities with skills to sustainably manage their forests. Improved management skills and capacity enable communities to implement better conservation practices, reducing deforestation and enhancing biodiversity gains also for economic returns. By establishing and strengthening strong market linkages, the project can create economic incentives for sustainable forest use, providing communities with income from forestry and non-timber forest products (NTFPs) while preserving natural resources. This dual approach not only fosters environmental stewardship but also stimulates local economies, promoting long-term sustainability and resilience against environmental, climatic, and economic challenges.

The overall objective would be to improve natural resource management, support sustainable livelihoods, and strengthen climate resilience of communities and ecosystems in select districts and the Miombo region. With this objective, the NPC project would focus on Nature-based Solutions (NBSs) and contribute to improving livelihoods of forest-dependent communities through improved market linkages for forestry products. Promoting value chains of non-wood forest products has the potential to positively impact on local area economies and improve household incomes. Strengthening Community Forest Management Groups (CFMGs) with skills on sustainable harvesting and processing of forest products will allow regeneration and maintenance of forest health, and provide additional income to communities for livelihoods improvement and local development.

### **A.1.3 Implementation Readiness**

Zambia would be ready to implement a NPC project, as it has various enabling legal and policy frameworks and is working on additional/improved ones. As a party and signatory to various multilateral environmental agreements, Zambia has developed various policy documents aligned with the NPC objectives. They include the: Vision 2030; Forest Policy 2014 and a draft 2024 National Forestry Policy;

National Heritage Conservation Commission Act (No. 173 of 1989); National Policy for the Management of Wetlands; National Policy on Environment and Environmental Management Act (No. 12 of 2011); National Parks and Wildlife Policy 2018; National Biodiversity Strategy and Action Plan (2015–2025); Green Growth Strategy (2024–2030); National Adaptation Plan of Action (NAPA); National Adaptation Plan (2023); Eighth National Development Plan; Forestry Investment Plan (2017); Forestry Act (2015); Second National Agricultural Policy (SNAP) 2016; and National Water Policy and the Water Resources Management Act (No. 21 of 2011). The country subscribes to the Sustainable Development Goals. In coordination with other departments from linked ministries, the Ministry of Green Energy and Environment (MGEE) would lead the NPC implementation as Additional Financing for TRALARD II. Besides collaborating with other departments from other ministries, particularly the Ministry of Agriculture (MoA), the Ministry of Small and Medium Enterprise Development, the project will weave partnerships with local communities and private sector in the development of NTFPs.

#### **A1.4 Potential Implementing Partners**

The World Bank as the implementing agency for NPC funds would provide technical, environmental and social, and fiduciary management support to the MGEE as the lead agency in project implementation. As strengthening value chains and market linkages is a key objective of TRALARD II, the NPC funding would allow broadening related partnerships with the private sector to spur the potential to create economic incentives for sustainable practices and green jobs and ensuring long-term forest conservation.

#### **A1.5 Rationale for NPC Financing**

The project's entry point to the socioeconomic and environmental challenges will be NBSs to achieve systemic change and adaptive sustainability and contribute to a transformational impact on how natural resources are managed and used and environmental challenges are addressed while building alternative and climate resilient community livelihood options in Zambia. NBSs are effective and economic tools to solve problems compared to traditional grey interventions. Additionally, nature-based interventions are most often shown to be as effective as or more so than alternative interventions for addressing climate impacts. The focus on NBSs to achieve systemic change and adaptive sustainability will therefore demonstrate value for financial resources that will be used to build stakeholder and community capacities and invest in sustainable natural resources management and community well-being. Thus, additional NPC financing to increase TRALARD II impacts would allow the Government, supported by the World Bank, to leverage proven implementation arrangements and scale environmental, resilience and socioeconomic results in the TRALARD II targeted provinces.

#### **A1.6 Monitoring and Evaluation**

The NPC grant would be integrated in a robust M&E system under preparation for TRALARD II, consistent with the CIF-NPC Results Framework and the World Bank Group Scorecard and ongoing efforts to support learning and sharing of lessons and knowledge across the relevant portfolio in Zambia. TRALARD II indicators will be gender-responsive and include those related to: terrestrial area under enhanced conservation and management (Hectares); number of people with enhanced resilience to climate risks (Number, disaggregated by gender); and number of new or better jobs, of which (%) for women and youth (Number, disaggregated by gender and age).

## A1.7 Financing Plan, Including Financial Instruments

Table 21: Financing Plan

Components	USD		
	CIF	TRALARD II	Total
Component 1: Fostering implementation of the National Green Growth Strategy 2024-2030 <sup>35</sup>	2.80	17.00	19.80
Component 2: Promoting climate-smart livelihoods and value chains and green and inclusive jobs	6.00	96.00	102.00
Component 3: Project and Knowledge Management, Coordination and Collaboration	1.20	5.70	6.90
<b>Total</b>	<b>10.00</b>	<b>118.7</b>	<b>128.7</b>

The TRALARD II funding is coming from the following sources:

- IDA21 grant: \$100M
- GEF-8 (Land Degradation and Biodiversity Window) and Least Developed Countries Fund (LDCF): \$10.4M
- Nordic Development Fund (NDF): \$8M
- Global Center for Adaptation (GCA): app. EUR 250,000 for technical assistance (TA)
- Total available funding: app. \$118.7M

## A1.8 Environmental and Social Risk Management

TRALARD II will apply the World Bank Environmental and Social Framework (ESF). The TRALARD II ESF instruments, including an Environmental and Social Management Framework (ESMF), including Labor Management Procedures (LMP), Stakeholder Engagement Plan (SEP), and Environmental and Social Commitment Plan (ESCP) will be updated as/if necessary to adequately cover the additional NPC interventions.

## A1.9 Full Project Preparation Timetable

The project preparation timetable is shown in the table below with an indicative period of about six to seven months to the Board approval.

Table 22: Project Preparation Timetable

Stage	Approximate timeframe							
	Dec 24	Jan 25	Feb 25	March 25	April 25	May 25	June 25	July 25
<b>Grant launch/inception</b>								
<b>Relevant assessments (environmental and socioeconomic)</b>								

<sup>35</sup> Under the GGS umbrella, the NPC grant would equally contribute to implementation of the National Adaptation Plan 2023, the updated 2024 National Forestry Policy, and 8NDP.



<b>feasibility and baseline studies)</b>								
<b>Grant document development, including missions and negotiations</b>								
<b>Submission to Board</b>								

#### **A1.10 Requests, if any, for Investment Preparation Funding**

**TBA**



## The Climate Investment Funds

The Climate Investment Funds (CIF) were established in 2008 to mobilize resources and trigger investments for low carbon, climate resilient development in select middle and low income countries. To date, 14 contributor countries have pledged funds to CIF that have been channeled for mitigation and adaptation interventions at an unprecedented scale in 72 recipient countries. The CIF is the largest active climate finance mechanism in the world.

### THE CLIMATE INVESTMENT FUNDS

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