REPUBLIC OF ZAMBIA
MINISTRY OF LANDS AND NATURAL RESOURCES

NATIONAL ADAPTATION PLANNING FOR CLIMATE RESILIENT ZAMBIA PROJECT (NAP4CR)

MANUAL

INTEGRATING CLIMATE CHANGE ADAPTATION INTO PLANS AND BUDGETS

LOCATION: Lusaka, Zambia
DECEMBER 2021

ACRONYMS

TABLE OF CONTENTS

EXECUTIVE SUMMARY

ABBREVIATIONS AND ACRONYMS

7 NDP	-	7th National Development Plan
8NDP	-	8th National Development Plan
ABB	-	Activity Based Budgeting
AIP	-	Africa Investment Plan
CBD	-	Convention on Biological Diversity
CCA	-	Climate Change Adaptation
CC	-	Climate Change
CCFU	-	Climate Change Facilitating Unit
CDF	-	Constituency Development Fund
DDCC	-	District Development Coordinating Committee
GCRA	-	Gender Climate Risk Assessments
GCF	**-**	Green Climate Fund
GEF	-	Global Environmental Facility
GWP	-	Global Water Partnership
GWPSA	-	Global Water Partnership Southern Africa
MMS	-	Management Monitoring System
MFDP	-	Ministry of Finance and National Planning
M&E	-	Monitoring and Evaluation
MLNR	-	Ministry of Lands and Natural Resources
MTEF	-	Medium Term Expenditure Framework
NAPA	-	National Adaptation Programme of Action
NAP	-	National Adaptation Plan
NCCRS	-	National Climate Change Response Strategy
NDCs	-	Nationally Determined Contribution
NPCC	-	National Policy on Climate Change
OBB	-	Output Based Budgeting
PPCR	-	Pilot Programme for Climate Resilience
RIA	-	Rapid Integrated Assessment
SDGs	-	Sustainable Development Goals

EXECUTIVE SUMMARY

This Manual is targeted at development practitioners and planners in Key Ministries, Sectors and Local Government officials responsible for planning and budgeting, it can also be of direct interest and relevance to policy makers and practitioners. The Manual will guide and help to inform Policy Makers, Climate change negotiators, practitioners and policy analysts about the development processes and governance contexts within which decisions to implement adaptation might eventually be taken.

The Rational for the Manual is to: -

Promote understanding of the implications of climate change on development practices and the associated need to mainstream Climate Change Adaptation in the development of plans and budgets;

- identify appropriate approaches for integrating climate adaptation into development policies at national, sectoral and project levels;
- Assist in identifying practical ways to reduce their vulnerability to climate variability and climate change
- to identify and prioritise adaptation responses and, where necessary, integrate them through relevant measures at various levels.

This manual provides and highlights the approaches that can be used to integrate climate change in plans and budgets and provides guidance on the integration process to:

i) Carry out impact and vulnerability assessments;
ii) Identify opportunities and options to entry points for integration of climate change adaptation measures;
iii) Propose options for integrating climate change adaptation and mitigation into the policy formulation process, financing, implementation and evaluation at national, sectoral and local levels; and assist to improve resilience.
iv) Assist in designing a plan for monitoring and evaluation (M&E).

The manual is targeted at different stakeholders with interest in climate change issues, including policy makers, sector ministries, planners and officials in local government, implementers and their partners and collaborators such as Civil Society Organisations (CSOs), Private Sector Organisations ((PSOs), and Development Partners. The Integration Manual is prepared in such a way that the policies and measures identified will lead to climate change adaptation options, and can be consolidated into sectoral or area specific adaption plans and actions. The plans will include budgeting, implementation and monitoring of measures. As well as to guide and to provide step-by step instructions to guide the planners on how to mainstream Climate Change Adaptation in the Development Plans and Budgets and the alignment of the SDGs in their medium-term development plans.

The users of this manual are those officers who are involved in the development of the medium term development plans. The Users the manual must note that this guide is not meant to replace the guidelines

provided by other tools used by the Ministry of Finance and National Planning for the preparation of National Development and Sector Plans. It is meant to provide a step-by-step instruction to the planners in the integration of Climate Change Adaptation and sometimes mitigation and in the alignment of the SDGs in the plans and Budgets. It also places emphasis on stakeholder participation.

1. INTRODUCTION.

1.1 Zambia's Climate and Weather Context – Current and Future Scenarios

The integration process starts with the understanding of Climate and Weather patterns and the Context in which they occur. Climate being the long term patterns of meteorological conditions and weather being the meteorological conditions in a given place on a given day. Zambia is characterised by a **subtropical climate** with a rainy summer and a dry winter season. The country lies between 1000 and 1300 m, temperatures are moderate and lower than for typical areas of the same latitude. The rainfall is extremely variable from year to year with an annual mean precipitation between 600 mm in the south and 1400 mm in the north of the country.

The precipitation patterns, for annual total rainfall shows no clear region wide trend and the future climate models also do not project a clear trend in precipitation amounts. Furthermore, projections suggest a tendency towards more intense and more frequently heavy rain-fall events as well as a substantial elongation of dry spells. For the climatic water balance also no clear trend is projected for the future.

Zambia has a tropical climate, temperatures and has the highest seasonal temperatures reached in the hot, dry September, October and November (SON) (22-27°C), and coolest in the winter months of June, July and August (JJA) (15-20°C). The hot summer months are very dry, receiving almost no rainfall between June and August and sometimes September. Rainfall in Zambia is also strongly influenced by the El Niño Southern Oscillation (ENSO), which causes further inter-annual variability. El Niño conditions (warm phase) bring drier than average conditions in the wet summer months of December, January and February (DJF) in the southern half of the country, whilst the north of the country simultaneously experiences significantly wetter than average conditions. The reverse pattern occurs with La Niña (cold phase) episodes, with dry conditions in the north and wet conditions in the south. (Meteorological Department records)

Phenomenon and direction of trend	Likelihood that trend occurred in late 20th century (typically post-1960)	Likelihood of future trends based on projections for the 21st century
Warmer and fewer cold days and nights over most land areas	Very likely	Virtually certain
Warmer and more frequent hot days and nights over most land areas	Very likely	Virtually certain
Warm spells/heat waves. Frequency increases over most land areas	Likely	Very likely
Heavy precipitation events. Frequency (or proportion of heavy falls in total rainfall)	Likely	Very likely

increases over most areas		
Area affected by drought increases	Likely in many regions since the 1970s	Likely
Intense tropical cyclone activity increases	Likely in some regions since the 1970	Likely
Increased incidence of extreme high sea level (excludes tsunamis)	Likely	Likely

Table 1: Climate Trends current and future of extreme weather events

Source: Climate Change Proofing Manual 2014

The Future Climate projections shows that the mean annual temperatures are projected to increase by between 1.2 to 3.4°C by the 2060s, and between 1.6 to 5.5°C by the 2090s. On precipitation the projections of mean rainfall do not indicate large changes in annual rainfall. Seasonally, the range of projections from different models is large, but indicate decreases in September, October and November (SON) rainfall (-39 to +14% by 2090) and increases in December, January and February (DJF) rainfall.

Zambia experiences extreme events/disasters, mainly drought and flooding, drought comes with the extreme temperatures and prolonged dry spells which are threatening both urban and rural livelihoods through crop failures and degraded food and water security systems. These hazards have become more frequent and severe recently extending in almost the entire country, with impact on various sectors. Climate variability undermines attempts to reduce poverty and food insecurity, since most of Zambia's poor population consists of rural small-scale farmers who rely on agricultural incomes and dependent on natural resources for their survival.

1.2 CLIMATE CHANGE IN ZAMBIA

Climate Change refers to change in climate over a time period from 10 years to 100's of years and it is the alteration in the Long term patterns and statistical averages of the meteorological events. Climate variability on the other hand refers to changes in climate from one year to another, it is natural and occurs on a regular basis. Climate change is a complex phenomenon, there is therefore, a need to demystify climate change, and need for education and awareness raising on the impacts of climate change. Accurate information should therefore be shared on the what, the why, how Climate Change occurs and the measures put in place to address the impact.

Climate change in Zambia may has negative impacts on several sectors, including water, forestry, wildlife resources, tourism, mining, energy, transport and telecommunication infra-structure and social infrastructure. The most impact is on the climate-sensitive sectors of Agriculture, Water, Energy and Health, and the country's poor and vulnerable due mostly to recurrent floods and droughts and socio-economic isolation. It is also because these groups are heavily reliant on subsistence crops, sales of livestock and natural resources, and casual labour (mostly paid for in food), making them vulnerable to climate-induced crop failure during droughts and floods, which in turn affects their livelihoods and income earning capabilities. As the climate patterns become more erratic, water and energy re-sources, infrastructure and housing, and animal and human health are increasingly affected. The Socio-economic impacts of long-term climate change and short-term weather variability (including extreme events) are

projected to be severe for Zambia as a whole, (see Jain, 2007; Thurlow et al., 2012; Phiri et al., 2013; Blignaut, 2016). Climate Change presents a threat to development efforts in the country.

The lack of coping and adaptive capacity is more pronounced for the communications, Governance, physical infrastructure and health sectors / systems. The vulnerable categories include women-headed households, the Elderly, the disabled, those taking care of HIV/AIDS-orphans and single or divorced male-headed households. Climate risk management and access to accurate and reliable weather and climate information is useful in strengthening early warning and supporting informed decision making and planning for uncertainty so as to reduce the impact of climate related hazards and disasters. Climate change affects economic growth and climate variability has a pronounced negative effect on economic growth. Negative impacts of climate change are observed on key economic sectors including water, agriculture, forestry, wildlife, tourism, mining, energy, infrastructure and health.

1.3 GENDER MAINSTREAMING AND RESPONSIVENESS TO CLIMATE CHANGE

Climate Change also increases the gender inequalities, according to Zambia's Human Development report for 2018, the Gender Inequality Index (GII) value for 2018 was 0.526, ranking it 124 out of 159 countries. The GII can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions of reproductive health, empowerment, and economic activity. The Government has enhanced capacity for gender mainstreaming and engendering of key policies, plans, programmes, projects, activities and budgets by coordinating and monitoring implementation of the National Gender Policy. In line with SDG 5, the 7NDP and 8NDP provided women and girls with equal access to education, health care, decent work and representation in political and economic decision-making.

In integrating Climate Change in plans and budgets, there is need to take into account the adaptive capacities and vulnerabilities of women and men, boys and girls, the lack of access to resources and the types of adaptive measures and resources and policies available. This makes it easy to have adaptation options that are tailored to the needs and responses to the needs of the poor and vulnerable. Women tend to be more reliant on climate sensitive resources and have lesser adaptive capacity because of the gendered nature of resource entitlements and benefits, but they also have invaluable indigenous knowledge on their environment which can be harnessed to increase their adaptive capacity. The Manual includes a tool with the Gendered assessment of vulnerability taking into account adaptive capacity, vulnerability, impacts of climate change on gender relationships and type of adaptive measures and policies. A checklist on gender responsiveness and adequacy is in the Annex

1.4 CLIMATE CHANGE, IMPACT, RISKS AND VULNERABILITIES

A system's vulnerability to climate change has three core components, the system's adaptive capacity – or capacity of the system to adapt to the change, the system's exposure and the system's sensitivity to the risk. To assess the vulnerability of a system or landscape, there is need to understand the exposure of all aspects of the system to externally imposed stresses and shocks. Assessing vulnerability includes measuring the exposure of the system to the risk factors; and measuring the system's sensitivity to these factors. Exposure and sensitivity together comprise the potential impact of such risks. The potential impact is combined with the capacity of the system/sector/group to resist, manage and respond to those impacts. This capacity is referred to as adaptive capacity. Together, impact and adaptive capacity provide a measure of vulnerability. This approach is adapted from the Intergovernmental Panel for Climate

Change (IPCC) Assessment Report, 2007 (see Figure 1). Climate Change Risk and Vulnerability Assessments (R&V Assessments) use Geographical Information Systems (GIS) mapping outputs to determine a system's vulnerability, exposure and adaptive capacity. (Ref Fig 1)

Exposure as the contact between a person and one or more biological, psychosocial, chemical, or physical stressors, including stressors affected by climate change. Contact may occur in a single instance or repeatedly over time, and may occur in one location or over a wider geographic area.

Sensitivity /Impact- as the degree to which people or communities are affected, either adversely or beneficially, by climate variability or change.

Adaptive capacity is the ability of communities, institutions, or people to adjust to potential hazards, to take advantage of opportunities, or to respond to consequences. A related term, *resilience*, is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events like floods and droughts.

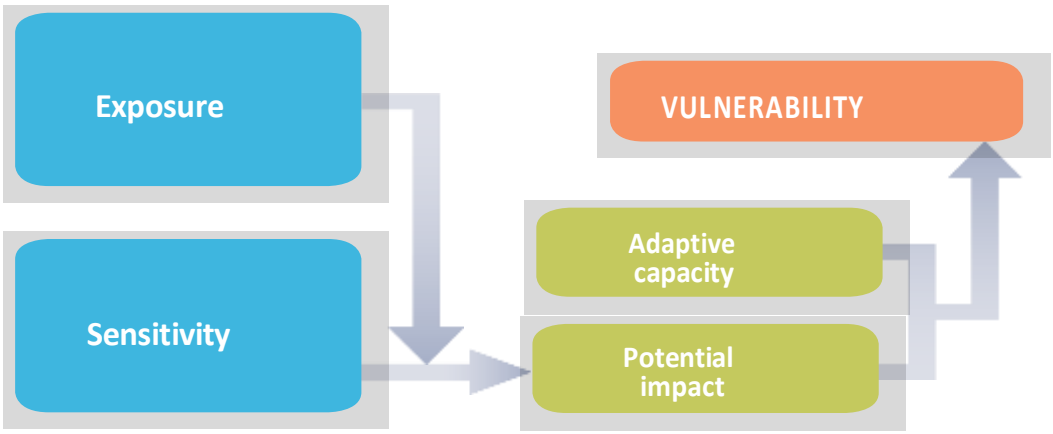


Fig 1: Elements of Vulnerability

Source: Screening Tool 2020

1.5 VULNERABILITY MAPS

Analysing climate and understanding climate vulnerability begins with collecting a wide variety of data (data layers) relevant to an area, for example the Barotse Sub-basin, or the whole of Zambia. This includes information about geophysical factors such as flood frequency and forest loss, as well as socio-economic factors such as access to healthcare, food security, socio cultural activities etc., Using GIS software, the various data layers are combined into summary layers or maps, that represent exposure, sensitivity and adaptive capacity. These maps present the expected distribution of Vulnerability in an area and allows decision-makers to determine the underlying drivers of vulnerability specific to different areas. The summary maps include the Exposure, Sensitivity, Adaptive Capacity, Problem Areas (or 'Potential Impact') and Vulnerability (or 'Hotspots') layers. These summary maps are also used to determine the drivers of vulnerability. The Stakeholders are key in the validation of the inputs it terms of their lived

experiences and informing the narrative that accompanies the maps. In Zambia vulnerability maps and Vulnerability and Risk reports are developed for the whole of Country, and regularly validated with stakeholders across many of the regions. The maps are intended to support and inform the decision-making process and can be used as part of the Screening process.

The Maps include:

1. Exposure Maps: Exposure to climate variation is primarily a function of geography. For example, communities situated close to a river or in low-lying areas will have higher exposure to flooding, while communities in semi-arid areas may be most exposed to drought. The indicators that contribute to exposure to climate variation are used in producing the map, these include rainfall variability, floods, frequency of fires and other climate -related factors.

2. Sensitivity Map is the degree to which a given community or ecosystem is likely to be affected by climatic stresses. For example, a community dependent on rain-fed agriculture is much more sensitive to changing rainfall patterns than one where mining is the dominant livelihood. The indicators of sensitivity, include factors such as water stress, forest loss, population density on agricultural land and rainfall per capita.

3. Adaptive capacity Map is broadly defined by the availability of systems and infrastructure that support alternative livelihoods, human health and welfare. Adaptive capacity is what makes it possible or easier for a system or community to adapt to climate or other stressors. The Indicators include socio-economic factors such as access to safe water, distance to electricity grid, healthcare access and employment rate.

4. Impact Map: An analysis of the exposure and the sensitivity category layers underpins the assessment of the problem areas, or areas of highest impact in Zambia. This is derived from a formula of exposure multiplied by sensitivity, indicating that potential impact is a function of exposure and sensitivity.

5. Vulnerability Map The assessment of vulnerability is based on an analysis of the impact and adaptive capacity layers. A formula of impact divided by adaptive capacity is used, thus vulnerability is a function of exposure, sensitivity and adaptive capacity. The vulnerability map or 'hotspots' map shows the relative levels of vulnerability to climate change in Zambia, highlighting areas to focus on to reducing vulnerability.

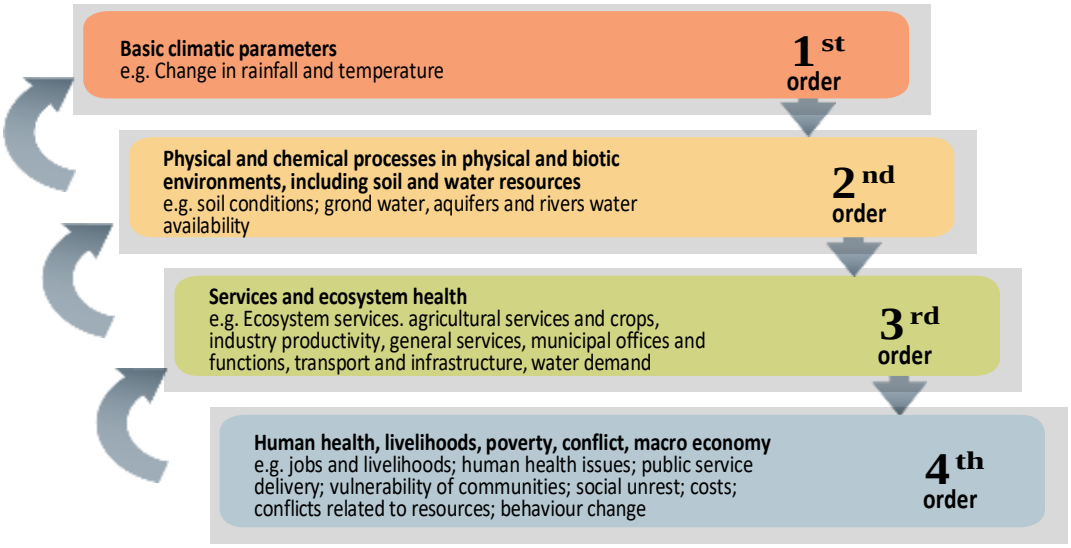
1.6 DRIVERS OF RISK AND VULNERABILITY

It is important to understand climate impacts and how they move through a given system (i.e. cause and effect pathways) at different time and spatial scales. This is key for linking the drivers of risk and vulnerability with local impacts. People's understanding of climate change vulnerability risk and impacts within communities and amongst decision makers and stakeholders vary. Climate change impacts are felt across different systems and sectors, for example water, agriculture and human health, which are cross-cutting in nature and it is critical to use a cross-sectoral approach in climate change assessments, as below:

- Basic Climate Parameters (1st Order)
- physical and chemical processes in the physical and biotic environment (2nd order)
- ecosystem services and production potential (3rd order), and
- social and economic conditions (4th order).

The same can be done for impacts (Refer Screening too).

Fig 2: OneWorld's 1st-to-4th Order Impact Assessment Framework



1.7 WHY INTEGRATE CLIMATE CHANGE ADAPTATION IN PLANS AND BUDGETS

Integration is done in order develop measures for a particular concern into development processes and actions and to try and reverse the rapidly accelerating climate change impacts on the vulnerable sectors. More especially the sectors that are particularly susceptible to Climate Change Hazards to and avoid supporting unsustainable activities. It is also useful in identifying harmful impact on the environment, climate and natural resources and to systematically address environmental and climate-related risks and constraints that could slow down the achievement of the development objectives, policies, plans and programmes. This is used to seize opportunities in order to achieve longer-term and more Sustainable Development benefits that enhance socio-economic development and socio-political stability, at the same time preserving the natural ecosystems through positive co-benefits and actions.

1.8 PURPOSE AND OBJECTIVES OF THE MANUAL

This Manual is targeted at development practitioners and planners in Key Ministries, Sectors and Local Government officials responsible for planning and budgeting, it can also be of direct interest and relevance to policy makers and practitioners. The Manual guides and helps to inform climate change negotiators, practitioners and policy analysts about the development processes and governance contexts within which decisions to implement adaptation might eventually be taken. Users of this this manual must note that this guide is not meant to replace the guidelines provided by Ministry of Finance and National Planning for the preparation of Long and medium term plans. It is rather meant to provide step-by-step instruction to guide in translating and localizing the climate Change related development objectives in their development plans.

2.0 POLICY AND INSTITUTIONAL FRAMEWORK TO SUPPORT CLIMATE CHANGE IN ZAMBIA

2.1 POLICY FRAMEWORK

Climate change affects all sectors of the economy, demanding a multi-sectoral, well-coordinated mechanism in order to achieve adaptation and mitigation targets. The Ministry of Finance and National Planning together with the Ministry of Green Economy and Environment which coordinates the national response to climate change, this is to avoid fragmentation and ensuring an effective and efficient response system. It also provides institutional arrangements which are anchored in collaborative efforts by stakeholders.

2.2 GLOBAL AND REGIONAL ACTION ON CLIMATE CHANGE

Zambia is part of the **United Nations Framework Convention on Climate Change (UNFCCC):** an international environmental treaty, was adopted with the objective to "stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." This was adopted in 1992. Zambia is a party to the UNFCCC having signed and ratified the Convention on 11th June, 1992 and 28th May, 1993, respectively.

The Kyoto Protocol: In 1997, the UNFCCC Parties adopted the **Kyoto Protocol (KP)**, which was the first international climate change agreement to set legally binding emission reduction commitments for developed countries. Zambia is a party to the Kyoto Protocol which it signed on 5th August, 1998 and ratified on 7th July, 2006.

The Paris Agreement (PA): The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels. To also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Under the PA each party develops an NDC, (Zambia is on it 2nd NDC), Zambia is a party to the PA after having signed and ratified the Agreement on 20th September, 2016 and 9th December, 2016 respectively.

The other guiding documents are the Sustainable Development Goals (SDG's), which contains a mixed bag of targets with varying emphasis across the sustainable development dimensions. The goals on Climate change and environmental sustainability are (SDG-13, SDG -14, SDG-15), and other goals indirectly touching on climate change and environmental sustainability. At the Regional and Sub Regional level, there are Strategic Frameworks, like the Africa Union Agenda 2063, the Africa Union Regional Strategic Framework on Climate Change, the SADC Regional Indicative Strategic Plan (RISDP), the COMESA Strategic Development Framework.

2.3 MAJOR POLICY INSTRUMENTS ON CLIMATE CHANGE IN ZAMBIA

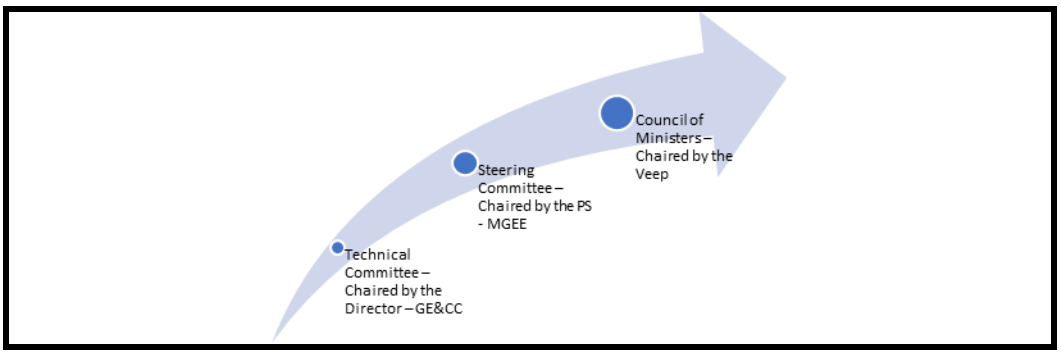
At National Level there a number of instruments on climate change, starting with the **Seventh National Development Plan (7NDP) (2017–21)** highlighted the importance of addressing climate change in national plans, the **Eight National Development Plan (8NDP)**,(**2022 – 2026)** has continued the trend with a dedicated pillar on Environmental Sustainability and efforts have been made to mainstream climate Change across all the four pillars of the plan. There are other planning instruments in the process of being streamlined in line with the National Planning and Budgeting Policy. These are **the National Climate**

Change Policy (now under review), **the National Climate Change Strategy Paper, the National Adaptation Plan**, in addition to the various Sectoral Policies and Corresponding NAPs**. The Zambia Nationally Determined Contributions** documents to the Paris Agreements also offers the necessary guidelines to Climate Change Adaptation.

2.4 INSTITUTIONAL COORDINATION FOR CLIMATE CHANGE IN ZAMBIA

In Zambia, there are key ministries and entities responsible for climate change coordination, policy formulation and providing over sight roles, as illustrated in the figure below;

Fig 3: Institutional Framework for the Coordination of Climate Change in Zambia



Source: Ministry of Finance and National Planning

The council of ministers is the supreme decision making body for overseeing climate change interventions in the country. This is chaired by the Vice President and the Ministry of National Planning at the Secretariat. The Council of Ministers provides policy guidance on mainstreaming climate change at all levels, guidance on Monitoring and Evaluation (M&E) reviews and reports from implementing entities, also guides on resource Mobilization, the steering committee to ensuring that climate change programmes are complementary and result in sustained positive impact on the national economy.

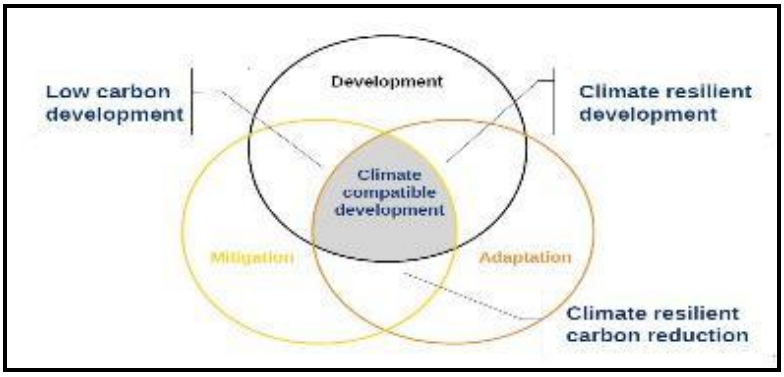
The is a Steering committee of Permanent Secretaries (PSs), is made up of relevant Ministries i.e, Ministry of lands and Natural Resources, Ministry of Finance and National Planning, Disaster Management and Mitigation Unit and others. This Committee is chaired by the Permanent Secretary Ministry of Green Economy. The key role of the Steering Committee includes; facilitating implementation of all climate change programmes, capacity building in all institutions and agencies, strengthening climate change information systems, providing technical backstopping on climate change programmes, monitoring implementation across sectors, reporting to Government and other stakeholders, facilitating climate change research, education, public awareness and reports to the technical committee on the implementation of climate change programmes.

The Third is the Technical Committee Chaired by the Director Green Economy and Environment, comprising of various technical personnel from the key Ministries and Sectors, Civil Society Organizations, Private Sector Organizations and other relevant key Stakeholders.

2.5 LINKAGES BETWEEN CLIMATE CHANGE AND DEVELOPMENT

The need for the integration of climate change in development frameworks is important due to the fact that impacts of climate variability and change and the climate policy responses, and associated socioeconomic development have an effect on the ability of countries to achieve sustainable development goals. Successful implementation of those goals will in turn affect the opportunities for, and success of, climate change policies. There is a linkage between poverty and climate change given that climate change will compound existing poverty. More especially in societies, which have a much higher dependence on natural resources and with limited capacity to adapt to a changing climate. Climate strategies must therefore embrace development goals and development strategies that integrate the threats and opportunities of a changing climate for the meaningful development for the whole society.

Figure 4: Climate compatible development



Source: SADC Green Growth Strategy

2.6 ENTRY POINTS AND OPPORTUNITIES FOR THE INTEGRATION PROCESS

The integration of climate change in policies, plans and budgets in Zambia considers the key processes, which are guided by broader national vision and development strategies. Table 2 gives the proposed entry points at national, sectors, sub national and local planning levels.

Table 2: Main entry points for climate change mainstreaming process at different levels

Policy Cycle Stage	National level	Sector level	Implementation level
Policy formulation: Recognize & consider climate risks	Long-term Vision; National Policies &Strategies Vision 2030 - 7NDP & 8NDP	Sector policies & strategies	Formulation of local actions
Planning	Multi-year development plans	Short & medium-term sectoral plans	Priority setting & incorporation into implementation action plans
Resource Allocation (National budget) Allocate funding for climate-specific actions	Include climate-related programmes/projects (sectoral and cross-sectoral) Relocate funding to vulnerable sectors/regions	Incorporate climate related activities and include climate considerations in project selection	Priority setting & budget reallocations at local level

		criteria	
Programming & Implementation	Sector-level development plans and budgets	Sector programming: Incorporate climate-related activities	Local actions

Source: Guidelines for Integrating Climate Change in Sector Plans – Zambia 2014

3.0 INTEGRATION OF CLIMATE CHANGE ADAPTATION IN NATIONAL AND SECTORAL PLANS AND BUDGETS

3.1 THE PROCESS OF INTEGRATION / MAINSTREAMING CLIMATE CHANGE ADAPTATION IN PLANS AND BUDGETS

There are many processes involved in the integrating of Climate Change Adaptation in the plans and budgets. These processes require the assessment of the implications of CCA on any planned development actions, at national level, in the thematic areas / Clusters, sectors, projects and programmes. Integration has been an integral part of the design, implementation, and monitoring and evaluation of plans and budgets in Zambia since the NAPAs and the NAPs. The most active participant in this process is the Ministry of Finance and National Planning, and the related Climate Change Committees /Departments. Structures have been created to spearhead the process of integration of the Climate Change Adaptation in National Development Plans, the Sector Plan and budgets in the Ministry of Lands and Natural Resources. There is also a National Coordination/ Steering Committee overseeing the Process.

3.2 RATIONAL FOR MAINSTREAMING CLIMATE CHANGE ADAPTATION (CCA) INTO PLANS AND BUDGETS

Climate Change (CC) is a risk to development and CC may affect development plans, the strategic objectives and goals in a plan may be affected by the risks imposed by the Climate Variability. It is therefore important to plan for the potential CC Hazards which mostly cause vulnerabilities. In the Case of Agriculture drought for example may seriously affect the achievement of the goal on food Security. It is therefore important to mainstream and integrate Climate Change Adaptation in Plans and Budgets at the various levels in a systematic manner so that the impacts of CC are planned and budgeted for. A generic methodology is used to assist in decision making at the various levels.

3.3 THE GENERIC METHODOLOGY

The tools used in the process of integration of CCA in plans and budgets have a generic methodology which is adapted, modified accordingly. The use of the tools and the a**pplication of these tools helps the various stakeholders to:-**

- **Learn** about the climate trends and key geophysical hazards relevant to a specific country, sector or project.

- **Flag** potential impacts and risks from climate and geophysical hazards in a systematic, consistent, and transparent way.
- **Inform** the dialogue, consultation and planning processes at all levels.
- **Recognize** the need for further detailed assessment during preparation and or planning and budgeting processes.
- **Identify** other resources and tools to complement the assessments.

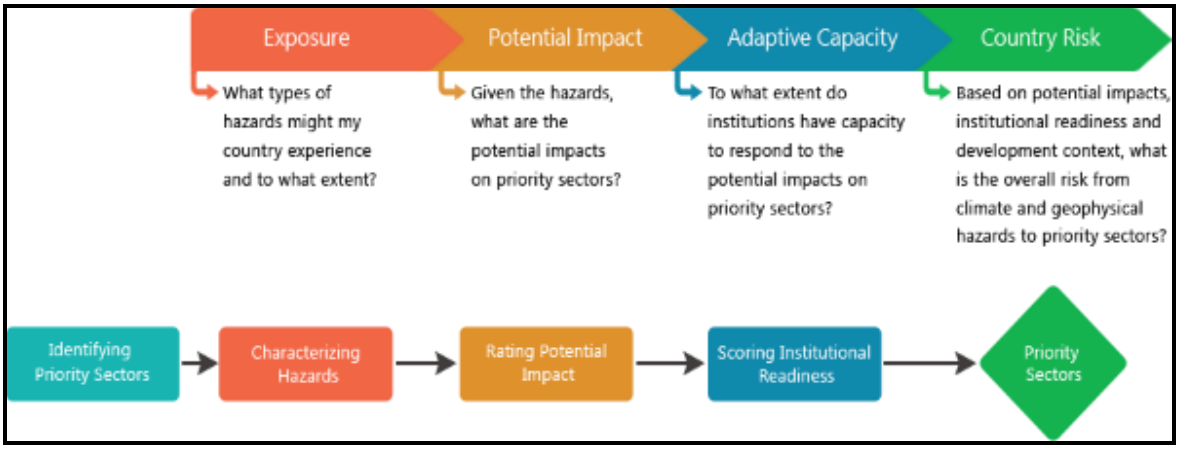
The tools apply an Exposure–Impact/sensitivity–Adaptive-capacity framework to assess risks. All the three elements of vulnerability can change over time: refer section 1.4 and fig 1of elements of vulnerabilities.

3.4 NATIONAL AND SECTOR POLICY LEVEL TOOL METHODOLOGY:

The national policies for level tools are designed to walk users through a series of steps to understand the level of risk posed by climate and other natural hazards at an early stage of planning and design of national or sector-wide strategies, development policy, institutional strengthening and/or reforms. The tools do this by making data on climate change (historic, projected) available in an accessible manner. The tool helps the user connect this information to the broader development context at the national /sector and local level. Most tools use between four and six distinct, but interrelated stages.

- **First**, the user identifies priority sectors required to achieve country goals, which the user will rate for risk in the rest of the tool.
- **Second**, the user gathers information on climate and other hazards in the country and rates the potential impact of the hazards on each priority sector.
- **Third**, the user rates the institutional readiness, which is a measure of the country's ability to respond successfully to the hazards.
- **Fourth**, the user determines overall risk by jointly considering the potential impacts and institutional readiness, along with the larger economic and social context that could influence the level of risk.

Fig 5: National / Sector Policy Level tool generic methodology



Source: World Bank Source book 2019

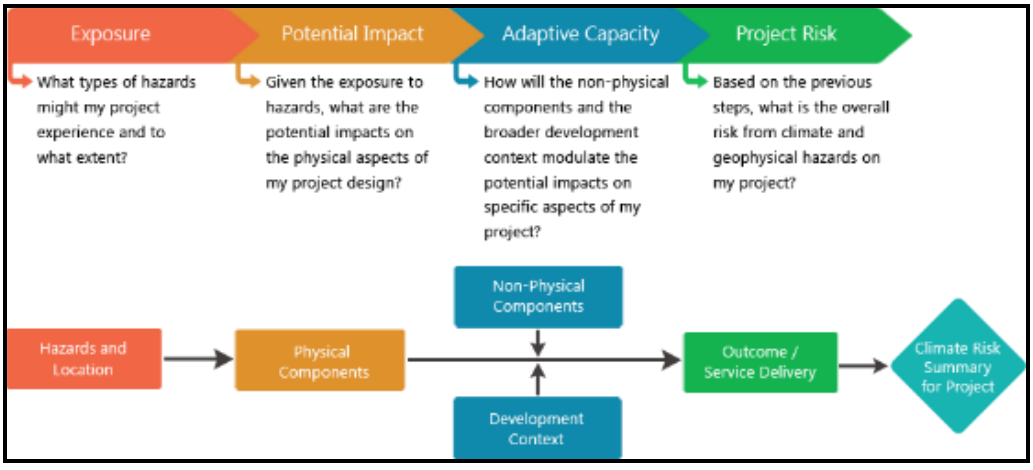
3.5 PROJECT LEVEL TOOL METHODOLOGY:

The project tools are designed to walk users through a series of steps to understand the level of risk posed by climate and other natural hazards at an early stage of project design. The tools do this by making data on climate change (historic, projected) available. The tools help users connect this information to project components and allow users to account for non-physical components such as institutional capacity and the larger development context. Through this process they help users arrive at the risk to the outcome/service level intended from the project.

There are four distinct, but interrelated, stages that users follow.

- **First**, the user evaluates the extent to which their project/location will be exposed to each hazard.
- **Second**, the user combines this information with their understanding of the project's physical components to assess potential impact from each hazard.
- **Third**, the user examines how relevant non-physical factors, such as institutional capacity and the larger economic and social context, influence the level of risk posed to the project.
- **Fourth**, based on these considerations, the user rates the overall risk to the project outcome. A PDF of the overall project risk profile is produced.

Fig 6. Project / Community level generic methodology



Source World Bank Source Books 2019

3.6 THE PROCESS OF INTEGRATION AND TOOLS

The Integration tools follow the standard practice of conducting risk and vulnerability assessments and analyses, developing adaptation options, which includes identifying the options, developing prioritisation criteria, then selecting the best options and designing and implementing policy measures and monitoring their impacts. Depending on the system in use in the planning and budgeting process and the different levels. From the Literature reviewed efforts have concentrated on the development of specific adaptation measures, with a focus on the ones that correspond to the country's "most urgent and immediate needs," as detailed in National Adaptation Plan (NAP) and other policy documents.

3.7 BASIC STEPS FOR INTEGRATING/MAINSTREAMING CLIMATE CHANGE ADAPTATION IN PLANS AND BUDGETS

The common approach used to integrate climate change in national and sector plans and budgets is to: -

i) Carry out impact, vulnerability and Risk assessments;
ii) Identify opportunities and entry points for integration of climate change mitigation and adaptation measures;
iii) Propose options for integrating climate change adaptation and mitigation into the (Plans and Budgets) policy formulation process, - mainstream into plans and budgets;
iv) identify and cost the plan, source financing for the implementation at national, Sector, local and community levels;
v) Set up Systems for monitoring the implementation process and for evaluating performance and improving resilience.

In all cases the integration involved different stakeholders with interest in climate change issues, including policy makers and implementers and their partners and collaborators such as CSOs, Private Sector and Development Partners. The process of integration of climate change in national and sector policies, plans and budgets is considered to be a key process, and is guided by broader national vision and development strategies. The benefits of integration can only be achieved with appropriate integration tools and guidelines to make sure development is protected through Climate Change Adaptation elements that ensures development does not increase people's vulnerability and maladaptation but ensures sustainable development and increased adaptive capacity. The process is done in five to six steps and can also be modified depending on the level and the tools used, the documents to be assessed and the level of the assessments.

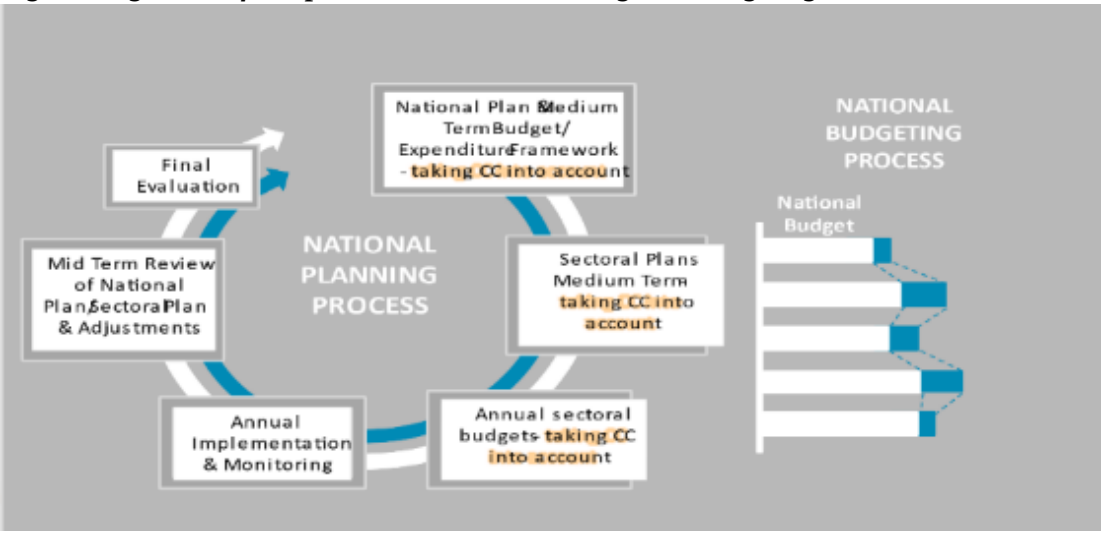
3.8 PLANNING AND BUDGETING PROCESSES IN ZAMBIA

Zambia has a series of planning and budgeting instruments at its disposal, for instance a 5-year National ~~Development Plan (8NDP)~~, a 3-year medium term expenditure framework (MTEF), annual budgets and plans at sector ministry level. A **National Planning and Budgeting Policy** has recently been approved, designed to guide the processes used to plan, implement, monitor and evaluate national development plans and annual budgets. This policy document clearly defines the principles, procedures, structures, timelines and responsibilities that are to be used in formulating, implementing, monitoring and evaluating annual budgets and national development plans. (Fig 7)

There on-going efforts to harmonize planning and budgeting processes, a standard planning process document such as a manual or guidelines with well-defined process steps could be aligned to CCA integration.

Although Zambia has clearly defined planning and budgeting processes, articulating, harmonising and linking the Climate Change Adaptation and is integration into budgets important. The 8NDP has already aligned the CCA and SDGs in the relevant Clusters.

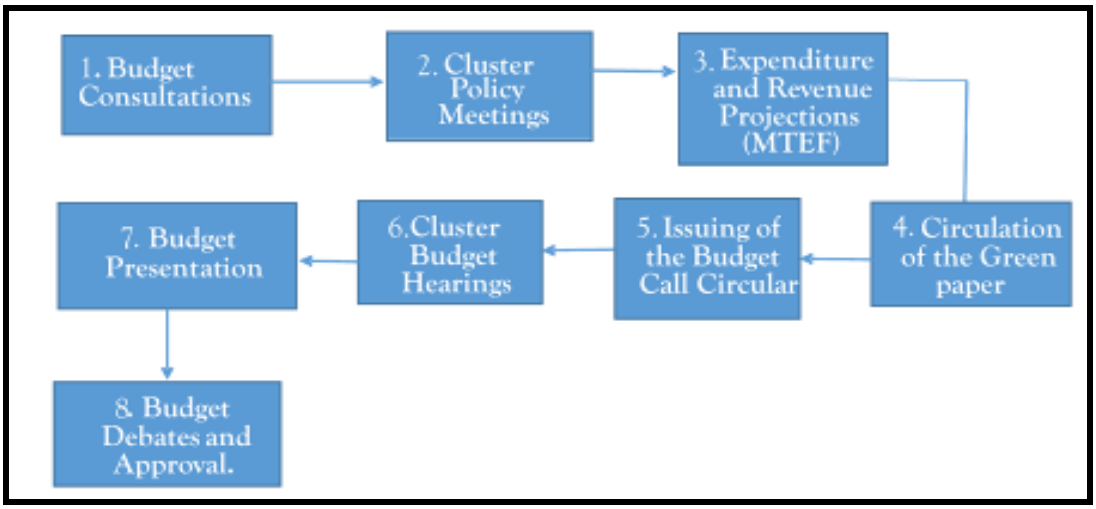
Fig7: Integration of Adaptation: National Planning and Budgeting Process



Source: adapted from the PEI/UNEP/UNDP 2018

Below is the current Budgeting process which presents a number of opportunities for the integration of Climate Change into Plans and Budgets at various levels.

Fig 8: The Budgeting process

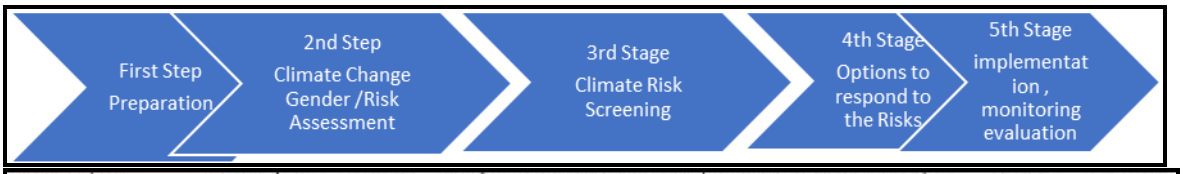


Source: Presentation made in the TOT – NOV 2021

3.9 BASIC STEPS IN THE INTEGRATION PROCESS

The climate change integration manual is intended to be used as a decision making guide during planning and design, so that climate risks are identified and appropriate adaptation measures selected to reduce vulnerability. The manual contains a series of questions that help to determine the level of vulnerability and subsequent steps that need to be undertaken to select adaptation measures. The Climate risk screening processes can basically be broken down into four to five stages outlined and elaborated below. Though knowledge on climate change is not necessarily required, it is important to have some understanding and knowledge of Climate Change (usually found in the Vulnerability and Risk Assessment Report) addressed of the physical geography and climate of the country sector or project site for effective screening.

Table 3: Steps in the Integration Process



Purpose	To ensure structures in place for effective climate change mainstreaming	To identify the nature of current and future climate risk	To determine climate risk to the Development Framework (in Zambia known as key issues and priorities) and to the Implementation Programme	To ensure that the Development Framework (key issues and priorities) and Implementation Programme address climate risk, support adaptation to climate change and enable climate-resilient development	To ensure, through appropriate monitoring and evaluation, that implementation of the plan is supporting adaptation to climate change and enabling climate-resilient development

Source: Climate Screening toolkit guidance note – World Bank 2019

3.9.1 Step 1: Preparation – To ensure that structures are in place for effective Climate Change mainstreaming. define the geographical region and outcomes of interest;

- identify the policy context for the assessment;
- establish a planning team and a management plan;
- establish a stakeholder process;
- develop a communication plan.

3.9.2 Step 2: **Risk identification and conducting a Risk and vulnerability Assessment (and opportunities)**– Done specifically to identify the nature of current and future climate risk. This step includes the creation of a country profile, identification of stakeholders, prepare an institutional map listing all stakeholders and assigning roles and responsibilities, identifying and assessing all exposure units, associated risks and opportunities and prioritising them. This step provides a means of rapidly identifying those areas that are more likely to be high risk or with greater potential for risk reduction measures. Important to engage the stakeholders through a workshop or any consultative process to also participate in assessing the risks and opportunities.

i) Vulnerability and Risk Assessment

This is done by first identifying the populations who are most affected and at risk, the existing responses and coping mechanisms, their locations and how the planned interventions can be targeted for efficient and effective outputs. Then determine the extent to which populations in different geographical locations and social strata are exposed to climate change. The assessment includes an evaluation of the baseline climate conditions, potential barriers and opportunities to adaptation and mitigation, the existing responses and their cost-effectiveness and a capacity needs assessment for addressing climate change issues. Use of the Indigenous Knowledge (IK), technologies, practices and coping mechanisms that people have always used for different livelihood needs is key to the process. (In Zambia a Vulnerability Assessment is conducted countrywide and this can be used as a reference.).

Climate change vulnerability assessment focuses on 4 or more dimensions:

• ***Physical vulnerability*** to and influence on weather patterns;

• ***Social vulnerability and community resilience;***

• ***Governance*** **–** identification and assessment of Public Private Partnership, institutional, legal and policy framework, political will and coherence including involvement of parliament, related committees, district council and lower level sub committees;

• ***Economic vulnerability*** **–** mostly the additional costs of climate change on the economy and gives a Vulnerability Index Map, which should include information on climate change conditions, Links between climate change and the key development sectors; the degree of exposure of climate risks, Impacts of climate change on key development sectors; and national capacities to address Climate Change.

ii) Conducting a vulnerability and Risk Assessment.

The major actions needed during the impact and vulnerability assessment include:

- Determining the scope of the assessment;
- Profiling and describing the current distribution and burden of climate-sensitive areas;
- Assessing the current coping, preventive or adaptive measures and their effectiveness to current and future climate change effects;
- Assessing the future potential impacts using selected scenarios;
- Identifying additional adaptation policies and measures to reduce potential negative climate change effects;
- Identifying procedures for evaluation of effectiveness of climate change interventions after implementation;
- Synthesizing the results and preparing the Assessment report.

It is highly recommended that a wider selection of relevant stakeholders are involved in the screening process. Expert panels and targeted interviews could also be used as techniques to undertake this step. Gender Sensitivity can be done during this stage with specific questions to address gender inequality. The process is based on participatory methods and scenario development, the participatory methods offer several advantages because they enable inclusion of local knowledge and contextual specificity.

iii) Current climate risks determination

Hazard exposure can be determined using observational data from weather stations, for example of temperature and rainfall. New climate information products that combine station records with satellite data can now provide insights into past weather conditions across the nation. When observational data is not available, memories of recent trends in key climate variables can be a substitute. Time lines can be used and some experts can recall climate trends which can be used to supplement scientific data.
Temperatures (trends, hot days/nights, cold days/nights). Rainfall (length of rainy season and distribution of rains, e.g. frequency and lengths of dry spells within the rainy season). Groundwater availability. Extreme events (heat waves, droughts, floods, fires, storms).

iv) Future climate risks determination

Global climate models give indications of the nature of anticipated future climate, and various portals exist whereby countries can access relevant projections. Combining broad projections from climate models with the nature of climate exposure trends (taking into account future expansion of these trends), can give an indication of the future scenario that is sufficient for planning purposes.

Future climate risk is dependent on hazard exposure and impacts (reflecting biophysical and social vulnerability and adaptive capacity). Simple risk assessment tools or matrices can be used to aid the process, characterize the nature of the risk and the likelihood of it happening. An example of a risk rating matrix that could be used to characterize risks is shown in Table 3.

Table 3. A risk rating matrix

Likelihood \ Impact	Negligible	Minor	Moderate	Significant	Severe
Very Likely	Low Med	Medium	Med Hi	High	High
Likely	Low	Low Med	Medium	Med Hi	High
Possible	Low	Low Med	Medium	Med Hi	Med Hi
Unlikely	Low	Low Med	Low Med	Medium	Med Hi
Very Unlikely	Low	Low	Low Med	Medium	Medium

Source: NWASCO Screening Tool 2019

The guiding questions to this screening process may include the following:

1) Is the project or geographic region of focus vulnerable to variations in climate? (these may include, flash floods, river floods, river bank erosion, droughts, heatwaves etc.)
2) Which climate variables are likely to be significant in relation to meeting your project objectives?
    - Does information on past variability in climate or past extremes of weather indicate potential vulnerability to climate change?
3) How might future changes in these climate variables affect your project and ability to meet your objectives?
    - Are certain climate variables likely to be of greater significance than others? (Predictive models could assist with judgement)
4) Are there alternative options to the project and what could be the significance of the impacts of climate change to these options?
5) Is there uncertainty regarding forecasts of particular climatic hazards, or their associated impacts?
    - Can the level of confidence associated with particular hazards and their impacts be determined?
6) Can any climatic variables, or impacts be screened out at this stage?
    - For example, because they are not likely to affect the choice of option or would apply equally to all possible options.
7) What other (non-climate) factors could also be relevant in relation to meeting your objectives?

3.9.3: Step 3. Identification of adaptive options and the climate risks for the development of priority key issues for implementation

This step develops and prioritises adaptation options that address the specific climate related risks identified in the first step. The process also aims at identifying and taking advantage of any opportunities that climate change may present. Like the risk assessment step, this stage may require the involvement of all key stakeholders to ensure that a range of potential options are presented and analysed. The guiding questions during this stage would include:

1) What type of options should be considered? What are the likely consequences of the 'do nothing' option, or of not adjusting existing options to take account of forecast changes in climate?
2) If the risk assessment stage has identified climate change as a significant factor for the decision, then can options be identified that are more related to climate change?
3) Can the options be defined in a flexible manner to allow for sources of uncertainty?
    - Can adaptation options be identified that could be increased at a later date, or implemented separately or in combination or in sequence to provide flexible levels of response to risk? Could staged options be appropriate?
4) Would it be feasible or advisable to delay making a decision until further information is available? Consider:
    - the rate of climate change vs. the timescale for implementing the decision;
    - the magnitude and nature of the risk (especially in relation to low probability, high consequence events that are also highly uncertain);
    - the value (reduction in uncertainty) to be gained from improved monitoring or research to better characterise the climate hazard (including climate scenarios and ensembles), exposure pathways, impacts and costs, and the effectiveness of risk reduction and management options.

A simple evaluation criterion can be used to select adaptation actions, below is a guide Table 4

Table 4: Key Evaluation Criteria for use when selecting Adaptation Options

Criterion	Description
Effectiveness	Capacity to solve problems or realize opportunities derived from climate change impacts (e.g., economic benefits, costs avoided, lives saved)
Ease of implementation	Potential legal, political, institutional, barriers
Acceptability to local stakeholders	All identified possible adaptations are attractive to some stakeholders, but may not be equally acceptable or attractive to all stakeholders for political, economic, social or cultural reasons
Acceptability to Financing Agencies/Ministries/ Donors	Are the financing agencies/ministries involved willing to support the option?
Endorsement by Experts	Is the option consistent with international best practices?
Timeframe	Are short-term or long-term strategies more desirable; How does the timeframe needed to implement the option compare with that available (e.g., are there specific project or funding time horizons)?
Cost	Costs to implement and maintain; cost sharing possibilities
Institutional Capacity	How much additional capacity building and knowledge transfer is required to implement the proposed adaptation
Size of Beneficiaries Group	Does the adaptation provide small benefits to a large number of stakeholders and people or large benefits to a small number?
Fit with local development priorities and interests	Do the adaptation activities fit with the local development priorities and local initiatives?
Potential Environmental or Social Impacts	Are there possible adverse impacts on the environment or people (e.g., are additional GHG emissions likely)?
Capacity to Sustain Over Time	Can the adaptation be successfully sustained at local, district or national level if implemented?
Gender sensitiveness	How does the proposed intervention affect the roles of women, men, youths and PWDs? Does it advantage any group at the expense of another? Does it take into consideration the aspirations of different groups?
Participation	Have the community members participated in identifying and selecting the proposed option

Source: Climate Change impact and Vulnerability Assessment Guide book 2014

3.9.4: Step 4: Appraisal of options and decision making, including the costing of the interventions.

This step ensures that the key development framework (Key issues and priorities) and the implementation Programme addresses the climate risks, supports adaptation (and mitigation) to climate change and enables climate resilient development. This is the *options appraisal and decision making step is to provide a basis for recommendation of the most feasible and cost effective option to meet the overall objectives. The stape also aims at refining the options and may entail assessing and amalgamating the strengths of a combination of options. This stage is closely linked to the risk assessment stage and demands assessment of the possible options against the prioritized risks using some structured criteria.*

Any approach may be used to come up with a criteria to appraise the options. The selection of any option may involve significant costs and/ or environmental and social impacts. Thus, decision-making on climate change adaptation may involve trade-offs between the environmental, economic and social implications of such options. These would need to be carefully considered. The guiding questions during this stage may include:

1) How do these options rate in relation to achieving the objectives and risk assessment endpoints established?

Can different levels of confidence be attached to the likely performance of different options? If so, what are they? Can particular options be confidently excluded because they are unlikely to meet the acceptability criteria?

2) Would other criteria have led to a different form of options appraisal?
3) Are there risks identified, during Step 2, associated with implementing each option?
4) Could the options being considered possibly constrain other decision-makers' ability to adapt to climate change (i.e. contribute to climate maladaptation)?
    - Options that may constrain climate adaptation can be difficult to identify earlier on and may only become apparent during or after appraisal stage.
    - Other options might be identified at Step 3 to either avoid or mitigate the maladaptive effect.
    - The options being considered may adversely affect the ability of other decision-makers or stakeholders to manage climate change risks in the future, their interests and involvement in the decision-making process should be considered.

Table 5: Proposed actions to mainstream climate change in policy processes

Strategic action	Specific actions	Expected Results
Risk Assessment	Undertake comprehensive assessments of the risks of extreme weather variability on population	Increased understanding of vulnerability to CC. Ability of systems to respond Identify basis for enhancing resilience
Integrated environment and surveillance by different sectors	Establish a functional integrated environment and surveillance system. Incorporate key environmental indicators including climate data in the information systems of different sectors	Timely and evidence-based decisions for effective management of environmental risks
Efficiency in production	Developing and adopting efficient technologies Provide incentives for clean production technologies	Reduced emissions Reduced consumption
Increasing land productivity	Increasing production per unit area for agriculture mechanization	Increased productivity per unit area Increased precision

Effective management of climate-sensitive Concerns	Integrated management to handle climate change induced effects in the different sectors Develop and integrated multi-sectoral management plan Develop early warning systems	Reduce the effects of climate change Multi-sectoral management plans Appropriate early warning systems
Preparedness for and response to impacts of weather, hydrological and climate related emergencies and extreme events	Formulate & implement emergency management policies, legislation frameworks and programmes and emergency response and recovery plans Human resource development programmes including training and education	Effective and timely response to climate- sensitive problems
Research & Knowledge generation	Develop and implement a research agenda focusing on better understanding of local effects of climate change; generating and disseminating knowledge on locally appropriate adaptation measures	Increase understanding of CC effects. Increase communication of climate links to other sectors within NAPAs, NCs and national processes
Strengthening human & institutional capacities	Identify skills gaps; formulate & implement a capacity building action plan Strengthening planning and budgeting that integrates climate change issues Identify infrastructure gaps and address them	National capacity for disaster prediction & emergency response Establish a CC coordination mechanism at the National Level Plans that integrate climate change issues
Economic analysis of the various options of climate change mitigation and adaptation	Identify cost centres and generate budgets	Budgets for specific interventions

Source: Climate Change Impact and Vulnerability Assessment Guide book 2018

3.9.5: Step 5: Implementation, monitoring, evaluation and reviews to ensure appropriate monitoring and evaluation of the implementation plan

This step ensures the implementation of the chosen and most preferred and appraised option, the subsequent stage is monitoring and evaluation of the performance of the adaptation option(s) selected. Monitoring and evaluation are particularly important as the future is uncertain and predictive models themselves carry a degree of uncertainty with them. Quantified targets and indicators against which to monitor the performance of a decision serves as an early warning tool when unexpected performance is recorded and can be the basis for modifying adaptation options or climate risk projections if need be. The monitoring also considers the aspects of Human Resources, documentation, financing and budgeting and includes the indicators of the integration process. It therefore, includes review and quantifying the targets and indicators, this step can also be separated into two steps. (Step 6 maybe evaluation and review)

4.0 TOOLS FOR INTEGRATING CLIMATE CHANGE IN DEVELOMENT PLANS AND BUDGETS

There are many tools used in the integration of climate change and each with a series of steps that support integration initiatives, greater effort is needed to adapt the many existing tools used so that they can be

more easily incorporated into the sector and national operations of ministries. Government officials need better understanding of where and how tools can be applied to achieve integration goals. Tools that address part of a process or a particular sector need to be applied in conjunction with tools that support the entire process of integration, from understanding data to M&E results. The Zambia NAP process also recommends a number of tools. Tools have also been designed to guide planners and practitioners through various stages of the integration process, from the initial assessment of climate risks to the tracking and evaluation of results. Tools can range from step-by-step guidebooks for planning to interactive web-based platforms that identify projected climate hazards to well-established practices such as cost–benefit analysis. For the current integration process led by the Ministry of Finance and National Planning a Screening Tool developed by the One World Consulting Firm has been recommended, a number of other tools are also used and these are summarised in the as ANNEX 1

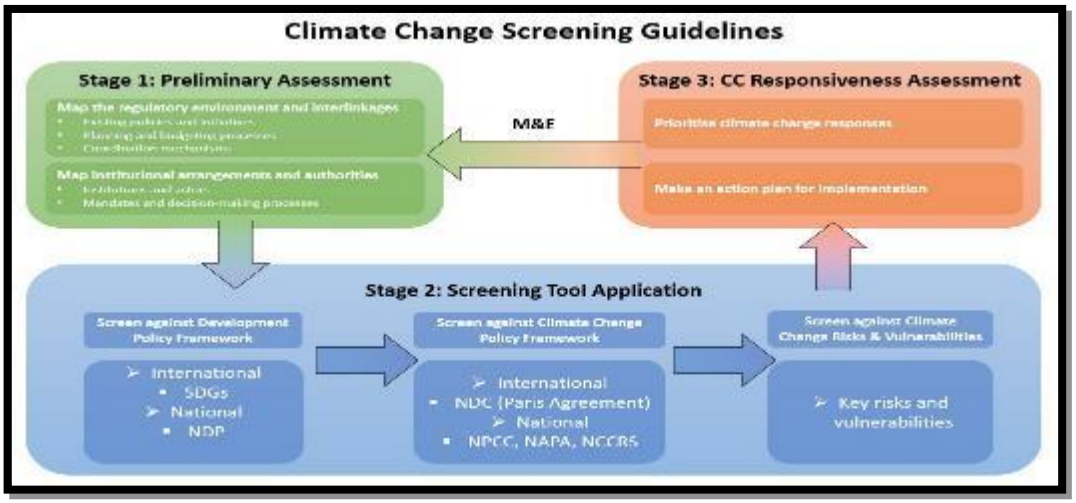
4.1 THE POLICY SCREENING TOOL

The screening tool is informed by a critical review of climate change mainstreaming literature, which highlights the fact that climate change integration applies a climate change lens to the design, development and implementation of policies in an iterative manner, throughout policy lifecycles (Guzman, 2016). The focus on integration being an iterative, ongoing approach informing the adoption of adaptive management as the underlying approach. This goes hand in hand with harmonising and contextualising with Zambia's overarching policy and regulatory framework, which, evolves with time, to respond to the country's developmental challenges and the effects of climate change. As the situation evolves the Screening Tool can be reviewed and updated in order to align with Zambia's current day policy framework.

The structure and logic of the Screening Tool, is conceptualised as a process, with Monitoring and Evaluation (M&E). This is because the M&E of the mainstreaming process is central to facilitating an ongoing review of the progress of climate resilience policy development, by monitoring its development and implementation. The tool is for screening a policy, strategy or plan and include three primary stages:

Stage 1: Preliminary assessment of the policy, strategy or corresponding regulatory instrument
Stage 2: Screening Tool application:
Step 1: assessing the policy for alignment with development policy framework
Step2: assessing the policy for alignment with climate change policy framework
Step 3: assessing the policy for identification of climate change risks and vulnerabilities
Stage 3: Climate change responsiveness assessment.

Figure 10. Climate Change Screening Guidelines: Conceptual Framework



Source Screening tool Guideline 2019

In applying the Tool, users are guided to identify ***to what extent*** climate change considerations have been included in the policy instrument being screened. These different levels of integration are categorised and rated on a scale from 0 to 5, from the lowest level of integration (0) to the highest level (5). At the lowest level, the policy instrument being screened would be classified as making no mention whatsoever of climate change considerations and having no alignment with the overarching policy framework's objectives regarding development or climate change. On the other end of the spectrum, at the highest level of climate change mainstreaming into development planning, a policy instrument's climate change objectives are fully developed to align with the basic principles of planning. Identifying these different levels of mainstreaming helps users of the Screening Tool to identify gaps for further mainstreaming, which are also highlighted through the Tool's results and gap analysis.

4.2 Integration of Climate Change Adaptation: The Screening Process

The Climate Change process need to filter through all the stages of the planning process and the guiding steps to screen policy instruments for climate change considerations. The following underlying principles have informed the development of these screening guidelines:

- Harmonisation of the Guidelines and Tool with Zambia's overarching policy and regulatory framework
- Contextualisation of the Guidelines and Tool within a given policy instrument environment
- Adaptiveness of the Guidelines and Screening Tool to changing circumstances and uncertainty
- The Guidelines and Screening Tool need to be realistic to implement and adapted to the various levels.

Understanding the varying levels of climate change responsiveness in sector policies, plans and strategies will facilitate improved climate mainstreaming. Climate change responsiveness includes mainstreaming of relevant national and *international* climate change policy frameworks and all relevant R&V assessments. Opportunities exist to create and maximise synergies between international or regional

agreements and national climate change priorities. Screening for alignment with international commitments can help streamline national responses to climate change.

Ultimately, the process of applying these climate change responsiveness guidelines to sector policies, plans and strategies will contribute to the greater institutionalisation of effective climate change response strategies and processes and improve the overarching enabling environment.

Ideally, climate change responsive sector policies, plans and strategies:

- Align with and integrate national and international climate change policy objectives
- Respond to key climate change risks and vulnerabilities
- Facilitate flexible implementation of prioritised adaptation and mitigation options
- Fit within and contribute to a positive enabling environment for transformational change

4.3 The Three Stages of the Screening Process.

4.3.1 The preliminary assessment, it is critical for users to review the broader **regulatory and legal environment of** the relevant policy being screened. This will allow the user to identify and understand the interlinkages between different levels of policy, within different legal structures, and understand how different sector policies may influence one another. This goes hand in hand with understanding the specific institutional framework and lines of authority responsible for developing and implementing these policies. Understanding these linkages can reduce the duplication of efforts among government departments. In addition, an **institutional review** can help identify the most suitable government departments or ministries to involve for implementation of specific interventions. This includes: -

- Mapping the relevant institutions and actors, their mandates and the decision-making processes
- Mapping policies and strategies that are related to the policy in question
- Identifying players currently involved in implementing ongoing climate change responses.

4.3.2 Stage 2: Applying the Screening Tool

After conducting a thorough preliminary assessment, the next step is to apply the Screening Tool to the individual policy, plan or strategy. This section provides guidance on how to use the tool and interpret the results. The Excel-based Tool allows for screening against three key areas:

- The overarching development policy framework;
- The overarching climate change policy framework; as well as
- An assessment of climate change risks and vulnerabilities.

It is important to remember that the Tool is not for evaluating a policy's success in achieving its objectives. Rather, the purpose of the tool is for users to:

- interrogate the level of integration of climate change considerations in the screened policy instrument; and
- identify gaps where there are opportunities for further mainstreaming climate change in the most relevant and applicable way.

This understanding of the different 'levels of integration' provides a basis for scoring responses to questions in the Tool. As mentioned earlier, for climate change to be fully mainstreamed into developing planning, climate change considerations should filter through all stages of the planning process, i.e. developing objectives, developing tasks and activities to meet those objectives, determining resources to implement those tasks, creating a timeline, and monitoring implementation.

Step 1 of Stage 2: This step requires users to **screen the policy instrument against the overarching Development Policy Framework,** which comprises of the Sustainable Development Goals (SDGs) linked to climate change and Zambia's Eighth National Development Plan (8NDP), which has made progress in identifying climate change as a cross-cutting issue in the country's development agenda, and fully mainstreamed climate change into development planning. The 8NDP has an entire strategic objective dedicated to environmental sustainability. Assessing the policy instrument's alignment with the 8NDP as well as the SDGs ensures that any gaps can be considered through the screening process.

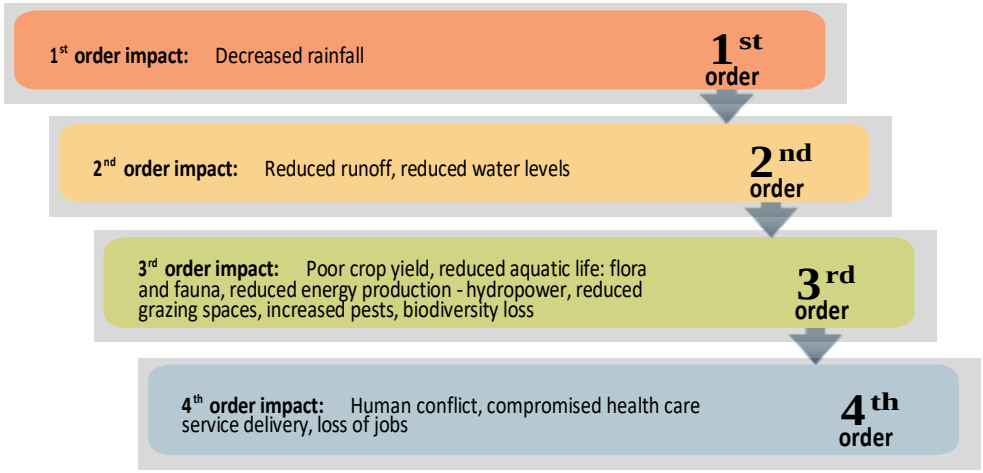
Step 2 of Stage 2: Requires users to **screen the policy instrument against the Climate Change Policy Framework**, which includes Zambia's Nationally Determined Contributions (NDC) and a synthesis of the overarching national climate change policy framework from the National Adaptation Plan of Action (NAPA, 2007), the National Climate Change Response Strategy (NCCRS, 2010) and National Policy on Climate Change (NPCC, 2016) and the review of 2022.

Step 3 of Stage 2: This is now the application of the Screening Tool; users are guided to interrogate whether **the policy instrument responds to the climate risks Zambia faces**. Some of the climate-induced hazards identified for Zambia include flooding, drought and rainfall variability. These climate-induced hazards manifest through key risks which impact on systems and livelihoods, which include infrastructure risk, risks to cultivated agriculture and the livestock sector and environmental change risk.

4.3 Stage3: Rating the responses: The tool is a conceptual framework that illustrates the linkages and cascading impacts of various climate changes as they flow through a system (Petrie *et al.,* 2014). And example of Agriculture refers also to fig 2 on page 9.

First order impacts are basic climate parameters such as temperature and rainfall changes. These changes impact on the next level, physical and biotic environments, such as soil and water resources (2nd order). In turn these chemical and physical processes impact on ecosystem services and agricultural productivity (3rd order). Finally, the resultant impacts affect socio-economic conditions, such as health and livelihoods, and impact on poverty and coping strategies (4th order).

Fig 12: 1st to 4th order Impact Assessment for the Agriculture sector for decreased rainfall

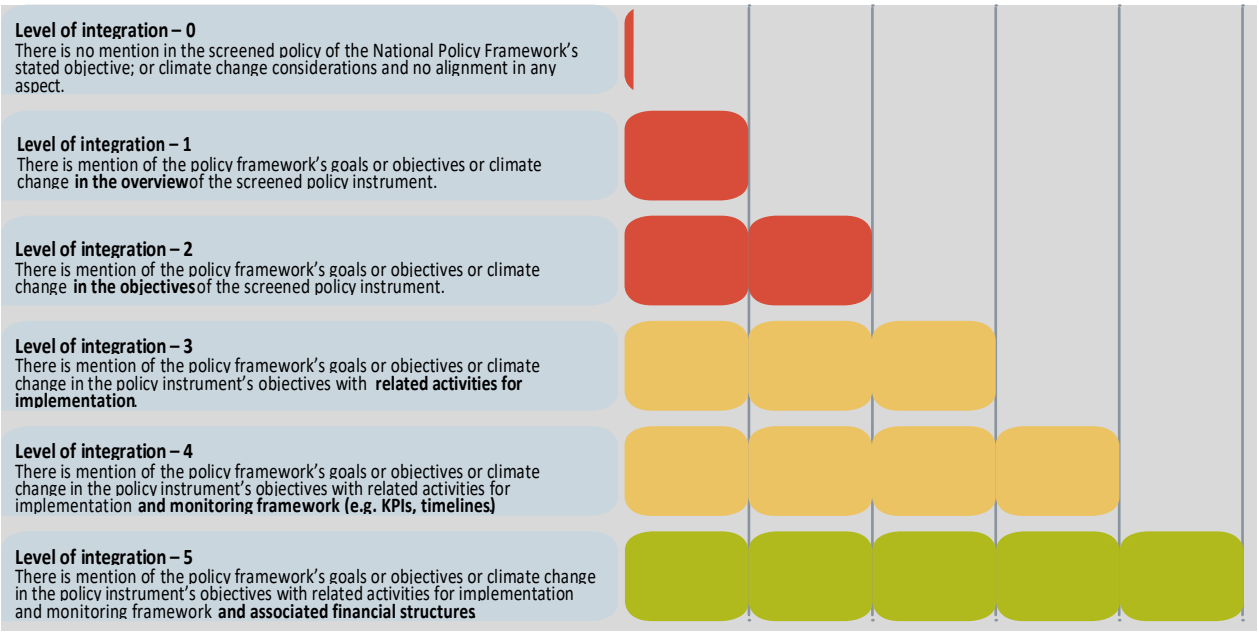


Source Screening Tool guidelines

4.4 LEVELS OF INTEGRATION

During this and other sections of the Tool, users are guided to complete the Tool by answering questions regarding the level of alignment between the policy being screened and the overarching national development and climate change objectives. In cases where users must provide a scored response in the Tool, this response must be aligned with the five levels of integration of climate change in the screened policy, where 0 is no integration, and 5 is full integration (Figure 15). These levels of integration are in line with the standard planning process which involves developing objectives, developing tasks and activities to meet those objectives, assigning resources to implement those tasks, creating a timeline, and monitoring implementation.

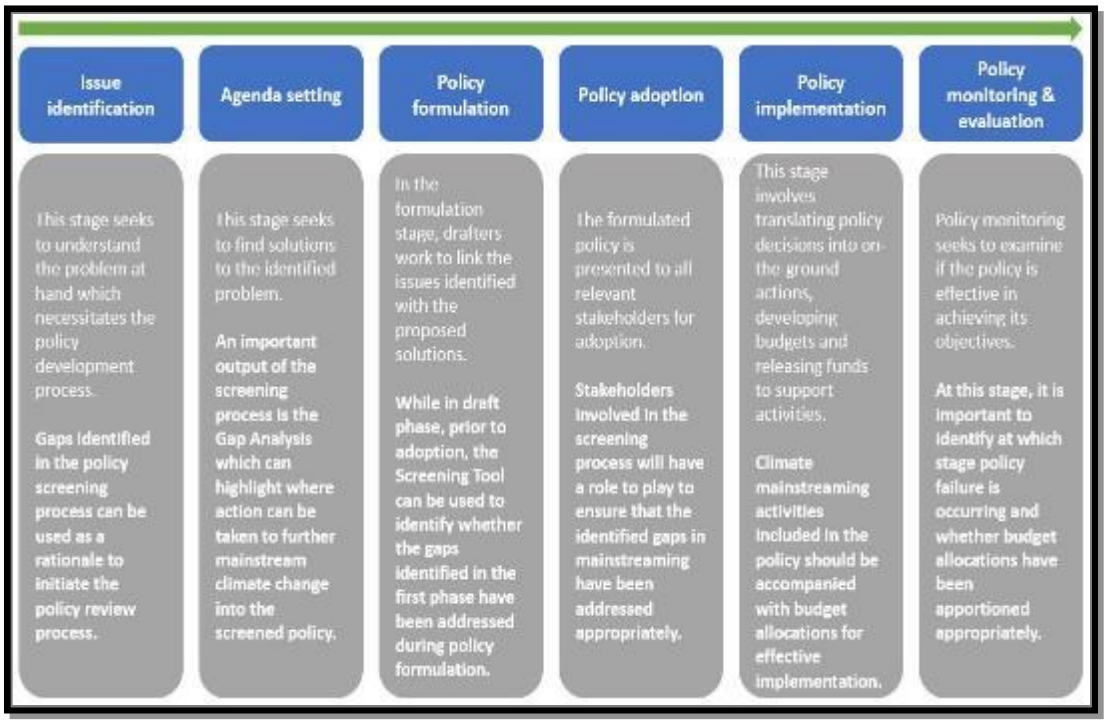
Fig 12: The elaboration of the progressive levels of integration of CC in the screened Sector Policy



4.5 LINKAGES WITH THE POLICY DEVELOPMENT PROCESS

In order to make use of the various entry points in the policy development process, the Ministry of Finance and National Planning would need to take a proactive approach by **mapping the policy lifecycle of key policies**. Such a policy database, if implemented appropriately, can act as a trigger for the policy screening process.

Figure 13. Entry points for climate change mainstreaming in the policy development process



In line with this recommendation, **strengthening M&E systems and processes** across the various levels of governance, is a key step in furthering climate change mainstreaming into Zambian policies, plans and strategies. Importantly, M&E will also include auditing the implementation of policies and identifying at which stage policy failure is taking place. It is essential to have an idea as to what stage of the policy lifecycle key policies are located and to map the policy lifecycles through establishing a policy database, inclusive of review timelines where these exist, the Ministry of Finance and National Planning will be able to identify the most appropriate timelines for when to initiate the screening and mainstreaming process.

Appendix 1**: Impacts of climate change in Zambia by Sector**

Effect	**Higher**	**Increased drought**	**Increased**	**Impacts**
Sector	**ainfall &**			
	Temperatures		**Change in**	

	seasons			
Human health	Shifts in areas / incidence of malaria; respiratory problems	Increased risk of water related disease; food shortage; water conflict; famine risk	Increased risk of waterborne disease; flood/landslide risk	Conflict; health burdens and risks; economic costs; poverty; inequity
Agriculture & food security	Shifts in the viable area for coffee and cash crops; reduced maize output; higher evapotranspiration	Crop failure; reduction in grazing potential within the cattle corridor	Elevated erosion, land degradation, crop loss; change in crop yields/disease	Food insecurity; economic shocks; loss of incomes and livelihood options; poverty
Infrastructure & settlements	Increased evaporative losses; damage to roads; cooling costs	Significant implications for run-off-river HEP; water shortage	Flood damage to infrastructure, transport, communications and settlements	Economic loss and growth volatility; reduced reliability of HEP; migration
Environment & biodiversity	Biodiversity loss as niches are closed out; changing ecosystem dynamics and production	Additional pressure on natural resource use through fallback on forests	Shift in habitats and growing seasons	Loss of biodiversity and agro-ecological systems; loss of fishery productivity; deforestation

Source: Hepworth, 2010

ANNEX 2: SELECTED TOOLS

No.	TOOL	DESCRIPTION	USES	PROS	CONS	RECOMMEND
1	Climate Proofing and Climate Screening	Used by decision makers at all levels. Uses Risk & Vulnerability Assessments 4 Step Tool	Fisheries Livestock Agriculture Water and Sanitation -Can be used for early warning	Manuals available Tool Simple to use Uses checklist – Qualitative Easily adaptable Good for planning Cost effective	More effective at Sector and Project Level. Also need training but not elaborate	Tool currently being used and tested. Results are positive Can easily be adapted and modified
2	Gender Based Climate Risk Assessment (GCRA)	Gender sensitive also uses V&R Assessment 5 Step Tool	Used at Sector Level, Local, Programme and District Level	Gender Sensitive Participatory data collection methods Inclusive, can be used for Climate Screening and Proofing Proven methodology. Application to implementation	Needs Technical Capacity Needs Data to Carry out R&V assessments	Most useful and effective at Local and Project Level. Data has to be verified and cleaned

3	Community Risk Screening Tool – Adaptation and Livelihoods. (CRiSTAL)	Project Planning Tool, helps uses design activities at Project and Local Level. Focus is on Livelihoods 5 Step Tool	At Project, Programme and Local Level	Supports principle of best available knowledge Participatory & Inclusive. Data Collection Highly inclusive Demand, Partnership driven, User endorsed in Zambia	Can not be adapted for use ant National Level Not a stand-alone tool – Used with other tools to be effective. Used sometimes in combination with other tools.	More useful at Project and Local Level
4	Rapid integrated Assessment Tool (RIA)	Requires synchronization of SDG Targets to the National Development Plan Targets. Focus on alignment of Climate Related priorities in the Clusters to SDG Climate Related Targets 4 Step Tool	Used in relation to SDGs- Looks at National Priorities and used mostly at National Level	Develops a Policy Framework. CC/ SDGs Guidelines available Responds well to the NAP Can be used in combination with other tools Manual available Provides valuable data	Usage tied to training. Needs a lot of Resources Use is complicated uses many variables. Need to know and understand SDG Targets Maybe costly Knowledge of SDGs	Tool sponsored and developed by UNDP. Can be modified or used in Combination with other Tools. Methodology very long. Focus is on SDG mainstreaming Tool is effective Specialized tool
5	Budget Tracking	Captures Budget allocation, disbursements, allocations and releases. Uses codes and performance outcomes	Used and National and sectoral level. Uses Targets and Alignment to NDP Clusters	Provides valuable Data Ensures alignment of CC financing with the CC Strategy and the NAP Ability to track Budget expenditure (Inflows and Outflows) Makes Use of IFMIS METF in MoF and MNDP Provides detailed analysis	Tool has been in use still facing problems. Assignment of expenditure codes still a problem so some expenditure items missed out. Coordination of MoF and the Sectors lacking Private Inflows not captured Focuses on Integration in budgets at National Level Tool still needs further revision	Appropriate with further refinement. Can be used in combination with other tools
6	Climate Change Impact and Vulnerability Assessment Tool (CCIVA)	Uses the V &R Assessment Methodology, Adds Governance and Economic Vulnerability Produces a Vulnerability Index and Map 6 Step Tool	Used at all levels Easy tool to use	Includes four dimensions in the Risk Assessments. All inclusive Comprehensive looks at more dimensions Includes Adaptation and Mitigation Includes Gender sensitivity and considerations	Requires a lot of date and information. Easy to collect the data	Recommendation for use/ not yet used in Zambia. Has an easy manual not complicated? Cost effective, shorter and easier

				Has a Comprehensive Evaluation process		
7	Health Sector Vulnerability and Risk Assessment Tool	A response to WHO Support to strengthening action to protect health from CC impacts 9 Step Tool	Used by the Health Sector Uses V&R Assessment Methodology Used in Plans and Budgets and for Disease surveillance	Tried and tested in other Countries. Works well in the Health Sector Tool aligns well with the HNAP	May have to be modified or adapted for use by other sectors Tool not yet operational in Zambia. Requires training and resources to train	Recommended for Health Sector, and Modifications needed for the other Sectors
8	Screening Tool	Excel Based Tool				

ANNEX 2: ENABLING FACTORS FOR MAINSTREAMING

Policy	Organisational	Operational
Strong/ early political support and mandate	Functional structures of data exchange and coordination	Available funding, incentives and obligations
Strong leadership	Buy in from stakeholders of different sectors	Champions with strong technical and management skills
Adequate information	Adequate information	Adequate information, available tools, systematic approach