

CLIMATE INVESTMENT FUNDS

PPCR/SC.8/8
June 14, 2011

Meeting of the PPCR Sub-Committee
Cape Town, South Africa
June 28 and 29, 2011

Agenda Item 9

**STRATEGIC PROGRAM FOR CLIMATE RESILIENCE
ZAMBIA**

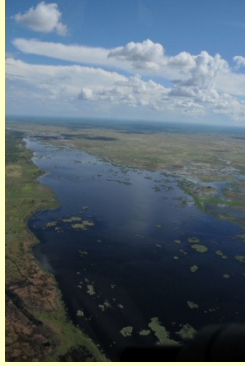
Proposed Decision by PPCR Sub-Committee

The PPCR Sub-Committee, having reviewed the *Strategic Program for Climate Resilience for Zambia* (document PPCR/SC.8/8),

- a) endorses the SPCR as a basis for the further development of the projects foreseen in the strategic plan and takes note of the requested funding of USD50 million in grant funding and USD60 million in other concessional resources. The Sub-Committee reconfirms its decision on the allocation of resources, adopted at its meeting in June 2010, that a range of funding for the country should be used as a planning tool in the further development of project and program proposals to be submitted to the PPCR Sub-Committee for PPCR funding approval, recognizing that the minimum amount of the range is more likely and that the upper limit of the range will depend on availability of funding.

The range of funding agreed for a single country pilot program is USD40-50 million in grant resources, and USD40-55 million in other concessional resources. The Sub-Committee also recognizes that the quality of the proposed activities will be a significant factor in the funding to be approved by the Sub-Committee when project and program proposals are submitted for approval of PPCR funding.

- b) approves a total of USD2million in PPCR funding as a preparation grant for the following projects to be developed under the SPCR,
 - i. USD1,000,000 for the project, *Strengthening Climate Resilience in Zambia/ Barotse* (World Bank);
 - ii. USD1,000,000 for the project, *Strengthening Climate Resilience in Kafue River Basin* (AfDB).
- c) takes note of the estimated budget for project preparation and supervision services for the projects referenced above and approves a first tranche of funding for MDB preparation and supervision services as follows:
 - i. USD390,000 for the project, *Strengthening Climate Resilience in Zambia/ Barotse* (World Bank);
 - ii. USD491,000 for the project, *Strengthening Climate Resilience in Kafue River Basin* (AfDB).
- d) requests the Government of Zambia and the MDBs to take into account all written comments submitted by Sub-Committee members by July 15, 2011 in the further development of the projects.



Zambia: Strategic Programme for Climate Resilience (SPCR)

**Prepared for the
Pilot Programme for Climate Resilience (PPCR)**

June 14, 2011

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REPUBLIC OF ZAMBIA

CURRENCY EQUIVALENTS
(Exchange Rate Effective May 16, 2011)

Currency Unit = Zambian Kwacha (ZMK)

1 US\$ = 4,836 ZMK

1 ZMK = 0.0002 US\$

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

A2	Special Report on Emissions Scenario Storyline A2 (heterogeneous world, continuous increasing population, slow and fragmented economic growth)
ACCE	Africa Carbon Credit Exchange
AfDB	African Development Bank
B1	Special Report on Emissions Scenario Storyline B1 (convergent world, population peaking at mid-century, global solutions to environmental and social sustainability)
CBO	Community-based Organization
CC	Climate Change
CV	Climate Variability
CCFU	Climate Change Facilitation Unit
CDM	Clean Development Mechanism
CEEPA	Center for Environmental Economics and Policy in Africa
CERP	Cyclone Emergency Recovery Programme
CIF	Climate Investment Fund
CGIAR	Consultative Group on International Agricultural Research
°C	Degrees Celsius
COC	Chamber of Commerce
COMESA	Common Market for Eastern and Southern Africa
COMESA/SADC/EAC	Common Market for Eastern and Southern Africa/Southern Africa Development Community/Eastern Africa Communities
CRICU	Climate Resilience Investment Coordination Unit
CRMA	Climate Change Risk Management and Adaptation Strategy (AfDB Strategy)
CSO	Civil Society Organization
CSO	Central Statistics Office
CSSP	Civil Society Support Programme
DFID	United Kingdom Department for International Development

DMMU	Disaster Management and Mitigation Unit
DWA	Department of Water Affairs
ECHAM5	General Atmospheric Model developed at Max Planck Institute for Meteorology in
ECZ	Environmental Council of Zambia (now ZEMA)
ESOKO	Agricultural Market Information Platform (based in Ghana)
ESMF/P	Environmental and Social Management Framework/Plan
EIA	Environmental Impact Assessment
ENRMMP	Environment and Natural Resources Management and Mainstreaming Programme
ENSO	El Niño Southern Oscillation
FAO	Food and Agriculture Organization of the United Nations
FY	Fiscal Year (generally of MDBs, July 1 to June 30)
GCM	Global Circulation Models
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIIF	Global Index Insurance Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GNI	Gross National Income
GTZ	German Development Cooperation
Ha	Hectare
HDI	Human Development Index
HQ	Headquarter
HIPIC	Highly Indebted Poor Countries Initiative
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communications Technology
IDP	Integrated Development Plans
IFC	International Finance Corporation
IFMA	Institutional and Financial Management Assessment
ILUA	Integrated Land Use Assessment
IPCC	Intergovernmental Panel on Climate Change

ITCZ	Inter-Tropical Convergence Zone
ITT	Itezhi Tezhi Dam
KGL	Kafue Gorge Lower
KGU	Kafue Gorge Upper
LAPs	Local Area Plans
LDC	Least Developed Country
MACO	Ministry of Agriculture and Cooperatives
MCT	Ministry of Communications and Transport
MDB	Multilateral Development Bank
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MoFNP	Ministry of Finance and National Planning
MLGH	Minister of Local Government and Housing
mm	Millimeters
MTENR	Ministry of Tourism, Environment and Natural Resources
MWS	Ministry of Works and Supply
MW	Megawatts
NAPA	National Adaptation Programme of Action
NASA	National Aeronautics and Space Administration
NCCCT	National Climate Change Country Team
NCCDC	National Climate Change Development Council (to be established)
NDMP	National Disaster Management Plan
NGO	Non-governmental Organization
NHCC	National Heritage Conservation Commission
NHS	National Health Service
NPE	National Policy on Environment
NORAD	Norwegian Agency for Development Cooperation
O&M	Operation and Maintenance
OVP	Office of the Vice President
PPCR	Pilot Programme for Climate Resilience

PPCR-SC	Pilot Programme for Climate Resilience Sub Committee
PMU	Project Management Unit
PRSC	Poverty Reduction Support Credits
Q	Quarter (of Fiscal Year)
RDA	Roads Development Agency
REDD	Reducing Emissions from Deforestation and Forest Degradation
SADC	Southern Africa Development Community
SESA	Strategic Environmental and Social Assessment
SNDP	Sixth National Development Plan
SESA	Strategic Environmental and Social Assessment
SCF	Strategic Climate Fund
SDS	Strategy for the Development of Samoa
SMS	Short Message Service (by phone)
SRES	Special Report on Emissions Scenarios
SPCR	Strategic Programme for Climate Resilience
SST	Sea Surface Temperature
St	Standard (Deviation)
TA	Technical Assistance
TC	Technical Committee
TOR	Terms of Reference
TTL	Task Team Leader
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar (also appears as US\$)
WB	World Bank
WFP	World Food Programme
ZAMSIF	Zambia Social Investment Fund
ZBS	Zambia Bureau of Standards
ZCSN	Zambia Civil Society Network

ZEMA	Zambia Environmental Management Agency
ZESCO	Zambia Electricity Supply Corporation Limited
ZMD	Zambia Meteorological Department
ZMK	Zambia Kwacha
ZVAC	Zambia Vulnerability Assessment Committee
%	Percentage

SUMMARY OF SPCR - ZAMBIA

PILOT PROGRAMME FOR CLIMATE RESILIENCE Summary of Strategic Programme for Climate Resilience		
1. Country/Region:	Republic of Zambia (Africa Region)	
2. PPCR Funding Request (in US\$ million):	<i>Concessionary Loan:</i> 60.0 million	<i>Grant:</i> 50.0 million
3. National Focal Point:	Ms. Monde Sitwala Deputy Director, Economic Management Department Ministry of Finance and National Planning, Government of Zambia Ph. 260-251105/+260 979965337	
4. National Implementing Agency (Coordination of Investment Strategy):	Ministry of Finance and National Planning, Government of Zambia (Executing and Coordinating Agency)	
5. Involved MDBs	The World Bank Group African Development Bank International Finance Corporation	
6. MDB PPCR Focal Point and Project/Programme Task Team Leader (TTL):	MDB HQ FOCAL POINTS: <i>World Bank (IBRD):</i> Iretomiwa Olatunji, Consultant and Adaptation Specialist, iolatunji@worldbank.org <i>AfDB:</i> Kisa Mfalila, Senior Environmental Specialist and TTL , k.mfalila@afdb.org <i>IFC:</i> Noleen Dube, IFC Sustainable Business Advisory Department, ndube@ifc.org	MDB FIELD FOCAL POINTS: <i>World Bank (IBRD):</i> Sofia Bettencourt, Lead Operations Officer and TTL sbettencourt@worldbank.org <i>AfDB:</i> Lewis Bangwe, Agriculture Expert, lbangwe@afdb.org <i>IFC:</i> Sylvain Kakou, Senior Investment Officer and TTL , Zambia, skakou@ifc.org

7. Description of SPCR:

(a) Key development challenges related to vulnerability to climate change/variability:

- Intensifying recurrent droughts and floods resulting in adverse and significant impacts on lives and livelihoods, and damage to key infrastructure
- If left unattended, climate change and variability could reduce GDP growth by 0.9% a year, cost Zambia US\$4.3 billion in lost GDP over the next decade, and place the achievement of national development goals at risk.

(b) Areas of Intervention – sectors and themes

- *Sectors:* (a) Agriculture, Water, Livestock, Fisheries and Natural Resources, and Health; (b) Infrastructure (particularly transport and Social Infrastructure); (c) Information and Communications Technology

Themes: Climate Change and Disaster Risk Management

(c) SPCR Strategic Components:

- (a) Participatory Adaptation
- (b) Climate-Resilient Infrastructure
- (c) Strategic Programme Support

(d) Investment Projects

- Project 1: Strengthening Climate Resilience in Zambia and in the Barotse Sub-Basin (IBRD, US\$50 million)
- Project 2: Strengthening Climate Resilience in the Kafue River Basin (AfDB, US\$45 million)
- Project 3: Private Sector Support to Climate Resilience (IFC, US\$15 million)

(e) Expected SPCR Outcomes

- Climate resilience integrated into local area development plans in priority sub-basins of the Zambezi, strengthening communities' capacity to adapt to climate change and variability
- Increased resilience of key infrastructure (roads, canals) to withstand the effects of climate change and variability
- Increased use of climate information by target groups (vulnerable communities, private sector, policy makers)
- Strengthened Government capacity to coordinate, manage and implement Zambia's Climate Change Programme;
- Increased investment by private sector into building climate resilience in the priority sub-basins in a range of economic sectors (agriculture, energy, water and natural capital)
- Better engagement of key stakeholder groups, including Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), youth organizations, women, academia and private sector, in initiatives to reduce the adverse consequences of climate change;
- Lessons learned documented, disseminated, and upscaled

8. Expected Key results from the Implementation of the Investment Strategy (consistent with PPCR Results Framework):

Result	Success Indicator(s)
<p>Investment Project 1: <i>Strengthening Climate Resilience in Zambia and the Barotse Sub-Basin</i></p> <p>Key Results:</p> <p>A. A strong and sustainable Climate Change Programme in Zambia, supported by key stakeholders (Government, civil society, private sector)</p> <p>B. Adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability strengthened in priority districts of the Barotse sub-basin</p> <p>C. Increased resilient of major infrastructure (in Barotse)</p> <p>D. Strengthened climate change information and early warning system, supporting timely, user friendly and accurate information</p>	<p>Key Outcome Indicators¹:</p> <ul style="list-style-type: none"> • Allocations to climate resilient Programmes increasing by 25% in real terms for vulnerable sectors (agriculture, environment and natural resources, energy and water, infrastructure, health and disaster management) by 2025, relative to 2007-2011 baseline • National Climate Change Council, with active representation from key Government, civil society and private sector, established and fully operational, effectively managing Zambia’s Climate Change Programme. • Harmonized mechanisms to coordinate and manage climate change funds developed and agreed. • Proportion of poor in pilot districts reduced by 35% • At least 70% of the Integrated Development Plans in pilot districts of the Barotse sub-basin have been mainstreamed with climate resilient considerations . • Reduction in crop area affected by floods and droughts for similar intensity events • At least 50 percent of the climate resilient plans benefit socially vulnerable groups (women, elderly, incapacitated and youths). • Standards and codes of practice for climate-resilient infrastructure developed and adopted (km of roads or canals applied) • Reduced maintenance costs for key transport infrastructure in flood-prone areas • Information crowdsourcing platform (two way communication) established, covering 70% of the pilot districts • Strengthened early warning system combining scientific and indigenous knowledge developed and applied
<p>Investment Project 2: <i>Strengthening Climate Resilience in the Kafue River Basin</i></p> <p>A. Adaptive capacity and livelihoods of</p>	<p>Key Outcome Indicators:</p> <ul style="list-style-type: none"> • Proportion of the poor in pilot districts reduced by 35%

¹ For specific output indicators, see Proposed Investment Programme Components in main text.

<p>vulnerable farmers and rural communities to climate change and variability strengthened in priority districts of the Kafue basin</p> <p>B. Increased resilience of major infrastructure in Kafue Sub-basin</p>	<ul style="list-style-type: none"> • At least 70 percent of the Integrated Development Plans in pilot districts of the Kafue Basin have been mainstreamed with climate resilience considerations • Reduction in crop area affected by floods and droughts for similar intensity events in the pilot districts • At least 50% of the climate resilient plans benefit socially vulnerable groups (women, elderly, incapacitated and youths). • Km of roads rehabilitated to climate-resistant codes and standards (see Table 15 for location) • Reduced maintenance costs for key transport infrastructure in flood prone areas
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<p>Investment Project 3: Private Sector Support to Climate Resilience</p> <p>A. Increased private sector investment in climate resilience in a range of economic sectors (including agriculture, energy and water) and in natural capital in the two sub-basins</p> <p>B. SMS-based Climate and Agriculture Information piloted in the target sub-basins</p> <p>C. Weather index-based insurance products developed for target sub-basins</p> <p>D. Micro-finance instruments extended to target sub-basins to strengthen livelihoods</p>	<p>Key Outcome Indicators:</p> <ul style="list-style-type: none"> • Target size of investments by private sector in climate resilience projects in two sub-basins: additional US\$10 million • Number of farmers using SMS-based information platform: target 2,000 farmers • Number of farmers using weather index-based insurance product by the end of the project: 800 farmers. • Number of livelihood-enhancing schemes approved, relative to target village population in the sub-basins: Target: 1 scheme per 10,000 villagers.
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9. Project Concepts under the Zambia Strategic Programme for Climate Resilience:

Project Concept Title	MDB	Requested PPCR Amount (\$)	Grant or Loan	Expected co-financing (\$)	Preparation grant request (\$)	Total PPCR request	MDB Fee
Investment Project 1: Strengthening Climate Resilience in Zambia/ Barotse	WB	30,000,000 <u>20,000,000</u> 50,000,000	Grant Loan	105,000,000	2,000,000 (covering both Project 1 and Project 2)	50,000,000	982,000
Investment Project 2: Strengthening Climate Resilience in Kafue River Basin	AfDB	20,000,000 <u>25,000,000</u> 45,000,000	Grant Loan	171,800,000		45,000,000	780,000
Investment Project 3: Private Sector Support to Climate Resilience	IFC	15,000,000	Loan	40,500,000	---	15,000,000	---
Total		50,000,000 <u>60,000,000</u> 110,000,000	Grant Loan	317,300,000	2,000,000	110,000,000	1,762,000

10. Timeframe (tentative) – Approval Milestones

Project 1: Submission to Board Approval expected by FY13

Project 2: Submission to Board Approval expected by FY 12

Project 3: FY 12

11. Key national stakeholder Groups involved in SPCR design (for complete list see Annex 2)

- Ministry of Finance and National Planning (lead)
- Ministry of Tourism, Environment, and Natural Resources
- Disaster Management and Mitigation Unit (Office of the Vice President)
- Climate Change Facilitation Unit
- Ministry of Agriculture and Cooperatives
- Ministry of Works and Supply
- Ministry of Communications and Transport
- Ministry of Local Government and Housing
- Ministry of Energy and Water Development
- Ministry of Livestock and Fisheries Development
- Zambia Meteorological Department
- Zambia Bureau of Standards
- National Council for Construction
- Road Development Agency
- Zambia Wildlife Authority
- Environmental Council of Zambia
- Zambezi River Authority
- Zambia Climate Change Network
- Zambia Red Cross Society
- Green Enviro Watch
- Center for Energy, Environment and Engineering of Zambia
- Snow Systems
- Concern Worldwide
- National Heritage Conservation Commission
- International Union for the Conservation of Nature
- Pellum Participatory and Ecological Land Use Management Zambia Land Alliance
- University of Zambia
- Africa Carbon Credit Exchange
- Lloyds Financials
- Zabuntu
- United Kingdom Department for International Development
- Millenium Challenge Account
- United Nations Development Programme – Zambia
- United Kingdom Department for International Development
- United Nations Global Mechanism
- World Food Programme
- World Fish Center
- Random Hacks of Kindness (RhOK) – Zambia

12. Development Partners involved in SPCR:

AfDB, IFC, WB, UN (UNDP and WFP), DfID, Millenium Challenge Account, Global Mechanism

EXECUTIVE SUMMARY

Zambia is a landlocked developing country of 13 million people, located on the southern part of the African continent. Due to its high levels of poverty (59%) and dependency on agriculture and natural resources – both climate-sensitive sectors - Zambia is particularly vulnerable to climate change and climate variability. Extreme weather events such as floods, droughts and heavy rainfall are already happening and are expected to increase in intensity and frequency. Over the past three decades, these events cost Zambia some 0.4% of annual economic growth. Without adaptation, the impact could rise to 0.9% of Gross Domestic Product (GDP) over the next decade, keeping an additional 300,000 Zambians below the poverty line, and undermine the strong growth that Zambia has experienced over the last 5 years (an average of 6.4% a year). Hence, a key challenge for Zambia will be to safeguard its hard-won development gains, and promote climate resilience for vulnerable sectors and population.

As climate patterns change, the distribution of agro-ecological zones, habitats, and distribution patterns of disease are also likely to change, impacting significantly the 61% of the population that still lives in rural areas (many of whom are women and elderly). Damages to infrastructure, housing, and loss of livelihoods are particularly concentrated amongst the communities living along the major river basins (Zambezi and the Congo). Amongst these vulnerable communities, the problems of climate change are essentially integrated, and require an integrated strategy to succeed.

To address these challenges, Zambian stakeholders have chosen a programmatic approach to the SPCR – an approach that (a) mainstreams climate change adaptation into national plans and strategies; (b) assists communities in highly vulnerable areas to identify and address their own climate change adaptation options as part of local development plans; (c) incorporates climate resilience into existing community development funds to ensure their sustainability; (d) invests in highly visible infrastructure as a way to rally public support for adaptation; (e) builds on partnerships, particularly with private sector and civil society; (f) relies on the transformative power of communication technologies; and (g) strengthens the institutional foundation for a future climate change programme in Zambia. With a focus on national programme strengthening and field interventions focused on two priority sub-basins of the Zambezi (Barotse and Kafue)², the Zambian SPCR proposes an approach that is both transformative as well as sustainable.

The Pilot Programme for Climate Resilience (PPCR) was established under the Multi-donor Strategic Climate Fund (SCF) in September of 2008. It aims to help countries achieve a climate resilient development path, consistent with poverty reduction and sustainable development goals. As such, it promotes *transformational shifts* from business as usual, sector-by-sector and project-by-project approaches, by

² Contrary to Barotse, which is a floodplain of the Zambezi, the Kafue sub-basin involves a distinct tributary of the Zambezi, the Kafue River. The area is therefore commonly known as the Kafue River Basin, the term that is used throughout the SPCR. However, both Kafue and Barotse are sub-basins of the Zambezi River.

integrating climate resilient into development strategies and programmes, promoting participatory adaptation in local planning processes, strengthening long-term institutions, fostering collaborative partnerships, and facilitating sharing of good practices and lessons learned.

The PPCR is being implemented in nine pilot countries: Bangladesh, Bolivia, Kingdom of Cambodia, Republic of Mozambique, Nepal, Republic of Niger, Yemen, Tajikistan and Zambia, in addition to two regional Programmes in the Caribbean (Dominica Grenada Haiti Jamaica Saint Lucia Saint Vincent and the Grenadines) and the Pacific (Papua New Guinea, Tonga and Samoa). Selection for participation in the PPCR was made by an Expert Group on the basis of risk and vulnerability profiles and the capacity to integrate climate resilience into development planning and sector policies, as well as to promote the scaling-up of activities to achieve greater climate resilience. At the recommendation of the Expert Group, Zambia was nominated as a pilot PPCR in January 2009 and formally submitted an Expression of Interest in March 2009.

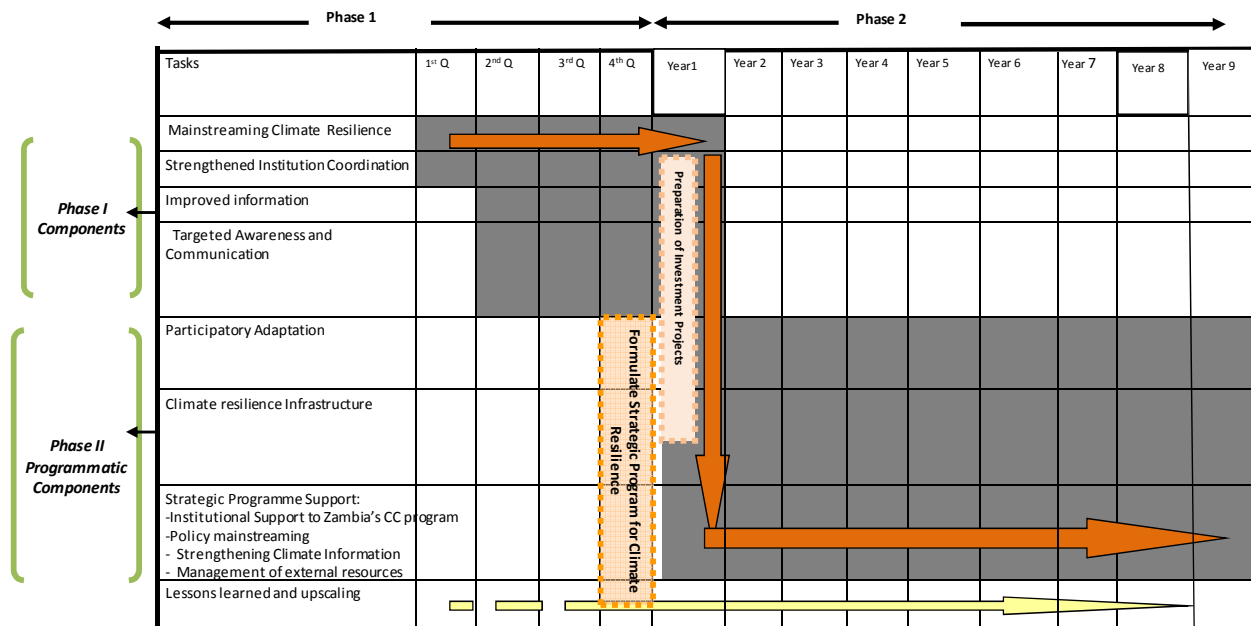
Zambia's PPCR goal is *to mainstream climate change into the most economically and vulnerable sectors of the economy*, in order to ensure sustainable economic development towards the attainment of the country's Vision 2030. The PPCR has been led and coordinated by the Ministry of Finance and National Planning (MoFNP), and involves two phases:

- **Phase I**, approved in March 2010 for US\$1.5 million, was designed with the objective of formulating Zambia's Strategic Programme for Climate Resilience (SPCR). It involved five strategic components: (a) Mainstreaming climate resilience into national development planning³; (b) Strengthened institutional coordination; (c) Improved information for decision makers; (d) Targeted awareness and communication; and (e) Preparation for Phase II. This phase is expected to run from 2010 to mid-2013.
- **Phase II**, which is being submitted for approval in June 2011, will focus on implementing the SPCR along three major strategic components: (a) Participatory Adaptation; (b) Climate Resilient Infrastructure; and (c) Strategic Programme Support. This phase is expected to run from mid-2013 to 2020 (following a year of preparation for the specific investment projects).

Figure 1 shows how the two phases of the PPCR have been structured.

³ For the purposes of the Zambia PPCR, mainstreaming climate resilience into national economic planning means integrating and/or increasing budgetary allocations to Programmes and projects that promote climate resilience (e.g. agriculture diversification, develop risk management and vulnerability plans, etc. The mainstreamed Programmes of the Sixth National Development Plan are shown on Annex 6.

Figure 1. Zambia Pilot Programme for Climate Resilience (PPCR) – Phases I and II



During Phase I, Zambia completed the successful mainstreaming of climate change issues into the Sixth National Development Plan (2011-2015). Through parallel initiatives, Zambia also completed a National Climate Change Response Strategy and an Economic Analysis of Climate Change impacts, and adopted a new Disaster Management Act. Three joint missions, led by MoFNP and involving multiple stakeholders were also completed⁴. Key PPCR stakeholders were also trained in Crowdsourcing as a basis to improve the flow of information to and from the field. These processes are expected to continue through the SPCR implementation.

Over the course of 2010-11, Zambia also made significant progress on institutional aspects, reaching stakeholder consensus towards establishing a new Climate Change Council. In late 2010, MoFNP formed three multi-stakeholder platforms aligned with the chosen SPCR transformational themes and priorities of the Sixth National Development Plan: Climate Resilient Agriculture, Climate Resilient Infrastructure, and Climate Information. A fourth platform – on climate financing and management of external resources – is being established. These platforms, led by highly respected national “champions”, include representatives from Government, Civil Society, Academia and private sector (according to their area of interest), and have provided the basis for the design of the SPCR. It has been made clear from the start that the SPCR would not be a separate Government Programme, but rather seen as an integral part of Zambia’s Climate Change Programme. This has helped create an inclusive framework

⁴ See Part I, Section 5 and Annex 1 for further information

for partnerships - to date, more than 40 different Government agencies, NGOs, development partners and private sector groups have expressed interest in being involved in Zambia's Climate Change Programme (see Section 4 and Annex 2).

In line with the selected transformation themes and priorities of the National Development Plan, Zambian stakeholders have proposed three strategic components for the SPCR:

- A. **Participatory Adaptation** – supporting a range of community-based climate resilient initiatives disbursed against climate-resilient local area development plans, as well as complementary private sector support in the areas of micro-finance, climate information and insurance.
- B. **Climate Resilient Infrastructure** – supporting the climate proofing of highly visible infrastructure, as a way to rally public awareness and support for adaptation.
- C. **Strategic Programme Support** – providing direct SPCR support to Zambia's emerging Climate Change Programme, including institutional strengthening, policy mainstreaming, improved climate information, and management of external resources.

Whilst Component C is national, Components A and B will be implemented in two priority sub-basins of the Zambezi, Barotse and Kafue (see Figure 3). Together, these sub-basins comprise 28 districts and a population of 4.9 million, of which the SPCR would focus on 24 priority districts (total estimated target population 3.8 million). These pilot areas have been selected as they exhibit the warmest and driest climatic conditions (less than 800 mm/year rainfall), highly variable rainfall, and high soil erosion. The population of these sub-basins is also exposed to recurrent (and intensifying) floods and seasonal droughts which affect their livelihoods.

The design of the SPCR aims not only to provide a platform for maximizing synergies with other climate resilient initiatives, but also to avoid duplication of effort and leverage future funding. The implementation will build on the comparative advantages of relevant stakeholders in Zambia, including the Government, civil society, private sector, academia, and development partners, to ensure a participatory and sustainable response to the threat of climate change. To the maximum extent possible, the SPCR has been designed to employ existing or emerging implementation mechanisms, and thus facilitate partnerships and scaling-up.

Given the high level of stakeholder interest on Zambia's Climate Change Programme, the critical need to build strong national capacity, and the risk that of falling back on a business-as-usual model, the SPCR has chosen to support three dedicated (stand-alone) and well coordinated investment projects which in turn directly support Zambia's climate change Programme:

- The first, *Strengthening Climate Resilience in Zambia and the Barotse Sub-Basin*, will be implemented through IBRD for an estimated US\$50 million. It would provide strategic support to Zambia's Climate Change Programme, while implementing participatory adaptation and climate-resilient infrastructure in the Barotse sub-basin of the Zambezi.
- The second, *Strengthening Climate Resilience in the Kafue River Basin*, would be implemented through AfDB for an estimated US\$45 million. It would focus on participatory adaptation and climate-resilient infrastructure in the Kafue sub-basin of the Zambezi.
- The third, *Private Sector Support to Climate Resilience* (IFC, US\$15 million) would focus on priority private sector support to the two sub-basins, namely in the areas of micro-finance, index-weather insurance, and information (ICT) support.

The three investment projects optimize the comparative advantages of the three Multilateral Banks⁵. The proposed financing for the Zambia SPCR would involve US\$50 million in grant and US\$60 million in concessional credit, for a total of US\$110 million, including a US\$2 million Project Preparation Grant advance for Projects 1 and 2. This is expected to be matched by some US\$317 million in complementary (parallel) financing from the Government of Zambia and other development partners.

This SPCR Submission includes three parts. Part 1 covers the background and rationale for the SPCR; Part 2 identifies the proposed Investments under the SPCR; and Part 3 concludes with a request for Preparation Grant funds to develop a quality investment Programme through financing, analytical and design tasks.

⁵ The Multilateral Development Banks involved in the Zambia PPCR include: (a) the International Bank for Reconstruction and Development (IBRD), which as lead MDB has a comparative advantage in institutional Programme strengthening and activities in the Barotse sub-basin, which involve complex environmental and socio-economic conditions; (b) the African Development Bank (AfDB) which is already active in the Kafue River Basin; and the International Finance Corporation (IFC) which specializes on private sector support. The United Nations Development Programme (UNDP) and the United Kingdom Department for International Development (DFID) have also been active partners in the PPCR from the start.

PART 1

1. NATIONAL CONTEXT

1. The Republic of Zambia (located between 8° and 18° South Latitude, and 22° and 34° East Longitude) covers an extensive area of 752,614 Km², with its Western and Central regions located in the great South Central Africa plateau. A landlocked country, Zambia is surrounded by the Democratic Republic of Congo, Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Namibia and Angola (see Figure 2).

2. Administratively, it is divided into nine provinces, 73 districts and 1,289 wards, the lowest administrative level in Zambia. Each district also consists of various Parliamentary Constituencies (150 in total) according to their respective population. Based on the 2010 Census Preliminary Report, the current population of Zambia is about 13 million, and is expected to double by 2030 based on an annual growth rate of 2.8%. One third (39 %) of the population is urban while the remaining 61% is rural.

Figure 2. Map of Zambia



Source: World Bank Mapping Unit

2. Zambia's economy has grown steadily at 6.4% per year during the 2006-2010 period, compared with an average of 4.8% in 2002-2005 and now counts a GNI per capita of US\$1,280. Inflation rates have stabilised at an average of 10.2%, while interest rates have remained high at 27% (see Table 1 below). Growth has been spurred by market liberalization, prudent macro-economic management, and investments in capital intensive infrastructure (mining and construction) as well as services. Copper and cobalt currently account for 80% of Zambia's exports.

Table 1: Macroeconomic Indicators: Zambia

	2006	2007	2008	2009	2010	Avg
GDP Growth	6.2	6.2	5.7	6.4	7.6	6.4
Inflation (Average)	9.2	10.6	12.4	13.4	8.1	10.7
Inflation (End Year)	8.2	8.9	16.6	9.9	7.9	10.2
Interest rates (Weighted Lending Rate (end-December) %)	27.9	24.4	26.9	29.2	26.4	26.9

Source: Ministry of Finance and National Planning

3. Despite this progress, growth has been uneven and narrowly focused, benefiting primarily urban areas and the Copperbelt Province, where mining is concentrated. Social indicators have generally improved over the past decade but at an uneven pace (Table 2). Real GDP per capita remains equivalent to 1965 levels, and the headcount poverty ratio continues to be high at 59.3%, reflecting strong differences between rural (77%) and urban areas (27%). As young people increasingly migrate to towns, poverty has remained particularly persistent amongst small-scale farmers, the elderly, and female headed households, who comprise 60% of small-scale farmers. Despite employing some 65% of Zambia's population, agriculture remains largely undeveloped, although good rains over the past 2 years have ensured a solid harvest. As such, Zambia is rated 150 out of 169 countries in the UN Human Development Index.

Table 2. Selected Social Indicators: Zambia

	1998-2001	2002-2005	2006-2009
Headcount Poverty Ratio (% of population)	66.8	58.4	59.3
Primary school enrolment (% net)	68.2	92.3	95.2
Secondary school enrolment (% gross)	25.6	33.5	45.6
Youth literacy rate (% of people aged 15-24)	69.5	69.1	74.8
Life expectancy at birth (years)	41.7	42.8	45.4
Under 5-mortality rate (per 1,000 live births)	165.7	155.3	141.3
Maternal mortality rate (per 100,000 live births)	600.0	560.0	470.0
Prevalence of HIV (% of population aged 15-49)	15.4	15.0	15.2

Source: World Bank – World Development Indicators and Central Statistics Office

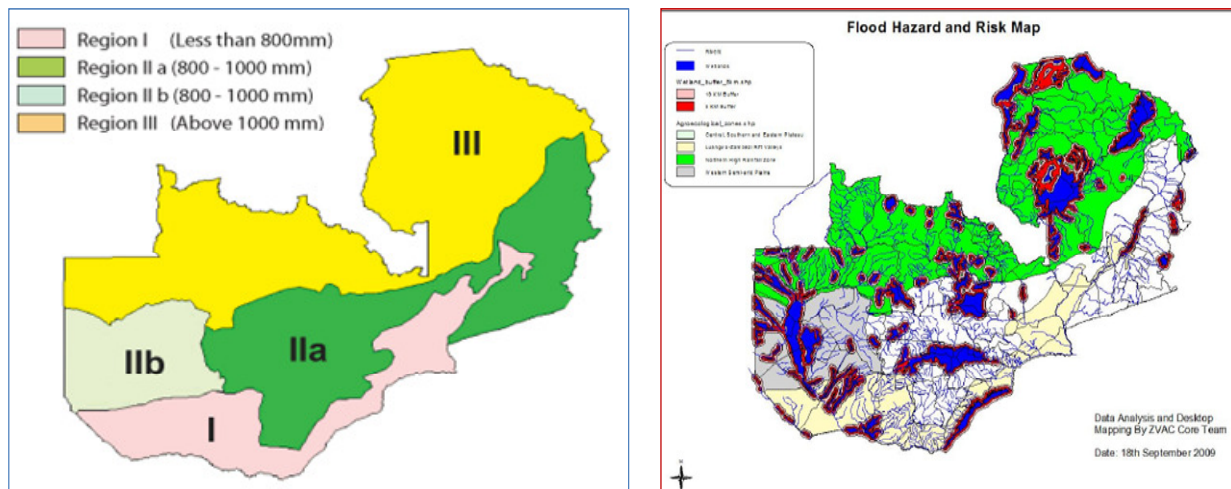
2. DEVELOPMENT AND CLIMATE RISKS

Current Climate Characteristics

5. Zambia's geographic location and topography gives the country a sub-tropical climate with three distinct seasons: the hot-dry season from mid-August to November (26-38° C); the rainy season from November to April (27-34°C) and the cool dry season from April to mid-August (13-26° C). Annual rainfall ranges from 600-1100 mm/year, and follows a north-south gradient, with an average of 700 mm/year in the south and 1,400 mm/year in the north. Rainfall in Zambia is also strongly influenced by the El Niño Southern Oscillation (ENSO), which brings drier than average conditions in the wet summer months in the south, whilst the north experiences wetter-than average conditions. The reverse occurs during La Niña episodes, with dry conditions in the north and wet conditions in the south. The influence of ENSO contributes to uncertainty in climate projections for this region. The rainy season is also affected by the Inter-Tropical Convergence Zone (ITCZ) which oscillates between the northern and southern tropics over the course of a year, bringing rain between November and April. Variability in the movement of the ITCZ leads to variability in the rainfall received from one year to the next.

6. Zambia is divided into three agro-ecological regions (Figure 4). Based on data from 1961-1990, Region I has the lowest rainfall (about 800 mm), followed by Region II and III. According to the National Adaptation Programme of Action (NAPA)⁶, Region I has also consistently had the most droughts and water scarcity - and, along the Caprivi strip and Lake Kariba, regular floods. It is therefore considered to be the most vulnerable region in Zambia. Regions III, IIa and IIb are also exposed to floods, particularly around floodplains.

Figure 4. Agro-Ecological Zones in Zambia based on Rainfall Patterns, and Flood Risk Map



Sources: Zambia Meteorological Department (2004) and Disaster Management and Mitigation Unit (2009)

⁶ MTENR. 2007. National Adaptation Programme for Action.

Climate Change and Variability

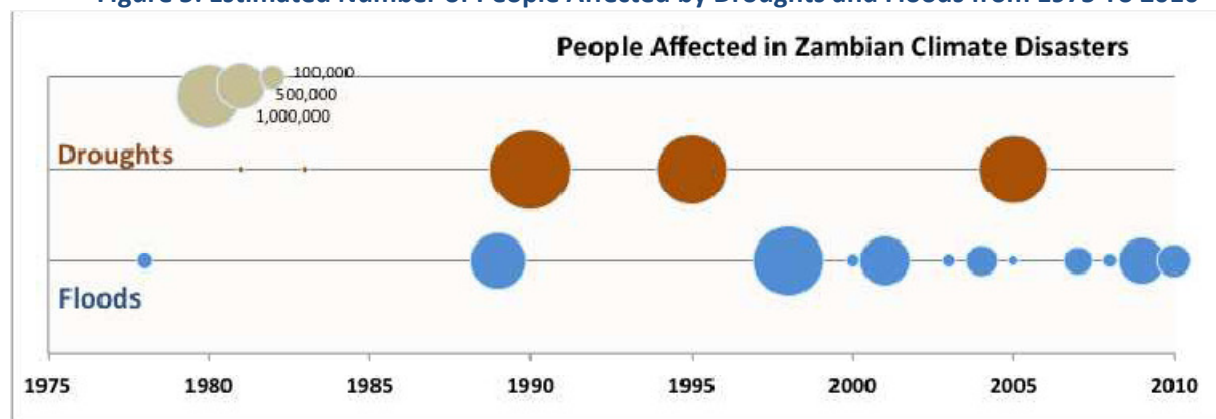
7. **Historical Trends.** Based on 1960-2003 records, Zambia has experienced the following trends⁷:

- Mean annual temperature has increased by 1.3° C since 1960, an average rate of 0.29° C per decade, with the rate of increase most pronounced during winter months (0.34° per decade).
- The number of hot days and hot nights per year has increased by 43 days, with the most pronounced increases between March-May (hot days) and December-February (hot nights).
- The average number of cold days and nights per year has decreased by 22 and 35 days, respectively. The decrease in cold days is similar across all seasons, while that of cold nights appears to be more pronounced between March-May.
- Mean rainfall has decreased by 1.9 mm/month (2.3% per decade), mainly due to decreases during peak months of the rainy season (December-February).

8. In sum, rainfall seasons in southern Zambia have become less predictable and shorter (most notably in the south-western area), with rainfall falling in fewer, more intense events.

9. From 2000 to 2007, the intensity and frequency of droughts and floods and the number of people affected has also changed, with a net trend towards more floods and, over a longer time-period, droughts (Figure 5). Floods have been occurring once every 2.3 years and droughts once every 5 years, intensifying to once every three years in recent years (1991-2011). Droughts have also been occurring within rainy seasons, such as in 2000/01, 2001/02, and 2004/05. Moreover, the area affected by floods and droughts appears to have expanded: the 2006/07 flood, for example, affected 41 districts in nine provinces, and the 2004/05 drought left nearly two thirds of Zambia with little or no rainfall.

Figure 5: Estimated Number of People Affected by Droughts and Floods from 1975 To 2010



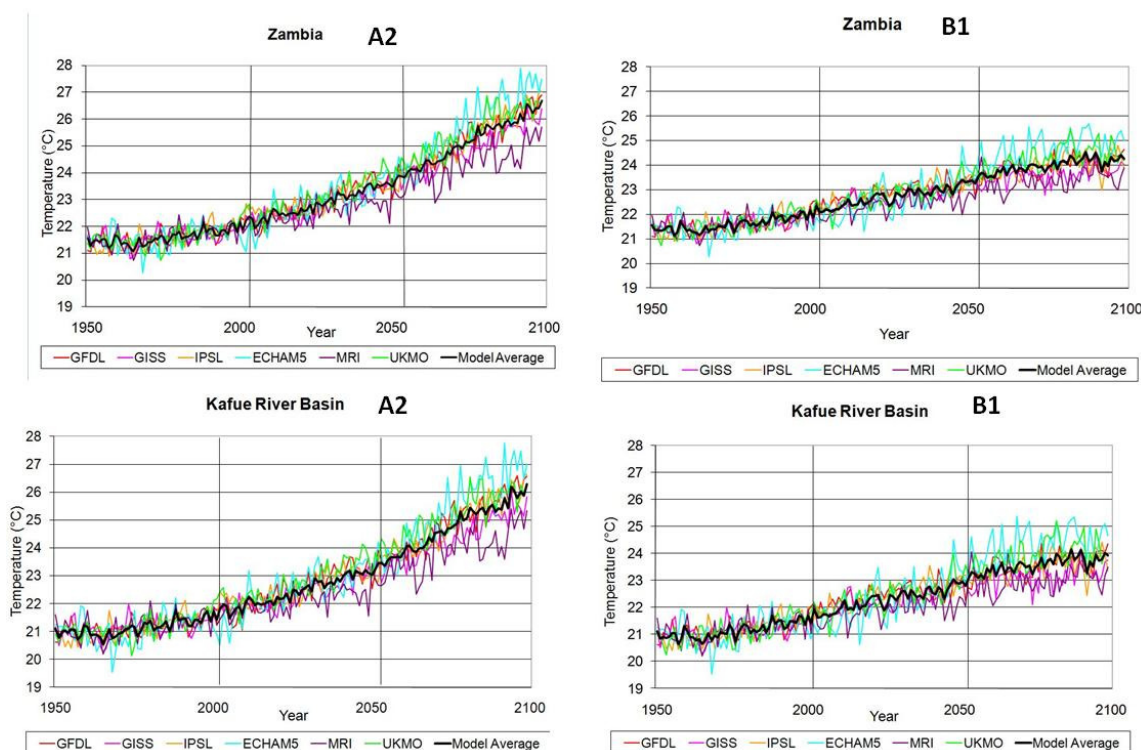
Source: EM-DAT: The OFDA/ CRED International Disaster Database, Université Catholique de Louvain, Brussels, Belgium, Data Version v11.08

⁷ IPCC Fourth Assessment Report and UNDP Climate Profiles. Hot days and hot nights are defined as those when the temperature above which 10% of the days or nights are recorded in the current climate for that region and season. Conversely, cold days and cold nights are defined as the temperature below which 10% of days or nights are recorded.

10. **Projected Climate Change.** Future climate trends in Zambia have been documented in the NAPA, a World Bank-funded Water Sector study, and in a Climate Change Knowledge Portal⁸. However, these projections were at a relatively coarse spatial resolution. A recent IFC study⁹ used downscaled climate data from six Global Circulation Models (GCMs) and two Special Report on Emissions Scenarios (SRES), A2 and B1. This yielded 12 different projections of temperature and precipitation for the period up to 2100, using 1960-1999 as a base. The results are as follows:

(a) **Temperature.** Projected increases in average annual temperature are 3-5° C for Zambia and 3-6°C for Kafue Basin by 2100 (Figure 6). By 2060, models indicate temperature increases of 1.2-3.4° C, with the largest increase in the northern and eastern regions. By 2060, the number of hot days is nights are projected to increase significantly throughout the country, by 15-29% and 26-54%, respectively. Cold days and nights are projected to decrease significantly, to the extent of becoming rare and occurring no

Figure 6. Simulated Annual Times Series of Temperatures Spatially Averaged over Zambia (top figures) and Kafue River Basin for A2 (left) and B1 (right) Emission Scenarios



Source: IFC (2011). Kafue Gorge Lower Hydropower Project: Climate Change Risk Assessment

⁸ World Bank Climate Change Knowledge Portal, MTENR (2007). See footnotes 7 and 10 for other references.

⁹ IFC (2011). *Kafue Gorge Lower Hydropower Project: Climate Change Risk Assessment*, MTENR (2007). *Formulation of the National Adaptation Programme of Action on Climate Change*, and World Bank 2009. *Managing Zambia's Water for Sustainable Growth and Poverty Reduction. A Country Water Assistance Strategy for Zambia*.

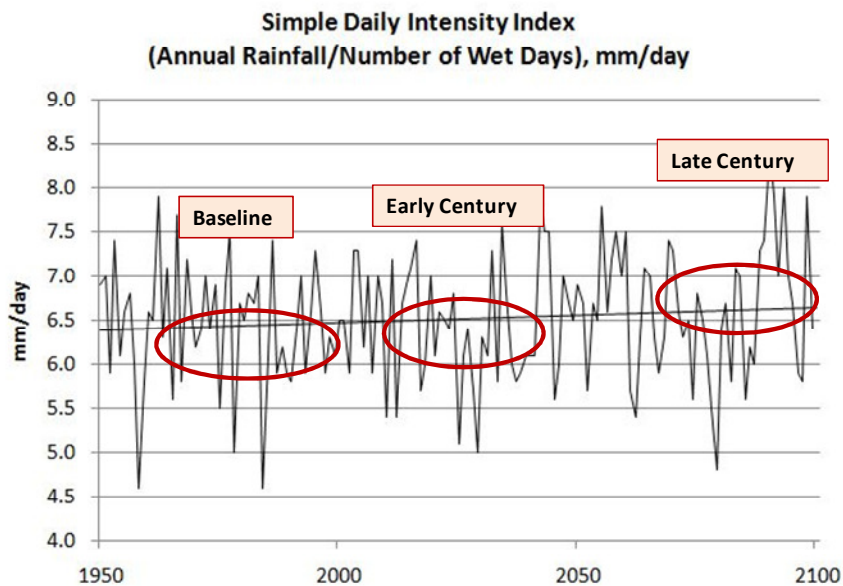
more than 1-4% per year (Figure 6). Further, by 2100, maximum temperatures are projected to exceed historical ranges for 8 months of the year. Temperature changes, combined with changes in precipitation variability, are likely to affect soil moisture and seasonal patterns of rainfall, thereby affecting agriculture and biodiversity.

(b) Precipitation. While average annual precipitation is not projected to change significantly – model results range from -3% to +3% by 2100 - precipitation variability is expected to increase. During the early rainy season (October-December), precipitation levels are projected to decline – equivalent to three months out of the 7-months rainy season becoming drier. By contrast, the proportion of rainfall resulting from heavy events is projected to increase, particularly during December to May. By 2100, the IFC study indicates maximum 1-day precipitation increases of over 275% for some scenarios. For Kafue, the net result is expected to result in a positive change (about +11%) in Kafue River flows.

Table 3: Comparison of Precipitation for Base and Late-Century Periods for ECHAM5 A2

Parameter	Daily Average (mm)		Annual Average (mm)	
	Base Period	Late Century Period	Base Period	Late Century Period
Minimum	19	13	619	848
Average	27	31	1,020	1,065
Maximum	46	56	1,233	1,341
St. Deviation	7.1	9.3	149	164

Figure 7. Projected Variation in Rainfall Intensity through ECHAM5 A2 Model



Source: IFC (2011). Kafue Gorge Lower Hydropower Project: Climate Change Risk Assessment
 Notes: mm = millimeter. St. Deviation = standard deviation.

(c) Extreme Events. The projected changes in precipitation variability could lead to more intense floods and longer and more severe droughts. Simulated changes to the probability of exceeding flood thresholds – defined as a 15% deviation from normal rainfall for the rainy season – indicates that floods are expected to continue to occur frequently in the future, and, for models like ECHAM5 A2, increase in frequency (Table 4). Flood magnitude is also expected to increase due to more extreme precipitation and run-off. Thus, infrastructure build to withstand 100 or 1000-year maximum probable flows may need to be redesigned. It is also expected that droughts may occur more frequently, as simulated by several GCM scenarios (Table 5).

Table 4: Probabilities of Exceeding Seasonal Precipitation Flood Threshold (early, mid and late 21st Century)

GCM	Emissions Scenario A2			Emissions Scenario B1		
	Early Century (2010-2039)	Mid Century (2040-2069)	Late Century (2070-2099)	Early Century (2010-2039)	Mid Century (2040-2069)	Late Century (2070-2099)
ECHAM5	25%	35%	39%	29%	16%	23%
IPSL	21%	36%	16%	43%	26%	29%
MRI	22%	28%	18%	19%	14%	27%

Table 5: Projected Probability of Drought (early, mid and late 21st Century)

GCM	Emissions Scenario A2			Emissions Scenario B1		
	Early Century (2010-2039)	Mid Century (2040-2069)	Late Century (2070-2099)	Early Century (2010-2039)	Mid Century (2040-2069)	Late Century (2070-2099)
ECHAM5	13%	9%	10%	14%	19%	17%
IPSL	15%	14%	22%	5%	9%	10%
MRI	19%	13%	22%	21%	26%	13%

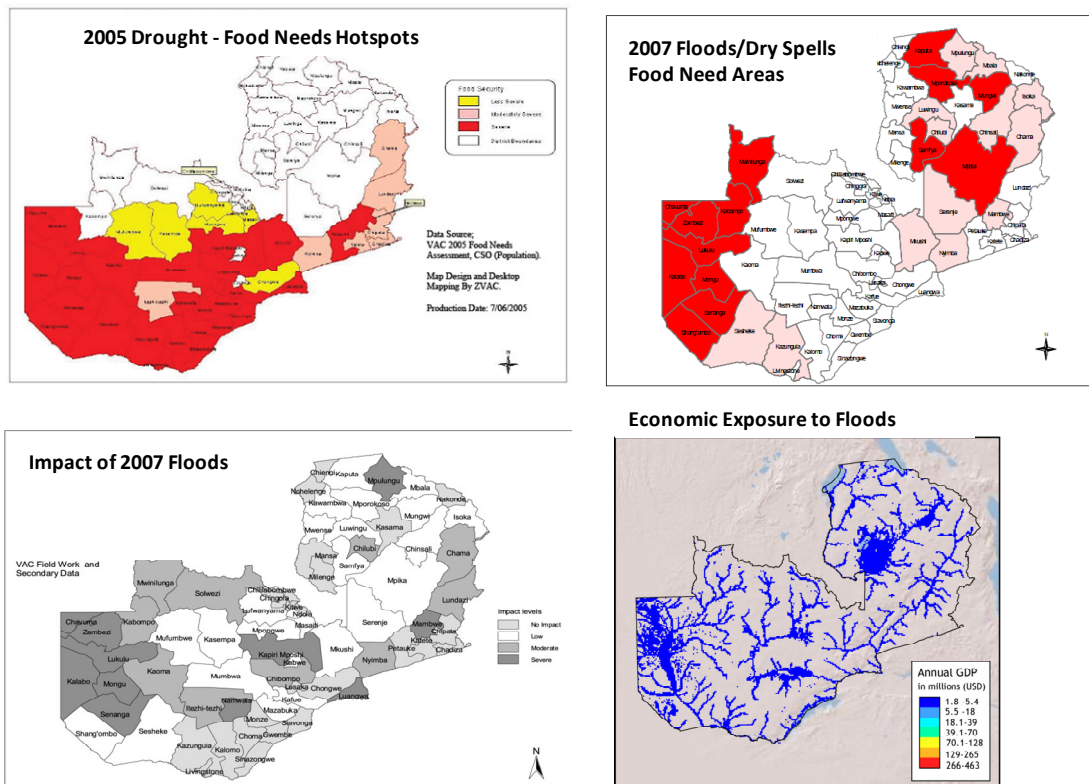
Source: IFC (2011). Kafue Gorge Lower Hydropower Project: Climate Change Risk Assessment

Vulnerability

11. **Economic Vulnerability.** Over the past three decades, floods and droughts have cost Zambia an estimated US\$ 13.8 billion, or a loss of economic growth equivalent to 0.4% annually. In the future, in the absence of adaptation, rainfall variability alone could keep an additional 300,000 more Zambians below the poverty line and cost Zambia at least US\$4.3 billion in lost GDP over the next decade, reducing future annual GDP growth by 0.9 percentage points.¹⁰

12. **Social Vulnerability.** Zambia's Vulnerability Assessment Committee (ZVAC), a consortium of Government agencies, NGOs and the UN, has carried out regular vulnerability assessments following major disasters since its establishment in 2002. The assessments have consistently shown the Western and Southern Provinces (and part of the Northern, Central and Western Provinces) as the most vulnerable (Figure 8). These are also the main focal areas for the PPCR.

Figure 8. Geographical Distribution of Drought and Flood Impacts



Sources: Zambia Vulnerability Assessment Committee Assessments (2006 and 2007) and World Bank (2011). Climate Resilience – Adaptation to Climate Change in Zambia (bottom right). Figure on bottom shows overall impact of 2007 floods on key sectors (housing, education disruptions, health, infrastructure, and crop losses)

¹⁰World Bank 2009. *Managing Zambia's Water for Sustainable Growth and Poverty Reduction. A Country Water Assistance Strategy for Zambia*, June 2009 and background papers. The analysis used 12 Global Circulation Models.

13. **Vulnerability to Droughts.** The 2005/06 drought left 1.2 million people - over 10% of the population - food insecure for up to 8 months. It affected 27 districts (37.5% of Zambia), seven of which severely. Most of the affected were subsistence farmers. As two-thirds of the households did not treat their water supply, water-borne diseases became a major concern.

14. **Vulnerability to Floods.** The 2007/08 flood displaced 495,972 people (8% of the population), 61% of whom in the Southern and Western Provinces. Some 445,000 people in 21 targeted districts required food assistance. Most of the affected (43%) were dependent on farming as their main source of livelihood, with the vast majority growing maize as the key food crop. The flood was also estimated to have damaged up to 66% of the transport infrastructure in the targeted districts (including culverts, bridges and roads). Some three-fourths of affected population claimed having received little or no warning, and of those who did, 66% did not heed the warnings.

15. **Impact on the Most Vulnerable.** The ZVAC 2005 assessments found that 55% of the population surveyed was poor. This is particularly the case in flood plains like the Zambezi. During floods, erratic and excessive rainfall along the Zambezi basin can lead to water logging, threatening the viability of the first season crop if it happens early during the planting season. As the second crop does not take place until 2-5 months later, climate change could increasingly affect the most vulnerable during the peak hunger months of September to February (Figure 9). Amongst the poorest households in the target areas of the SPCR, food sources are heavily reliant on subsistence agriculture and availability of food-for-work schemes, further compounding their exposure in cases of climate-induced crop failure (Figure 10).

16. Wealth is generally correlated with size of landholding and livestock, with the poorest generally relying on casual labour (mostly paid for in food), sales of vegetables, charcoal, wild foods, handicrafts, small livestock and gifts/remittances as their main source of cash income. Hence, a sudden increase in casual labour is usually one of the early signs of disasters. Amongst the households surveyed by the 2008 ZVAC, 22% were female-headed households, and amongst them, 51% were widowed and 21% were divorced or separated. The 2008 survey also found that 16% of the households were headed by the elderly, mostly widows. About 14% of the households took care of orphans, revealing the high prevalence of HIV/AIDS along river basins.

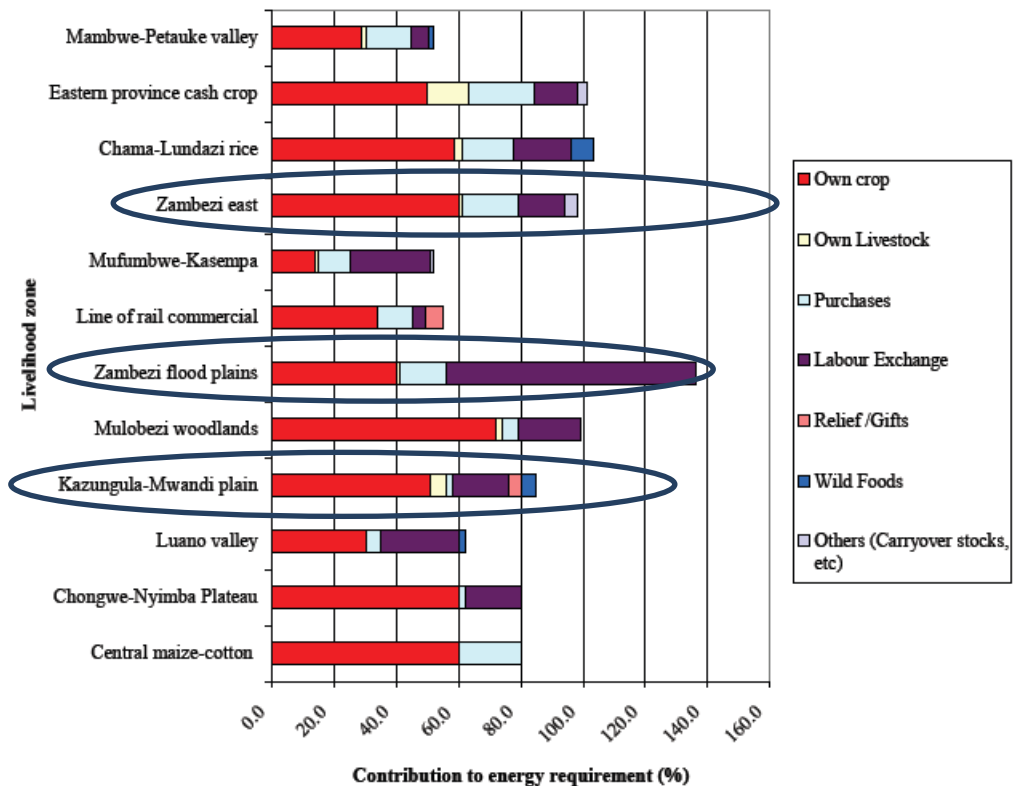
17. Overall, the most vulnerable groups in climate-sensitive districts are widowed female-headed households, the elderly, and single or divorced male-headed households. Women headed households are generally considered more vulnerable due to the fact that they take care of a higher number of dependents, and produce 25% less than male-headed households. The ZVACs found, in fact, that widowed, female-headed households were on average twice as vulnerable as male-headed households – although amongst single or divorced groups, male-headed households are generally more vulnerable than their female counterparts, and exhibit a higher degree of malnutrition.

Figure 9. Seasonal Calendar for Most Common Food and Income Sources

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall												
Land preparation												
Weeding												
Dry harvest of most food crops												
Green maize consumption												
Cotton sales												
Groundnuts												
Livestock sales												
On-farm casual labor												
Wild foods												
Fishing												
Peak hunger months												

Source: ZVAC (2005). 2005 Vulnerability and Needs Assessment

Figure 10. Sources of Food for Poor Households in Key Livelihood Zones



Source: ZVAC (2005) 2005 Vulnerability and Needs Assessment. Target areas under the SPCR are highlighted.

18. **Coping Strategies.** For people living in the Kafue or Barotse sub-basins, floods and droughts are part of life. To cope with their increased frequency and intensity, households living in exposed areas have adopted a number of traditional coping strategies: reducing meal quantities, numbers and composition (e.g. shifting to a vegetable-only diet) or reliance on less preferred or wild foods is the most common adaptation. Other coping strategies include reducing expenditures on health and education, borrowing funds or food, increased reliance on casual labor and stolen crops and livestock. Sales of bush products (e.g. grass and mats) and beer brewing also rise during this period. Households living in flood-prone areas of the Zambezi have further relied traditionally on a two-house strategy – one on the plains, and one on the hills during the flood months. However, this practice has increasingly been abandoned due to poverty and livelihood shifts away from farming. Past strategies to encourage settlements in upland areas have met with their own socio-economic problems, including increased livestock diseases due to high concentration of animals. As the youth increasingly migrates to towns, an increasing number of the households left behind are composed of the elderly or widows, further compounding vulnerability.

19. Lessons learned from these assessments point to the need to (a) create cash-based livelihood opportunities, particularly for the youth and the most vulnerable; (b) increase availability of seed stocks; (c) strengthened livestock management (particularly through veterinary services and diversification); (d) promote integrated water and conservation farming solutions such as agriculture diversification, simple irrigation and small dams, and better water treatment practices; (e) support nutritional programmes; (f) strengthen early warning systems; and (g) promote community sensitization. They also indicate a need for targeted protection to the most vulnerable, as the primary beneficiaries of a generalized risk reduction approach are likely to be those with access to land.

Vulnerability by Sector

20. As seen above, climate change impacts are multi-sectoral in nature. Vulnerable populations need to become resilient not just to climatic extremes, but to livelihood challenges, nutritional deficits, and interruptions in basic services. Thus, sector-specific interventions, implemented through line Ministries are unlikely to be successful in decreasing the vulnerability of a given community because they only address one facet of resilience, rather than the complex and interacting factors listed here. At the same time, it is possible to identify the cluster of sectors that is most affected by climate change in Zambia. They include agriculture (including food security), infrastructure, water, energy, natural resources (including wildlife, forestry and fisheries), and health¹¹.

¹¹ MTENR (2007). *Formulation of the National Adaptation Programme of Action on Climate Change*, and MTENR (2011). *The Economics of Climate Change in Zambia*.

21. The estimated GDP loss due to climate change is estimated at US\$4.3-5.4 billion over the next decade (Table 6). The most affected sectors are agriculture and natural resources, although MoTNR's 2011 study did not estimate infrastructure damages and losses (which are expected to be high). More sector specific details are given in Box 1.

Table 6. Estimated GDP loss by Sector over the Next Decade

Sector	Estimated GDP Loss (US\$ million)
Agriculture	2,200 – 3,130
Energy-Related	270 – 450
Health	460
Natural Resources	1,400
Aggregated Total	4,330 – 5,440

Source: MTENR (2011). *Economics of Climate Change in Zambia*. Impact on infrastructure was not estimated.

Box 1. Impacts of Climate Change on Key Sectors in Zambia

Agriculture

The agriculture sector in Zambia is highly vulnerable to changing climatic conditions due to a high reliance on farming for livelihoods, and the preponderance of small-scale, rainfed cultures, grown primarily during the wet-hot season (November-April). The main crops are maize (a staple for Zambian diet), cassava, sorghum, wheat, rice, groundnuts and high-valued crops such as cotton, sugarcane and tobacco. Zambia's recurrent droughts and floods have caused widespread crop failure in the past, in high rainfall years due to water logging and erosion, and in dry years by delaying the onset and length of the growing season. During the 2004/05 drought for example, nearly two thirds of the country received little or no rainfall, affecting even large-scale cotton and tobacco production. Significant rainfall deficits and/or flash floods during critical periods of crop growth have also frequently led to serious production shortfalls, with consequent impact on food security and nutrition. The rising temperatures are expected to further increase the outbreak of plant and livestock diseases.

The impact of climate change and variability on agriculture has been assessed through a collaboration between the University of Zambia and the Center for Environmental Economics and Policy in Africa (CEEPA). This 2006 study suggested that an increase in mean temperatures during November-December and a reduction in mean precipitation during January-February would impact negatively net farm revenues, whereas the impact would be positive for increases in mean temperature during the growing season (January-February) and an increase in mean annual runoff (see Table A).

Table A. Change in Net Farm Revenue (US\$/ha) resulting from Uniform Climate Change Scenarios (Maize) in Zambia

Climate Scenario	Change in net revenue	% change
1 °C increase in mean temperature during germinating season (Nov-Dec)	-322.62	-243%
1 °C increase in mean temperature during growing season (Jan-Feb)	+315.70	+237%
20% reduction in mean precipitation during growing season (Jan-Feb)	-334.67	-252%
1 cm increase in mean annual runoff	3.39	+2.5%

Sources: CEEPA (2006). *The Economic Impacts of Climate Change on Agriculture in Zambia*. Center for Environmental Economics and Policy in Africa (in collaboration with S. Jain, University of Zambia), Policy Note No. 27, August 2006

Box 1. Impacts of Climate Change on Key Sectors in Zambia (Cont'd)

Infrastructure

Zambia's has a relatively low degree of infrastructure development: only 19% of the population has access to electricity, 78% of the roads are unpaved, and less than 10% of the population has access to telecommunications. The current levels of infrastructure development make it difficult for this land-locked country to compete with its neighboring countries, and therefore the Government of Zambia has assigned a high priority to infrastructure and telecommunications development on its Sixth National Development Plan. Yet both existing as well as planned infrastructure are at risk from climate change: past floods have caused significant damage: the 2007 floods, for example, destroyed roads and bridges, forcing the Government to borrow some \$39 million from the Chinese ZIM Bank to buy earthmoving equipment to clear blocked roads. Extreme weather events such as rainstorms make travelling dangerous and are likely to do so and also add to road damage. Rising temperatures are also likely to lead to warping of the country's important railway lines. In general, the safety standards under which the infrastructure assets were originally built no longer conform to expected extremes in weather conditions, and therefore will need to be revised. At the same time, it is critically important that this revision be made in close harmonization with regional (SADC) standards, as many Zambian roads cross country borders. It is also critical to invest in incentives to strengthen operation and maintenance (O&M), a major cause of transport infrastructure collapse. Zambia has had good recent experience with performance based contracts, where payments for road rehabilitation are deferred for a number of years and paid upon solid evidence of O&M. These contractual incentives will be further explored in the PPCR.

Natural Resources

Natural resources in Zambia - including wildlife, forests and fisheries – are already being affected by climate variability combined with unsustainable practices, which lead to land degradation, loss of soil fertility and wildfires. Drought conditions and reduced soil moisture stress wildlife populations, forcing them to migrate to areas where they are more vulnerable to poaching and predation. Conversely, high rainfall events can flood the preferred habitat of wetland animals such as waterbucks, puku and lechwe. Changes in rainfall intensity also modify the nutrient levels of rivers and lakes, critical fisheries habitats on which much of the Zambezi floodplain population depends. The NAPA reports that under a scenario of low rainfall (500 mm), high temperature (20 ° C) and fewer (50) rainy days, the unique Miombo habitat cover may decrease by 50%. Adaptation strategies should therefore aim at reducing the rate of deforestation, introduce conservation farming and provide alternative sources of household energy.

Water and Energy

Zambia has a highly diverse and extensive river system along with water bodies covering as much as 6% of its land area. Even though water availability so far exceeds consumptive use - even during drought years – conditions vary significantly across the country and some areas (particularly agro-ecological region I) experience water deficits during dry periods.. Secondary impacts from reduced water availability include malnutrition and water-borne diseases. During drought events, tourism can also be affected due to wildlife mortality and reduced water flows to Victoria Falls.

Zambia's energy strategy envisages a significant new investment in hydropower, to complement investments made in the 1970s in the Kafue River Basin, such as Ithezi Thezi dam (capacity 120 Megawatt) and Kafue Gorge Upper Dam complex (990 MW capacity). In particular, Zambia's Electricity Supply Corporation (ZESCO) plans a major investment on the Kafue Gorge Lower dam (750 MW planned capacity). Climate change modeling completed under the IFC study (IFC, 2011) indicate that reductions in water supply by early to mid-century could reduce power generation in the Kafue Basin by 2-22%. By end-century, however, given expected higher river flows, the impact could become positive under an A2 ECHAM scenario (+11.7%) or continue to be negative under a B1 scenario (-8.8%). Overall, the combination of climate change and continued demands on water supply could reduce the investment's financial feasibility on Kafue Gorge Lower to levels below 20%, the benchmark generally required by investors. Of particular concern are the financial risks to ZESCO associated with droughts – about US\$2.6-5.8 million USD/year, or 0.3-0.7% of the expected total ZESCO revenue for the Kafue Gorge system. Given the interdependency of water availability to ZESCO and future demand (namely for agriculture and consumption), the IFC study proposed four key adaptation strategies: (a) implement agriculture adaptation strategies; (b) support a comprehensive study of water management and use throughout the Kafue Basin; (c) maintain active partnerships with water users; and (d) promote public education and outreach on efficient irrigation methods.

Box 1. Impacts of Climate Change on Key Sectors in Zambia (Cont'd)

Health

Health and climate interact in a many ways: directly from impacts of extreme weather events (e.g. injuries and deaths from floods); or indirectly from changes in the prevalence and range of vector-borne diseases, water-borne pathogens, and food availability and quality. Malaria, in particular, causes 4 million clinical cases and 50,000 deaths per year in Zambia. The distribution of malaria vectors is highly correlated with temperature and altitude, with the best conditions for endemic malaria at mean temperatures of 20-30 ° C and relative humidity above 60%. The high observed incidence of malnutrition and water-borne diseases during droughts and floods, as detected by past Vulnerability Assessments, is also expected to be exacerbated in the future in the absence of adaptation. Zambia's health sector is highly vulnerable to climate change due to its anthropogenic risk factors (poor health facilities, poor water and sanitation, nutritional deficiencies and extensive poverty) and the fact that its most common diseases - malaria, respiratory and diarrhea – are sensitive to climate conditions. A study by the International Institute for Environment and Development in 2008 investigated the effects of climate change on common diseases in two climate sensitive districts, Mazabuka (Southern Province) and Chadiza (Eastern Province) The study found significant positive correlations between rainfall distribution and incidence of malaria and pneumonia, and negative correlations for diarrhea, respiratory diseases (non pneumonia) and dysentery (Table B). It recommended, amongst others, the following interventions: (a) a reinforcement of early warning systems for climate-sensitive diseases; (b) further investment in climate-disease GIS mapping; and (c) future research on climate-health models, both on human as well as animal (livestock) health.

**Table B. Rainfall Distribution and Disease Correlation Matrix
(Mazabuka District, Southern Province) (1980-2006)**

Disease	Correlation Coefficient with Rainfall Distribution
Malaria	+0.56
Diarrhoea	-0.47
Respiratory Diseases (Non Pneumonia)	-0.13
Respiratory Disease (Pneumonia)	+0.70
Dysentery	-0.09

Source: Kasali, G (2008). Climate Change and Health in Zambia. IIED, 2008

3. OVERVIEW OF CLIMATE CHANGE RELATED POLICIES, STRATEGIES AND ACTIVITIES

22. Over the past few years, Zambia has made significant efforts towards creating a climate-resilient society. This has included mainstreaming climate resilience comprehensively in the Sixth National Development Plan, finalizing key strategic and economic documents targeting the most vulnerable sectors, and establishing the institutional foundation for a national climate change programme. These efforts remain fragile, however, and the long-term support of Cooperating Partners will be needed to ensure sustainable outcomes. Fortunately, a large number of Government agencies, donors, NGOs and private sector organizations have offered their support to Zambia's climate change programme. The key challenge will be to strengthen national capacity to ensure these efforts are well coordinated and enable resources to match the growing needs. This section summarizes the existing policies, strategies, development initiatives and partnerships that provide the background to Zambia's nascent climate change programme.

Key Development Plans

23. **Vision 2030.** Zambia's Vision 2030, completed in 2005, is a long-term planning instrument which reflects the collective understanding, aspirations, and determination of Zambia to become a middle income country. The Vision 2030 was developed in response to a 15 year focus on macroeconomic stability and market liberalization which was useful in stabilizing the economy but did little to address ingrained poverty and socio-economic development. The Vision 2030 signaled a return to development planning and a focus on poverty reduction in Zambia.

24. **Sixth National Development Plan (2011-2015).** The current Sixth National Development Plan (SNDP) is the second medium-term planning instrument under Vision 2030. The key theme of the SNDP is "*Sustained Economic Growth and Poverty Alleviation*", to be achieved through infrastructure development, economic growth and diversification, rural investment and poverty reduction, and enhanced human development. Under guidance from the Ministry of Finance and National Planning (MoFNP), a panel of national experts helped mainstream climate change adaptation, mitigation and disaster risk management into priority SNDP Programmes – including Crops, Livestock, Fisheries, Natural Resources, Transport, Energy, ICT, Housing, Water Supply and Sanitation, Health, Mining, Tourism, and Local Government and Housing.

25. The mainstreaming of the SNDP (achieved during PPCR Phase I) has generally been seen by Zambian stakeholders as a success – and provides a critical mandate for Government Ministries to allocate further staff and budget to climate resilient programmes. This is sorely needed, as the record of budgetary allocations to climate resilient programmes amongst the most vulnerable Ministries has generally been weak. Recently, the Zambian Civil Society Network has developed a tracking tool to monitor budgetary allocations to key sectors which is in the process of being refined and applied on a yearly basis, in

collaboration with the Ministry of Finance and National Planning. Preliminary results (Table 7) indicate flat or declining trends over the past 5 years and relatively modest allocations under sectoral budgets. As the results of the SNDP mainstreaming become increasingly reflected in sectoral budgets, the allocation, expenditures and proportion of budgetary allocations to climate resilient programmes are expected to significantly increase.

Table 7. Budget Allocated to Climate Resilient Programmes within Key Sectoral Ministries (2009-2011) ZMK Billion at 2007 Constant Prices

Sector	2007	2008	2009	2010	2011
Agriculture	54.0	68.7	73.5	65.2	23.7
Environment and Natural Resources	40.0	17.4	24.6	23.4	22.4
Energy and Water	14.7	16.0	10.9	15.9	15.6
Infrastructure:					
Works and Supply	0	16.5	0.2	0.7	1.7
Communications and Transport	2.9	3.7	1.3	4.1	2.2
Disaster Management	4.0	3.7	3.6	2.4	35.8 ¹
TOTAL Above Sectors	115.5	126.0	114.2	111.7	101.4

Source: Government of Zambia. Estimates of Revenues and Expenditures (various years).

¹ - Figure for disaster management may not be directly comparable to previous years, as it appears to come out of contingent budget

Key Policies, Strategies and Relevant Studies

26. **National Policy on Environment and Environmental Management Act:** The National Policy on Environment (NPE) was promulgated in 2005, with the objective of harmonizing different sectoral development strategies, rationalize legislation concerning the use and management of land, and attain an integrated approach to environmentally-sustainable development. The NPE was designed to create a comprehensive framework for effective natural resource utilization and environmental conservation. In 2011, the Government passed the Environmental Management Act, which upgrades the functions of the former Environmental Council of Zambia (primarily focused on pollution) to become the Zambia Environmental Management Agency, with broader environmental oversight functions.

27. **Zambian National Adaptation Programme of Action (NAPA):** With support from UNDP, MTENR completed a NAPA at the end of 2007. The purpose of the NAPA was to assess the impact of climate change and variability in Zambia and create a programme of action for priority adaptation measures. The NAPA identified agriculture, natural resources, human health, and energy and water as priority sectors. The findings and recommendations of the NAPA provide an important grounding for the SPCR, although subsequent reports (e.g. National Climate Change Response Strategy) have also emphasized the importance of infrastructure in climate resilience.

28. **Disaster Management Act.** In April 2010, Zambia adopted a Disaster Management Act, conferring the Disaster Management and Mitigation Unit (DMMU) and its national and regional offices (Provincial, District and satellite-level Disaster Management Committees) the mandates to prevent, mitigate and respond to disasters. It also provides for the establishment of a Disaster Management Information system responsible for early warning information and inventory on related resources, and a National Disaster Relief Trust to fund emergencies.

29. **National Water Resources Management Act:** The Zambian Government has recently adopted a new Water Act that promotes participatory management and water resources development in an integrated and sustainable manner. The Act is expected to significantly change the institutional and legal arrangements for water resources management in Zambia: it provides for an autonomous regulatory body for the sector – the Water Resources Management Bureau – which will be responsible for water allocation and licensing, and for regulation of all waters in Zambia (including international waters and groundwater). Given that many of the impacts of climate change involve the water sector, the legal and institutional framework for water resources management is central to the discussions on climate change adaptation in Zambia.

30. **Urban and Regional Planning Bill.** Zambia is currently in the process of finalizing a new Urban and Regional Planning Bill, expected to be adopted by end-2011. The bill provides for the creation of integrated development plans (or IDPs) that incorporate spatial, financial, and implementation information. IDPs will, in turn, allow for the preparation of budgeted Area Development Plans, managed at the district level. This would provide a vehicle to transform existing Constituency Development Funds into a true process of decentralized budget and planning. It is this mechanism that the SPCR proposes to use to incorporate climate resilience into local-level planning under the Participatory Adaptation strategic component (see paras. 72-80).

31. **National Climate Change Response Strategy:** In 2010, MTENR developed a National Climate Change Response Strategy (NCCRS), following a thorough process of stakeholder consultation. The NCCRS provides a solid basis for Zambia's Climate Change Programme. It defines a clear programmatic goal, vision, objectives and pillars. It also updates the status of knowledge on climate change trends in Zambia, and its impacts on key sectors. It further identifies priorities for adaptation and mitigation, and proposes an institutional structure for climate change in Zambia (the National Climate Change and Development Council) – see para. 41. It concludes with a draft Investment Framework, which is currently being finalized with assistance from UNDP.

32. **Strategic Studies:** Over the past four years, Zambia has also completed a number of strategic studies with relevance to climate resilience:

- The *Economics of Climate Change Study*, completed by MTENR in February 2011, analyzed the costs of climate change impacts and estimated the costs of adaptation in key sectors (water, energy and natural resources). It concluded that conducive policies were as important (or more so) than public investments to promote climate resilience. Examples included further integration of agriculture and

water resources management strategies; revision of building codes and safety standards in high risk areas; an early warning system for communicable diseases; energy diversification; and strengthening adaptation planning at all levels.

- The *Kafue Gorge Lower Hydropower Project Climate Change Risk Assessment* (May 2011), sponsored by IFC, provides comprehensive downscaled projections of historical and future climate change trends, for both Zambia as a whole and the Kafue River Basin.
- The *Assessment of the Impacts of Climate Change on Multi-Sector Investment Opportunities in the Zambezi River Basin*, currently under finalization by the World Bank, modelled the impact of water resources availability and multiple uses on the Zambezi River Basin, under various climate change scenarios.
- The *Zambezi River Dams Synchronization and Flood Release in the Zambezi River Basin Study*, currently supported by GTZ, is analyzing opportunities to achieve flood protection through synchronized management of large dams on the Zambezi system. The study focuses on the main stem of the Zambezi (from Namibia to the delta in Mozambique), and addresses long cycles and climate change with the objective of providing insights on the effects of climate change on dam operations (primarily using background literature review).

Key Programmes, Projects and Potential Partnerships

33. **Government Programmes.** Zambia benefits from many climate-related Programmes and projects supported by the Government of Zambia, multi-lateral and bilateral development partners, NGOs and private sector. Annex 6 summarizes the Government Programmes which have been mainstreamed in the 2011-2015 SNDP. As summarized on Table 8 below, they cut across a large number of public programmes and Ministries.

Table 8. Government Sectors which have been Mainstreamed in the 2011-2015 SNDP

Cross-Cutting Issues	Growth Sectors	Infrastructure Sectors	Support Sectors	Human Sectors	Development
Environment	Agriculture, Livestock and Fisheries	Transport	Information and Communications Technology	Health	
Disaster Risk Management	Mining	Energy	Natural Resources	Water and Sanitation	
Gender	Tourism	Housing	Local Government and Decentralization	Education and Skills Development	
Nutrition			Social Protection		
HIV and AIDS					

Source: MoFNP (2011). Sixth National Development Plan 2011-2015. Executive Summary.

34. **Partners Programmes.** Tables 9 and 10 give a brief outline of the most important complementary programmes and projects supported by development partners at both the national level, as well as the two sub-basins supported by SPCR. More detailed information (including costs) can be found on Annex 5. It should be noted that the list focuses primarily on climate resilient programmes in “softer” sectors (agriculture, environment and natural resources management). In recent times, there has been a noticeable growing interest from partners in climate resilience in harder sectors, like infrastructure, energy and water, and ICT – although, for these sectors, climate resilience tends to a component of sectoral programmes rather than a specific focus. It should also be noted that while there is high interest on climate change and a large number of projects at their early stages, there have been few concrete investments on the ground or a coordinated approach to upscale individual project results.

35. **Multilateral Banks’ Programmes.** The World Bank (through IDA) and the African Development Bank – together with the European Union, DFID and Germany - contribute budgetary support to the Government of Zambia through Poverty Reduction Support Credits (PRSC). The February 2011 PRSC (PRSC-2) focused on improving public expenditure management, and investment in infrastructure to increase economic opportunities and competitiveness. It is expected to contribute indirectly to policy reforms important to Zambia’s climate change programme, by supporting (a) procurement reforms; (b) improved budget execution; (c) the implementation of the Government’s Integrated Financial Management Information System (IFMIS); (d) support to Service Delivery Charters in key Ministries - including, in 2011, the Ministry of Tourism, Environment and Natural Resources; and (e) improved energy efficiency. While IDA’s current Programme in Zambia does not directly support climate change due to the limited country envelope (about US\$80-90 million per year)¹², the Irrigation Development Support Programme and the upcoming Livestock Development Project address adaptation priorities by supporting agriculture and livestock diversification and further reliance on irrigation. IDA’s current agriculture programme has also piloted performance-based contracts on rural roads, a major factor incentive to improve O&M and consequently increase transport resilience to climate factors.

36. The Africa Development Bank (AfDB) Climate Risk Management and Adaptation Strategy (CRMA) and the Climate Change Action Plan emphasize the need to mainstream climate change in all AfDB supported development projects. Accordingly, the AfDB is providing Technical Assistance to ZESCO to evaluate the Clean Development Mechanism potential for the AfDB-funded Itezhi-Tezhi Hydropower and Transmission Line Project (US\$157 million) in the Kafue sub-basin. The initial screening based on the view that electricity generated will be connected to the Southern Africa Power Pool has found the project to be CDM eligible. Further, the Livestock Infrastructure Support Project (US\$30 million) will install biogas digesters to reduce greenhouse gas emissions emanating from livestock waste which will qualify the project for CDM revenues.

¹² In 2005, Zambia qualified for debt relief under the Highly Indebted Poor Countries Initiative (HIPIC), which has also contributed to a more limited IDA envelope.

As such, the AfDB has a comparative advantage to administer pilot climate resilient activities proposed in the Kafue sub-basin under the SPCR.

37. In Zambia, IFC works directly with large private sector players, particularly companies involved in the production, processing, distribution and retailing of meat, dairy, eggs, edible oils, flour and bread (such as ZamBeef). The IFC also works with private sector players that provide working capital loans to farmers, particularly grain and out-grower sugarcane. Microfinance provision to entrepreneurs in both urban and rural environments is also presently being expanded through another IFC investment, Access Microfinance Holding AG. IFC is further exploring possible collaborations with mobile phone platform providers (e.g. ESOKO) and the insurance industry, which has grown considerably in Zambia over the past decade. The potential to galvanize these and other related companies to promote climate resilience – particularly in the areas of climate information, micro-finance, and index-weather insurance – will be further pursued under the SPCR (see paras 54-56 and Section 11).

38. From the foregoing, it is evident that Zambia has not only made significant efforts to build a climate resilient economy, but is also receiving keen interest from development partners – including donors, the civil society and the private sector. To maximize these gains, it will be essential to ensure an effective programme coordination and sufficient institutional capacity to channel resources and technical expertise where they will be most needed. The following section examines Zambia’s institutional capacity to deliver a coordinated climate change programme.

Table 9. Summary of Climate Change-Related Programmes and Projects in Zambia – National Level

Donor	Name	Focus
Government of Zambia	Climate-Resilient Programmes in the SNDP	Mainstreamed Environment, Disaster Risk Management, Gender, Nutrition, HIV-Aids, Crops, Livestock, Fisheries, Mining, Tourism, Transport, Energy, Housing, ICT, Natural Resources, Local Government and Decentralization, Social Protection, Health, Water and Sanitation, Education and Skills Development
Norway and UNDP	Institutional Support to the Climate Change Facilitation Unit (CCFU)	Key strategic and policy studies; public awareness
Finland, Norway, Denmark and UNDP	Environment and Natural Resources Management and Mainstreaming Programme (ENRMMP)	Capacity development to mainstream environment Interim Environmental Fund to support investments in the sector
World Food Programme	GIS-based Hazard Risk Map on Natural and Human-induced Disasters	Use of National Disaster Management and Early Warning Systems; Development of Spatial Information System for disaster risks
UNDP	Capacity Building Support to DMMU UN-Reducing Emissions in the Forests (REDD)	Strengthen capacity to implement REDD-type investments Provide financial incentives to reduce greenhouse emissions
Finland and Denmark (in collaboration with UNDP and COMESA)	Strengthening of Meteorological Services	Improvements in regional climate projections and strengthening of early warning
UN Global Mechanism	Integrating Sustainable Land Management into Climate Change Financing and Investment Frameworks	Mainstream Sustainable Land Management in climate change financing; innovative financing instruments for nexus of land-climate change; information for decision making processes.
Global Facility for Disaster Reduction and Recovery (GFDRR) and World Bank Institute	Use of Crowdsourcing Support to RhOK Support to Climate Change Profile	Promote the use of crowdsourcing in early warning systems Sponsor to the Random Hacks of Kindness (Zambia) Development of Zambia's Climate Profile
DFID	Support to Zambia Civil Society Network (ZCSN)	Climate change advocacy and implementation by civil society groups
Various Donors	Green Enviro-Watch	Youth Climate Change Conference; awareness and advocacy
Various partners, through Zabuntu/MachaWorks	Random Hacks of Kindness- Zambia	Annual worldwide event joining the development community and IT experts willing to volunteer their time to develop software solutions to common development problems.
The Africa Carbon Credit Exchange (ACCE) Lloyds Financials	Low Carbon Africa Fund Green Technology Credit Enhancement Fund	Investment fund designed to jump-start carbon projects Investment fund to stimulate financial sector, banks, insurance companies and pension funds in investing in clean technology businesses.
ESOKO	Information to farmers	Mobile platform company that promotes farmers information (including weather reports) using SMS technology
Access Micro-Finance Holding AG	AB Bank of Zambia Ltd	Micro-finance Bank aiming to provide specialized micro-finance services to small and medium-enterprises and low-income individuals in Zambia
Google, NASA, European Space Agency and Italian Government	Geospatial climate-related information system in Zambia	Interested partners in promoting the use of geospatial information systems in Zambia

Table 10. Summary of Climate Change-Related Programmes and Projects in Zambia – Pilot Sub-Basins Level

Donor	Name	Focus
DANIDA	Phase 2 Support to Integrated Water Resources Management in the Zambezi Basin	Support integrated water resources management in the Zambezi River Basin (including Zambia)
GEF	Adaptation to the Effects of Drought and Climate Change	Implementation of NAPA priorities in agro-ecological zones 1 and 2.
Millenium Challenge Account (MCA)	Greater Kafue National Park Economic Development	Baseline rehabilitation of the road to and from Kafue National Park (as well as related infrastructure).
Norway (in collaboration with FAO)	Conservation Farming Support to TerrAfrica	Promotion of conservation farming and climate-smart agriculture
DFID	Social Protection	Unconditional cash transfers to targeted households in the 10 poorest districts of Zambia (including Kazungula, Kalabo, Shang'ombo, Kalomo and Senanga in the two pilot sub-basins)
IUCN	Climate Change and Development	Climate change investments in Luapula, Western and Central Provinces.
Red Cross	Zambezi River Basin Initiative	Support to Sesheke and Kazungula districts (Western and Southern Zambia) to focus on disaster preparedness, response and risk reduction, strengthened food security, improved water and sanitation, and HIV, cholera and malaria prevention
World Fish Center	Aquatic Agriculture Systems (Zambia Component)	Aquaculture development, fisheries livelihood diversification and fisheries management plans in several districts of the Western and Southern Province, Kafue Floodplain and Luapula
CONCERN World Wide	Food Income and Market Programme in Western and Central Zambia	Adaptation, sustainable agriculture and support to livelihoods to 45,000 poor households in Western and Southern Provinces
National Conservation Commission (NHCC)	Heritage Barotse Canals - World Heritage Site	Preparation of nomination of Barotse canals as World Heritage Site.
Peace Foundation	Parks Kavango-Zambezi Transfrontier Conservation Area	Collaboration with Governments of Zambia, Angola, Botswana, Namibia and Zimbabwe to establish the Kavango-Zambezi Transfrontier Conservation Area (the world's largest planned conservation area). Completion of Integrated development plan for the Zambia portion
Pellum	Sustainable Agriculture	Improved livelihoods of poor and vulnerable communities; campaign, advocacy and network

Legend

	Government
	Multilateral and Bilateral
	NGOs
	Private Sector

4. INSTITUTIONAL ASSESSMENT

39. Following extensive stakeholder consultations at the national and regional levels, Zambia is currently in the process of establishing a harmonized and coordinated Climate Change Programme. As seen in the previous section, the interest of external and internal partners in climate change activities is high and growing. In the absence of a coordinated national programme, it threatens to overwhelm Zambia's fragile capacity. It is therefore crucially important that the SPCR and other partner programmes help strengthen Zambia's Climate Change Programme so that it can become an effective long-term framework to match resources with local needs. This section examines the current capacity of major stakeholders, and outlines the institutional framework for Zambia's Climate Change Programme, as agreed by Zambian authorities and national stakeholders. The institutional framework for climate change in Zambia is still evolving, and hence refinements are expected during the SPCR implementation.

National Government Institutions

40. The Government institutions currently leading climate change activities in Zambia are the Ministry of Finance and National Planning (MoFNP), the Ministry of Tourism, Environment, and Natural Resources (MTENR), and the Disaster Management and Mitigation Unit (DMMU) under the Office of the Vice President. However, many other Ministries and Government departments are also involved in climate change-related activities and are critical stakeholders in the national programme (see Table 11 below).

41. After an extensive consultation period lasting two years, Zambian stakeholders and high level policy makers agreed in principle to establish a future National Climate Change and Development Council (NCCDC)¹³ or equivalent autonomous institution, under a Committee of Permanent Secretaries and Committee of Ministers chaired by the Ministry of Finance and National Planning. The NCCDC would act as a one-stop shop for all climate change programmes in Zambia and be responsible to:

- Coordinate all climate change activities in Zambia, to optimize the allocation and utilization of resources
- Ensure that climate change activities are backed up by sufficient technical and managerial capacity
- Ensure that climate change is effectively mainstreamed into key economic sectors
- Monitor and review climate change projects and activities
- Mobilize effective financing to support the national programme

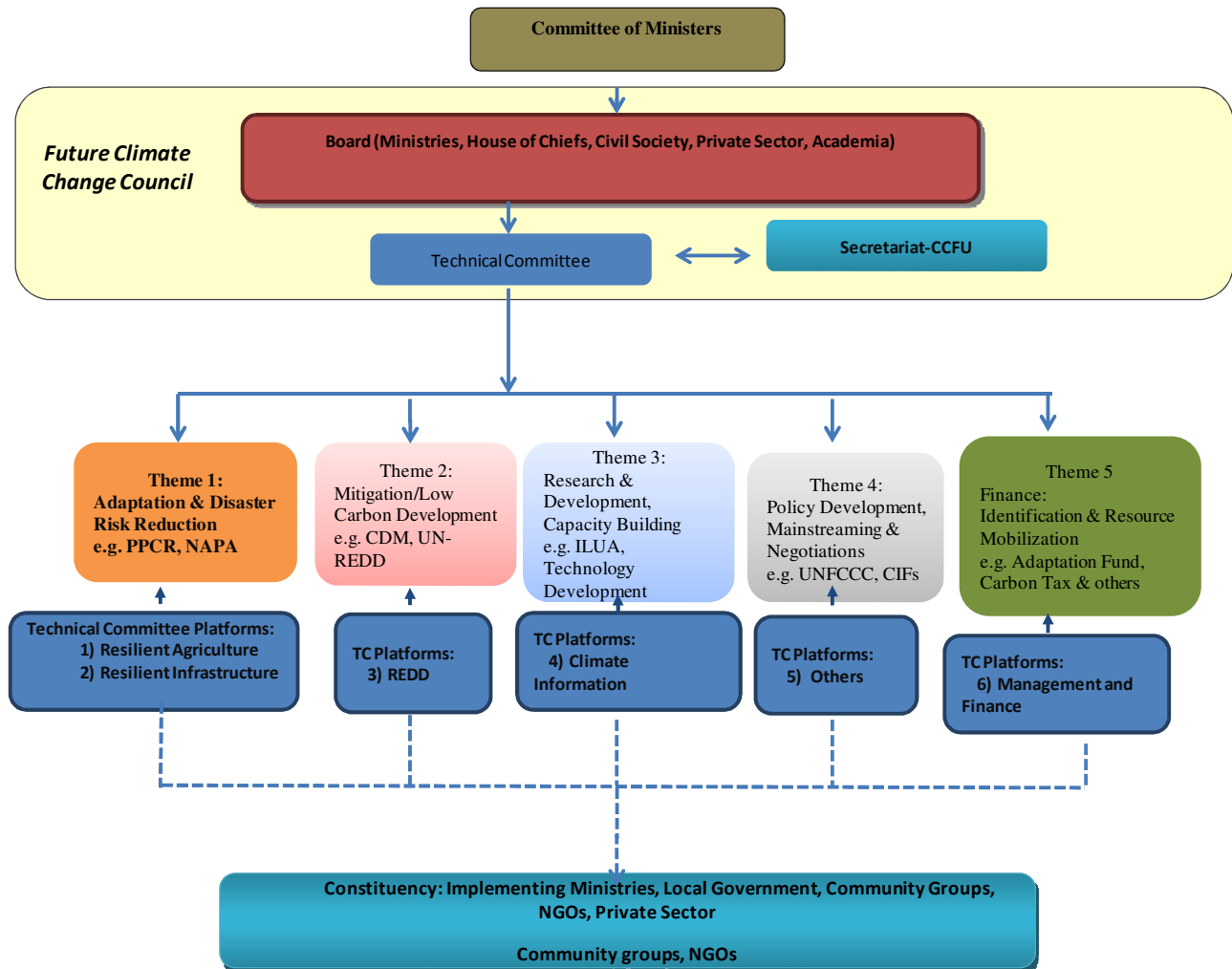
42. The NCCDC would be assisted by a Secretariat, staffed by highly qualified personnel with managerial and fiduciary experience, recruited externally and/or seconded from key Government agencies. The Secretariat would serve as an administrative and technical body of Zambia's Climate Change Programme –

¹³ MTENR 2010. National Climate Change Response Strategy (draft).

however, it would relegate the implementation of activities to the competent technical Ministries and NGOs. During the interim period that it may take for the Council to be established, the Government would establish a Secretariat on a neutral location in Lusaka. The current Climate Change Facilitation Unit, the SPCR and other key climate change programmes would be hosted there.

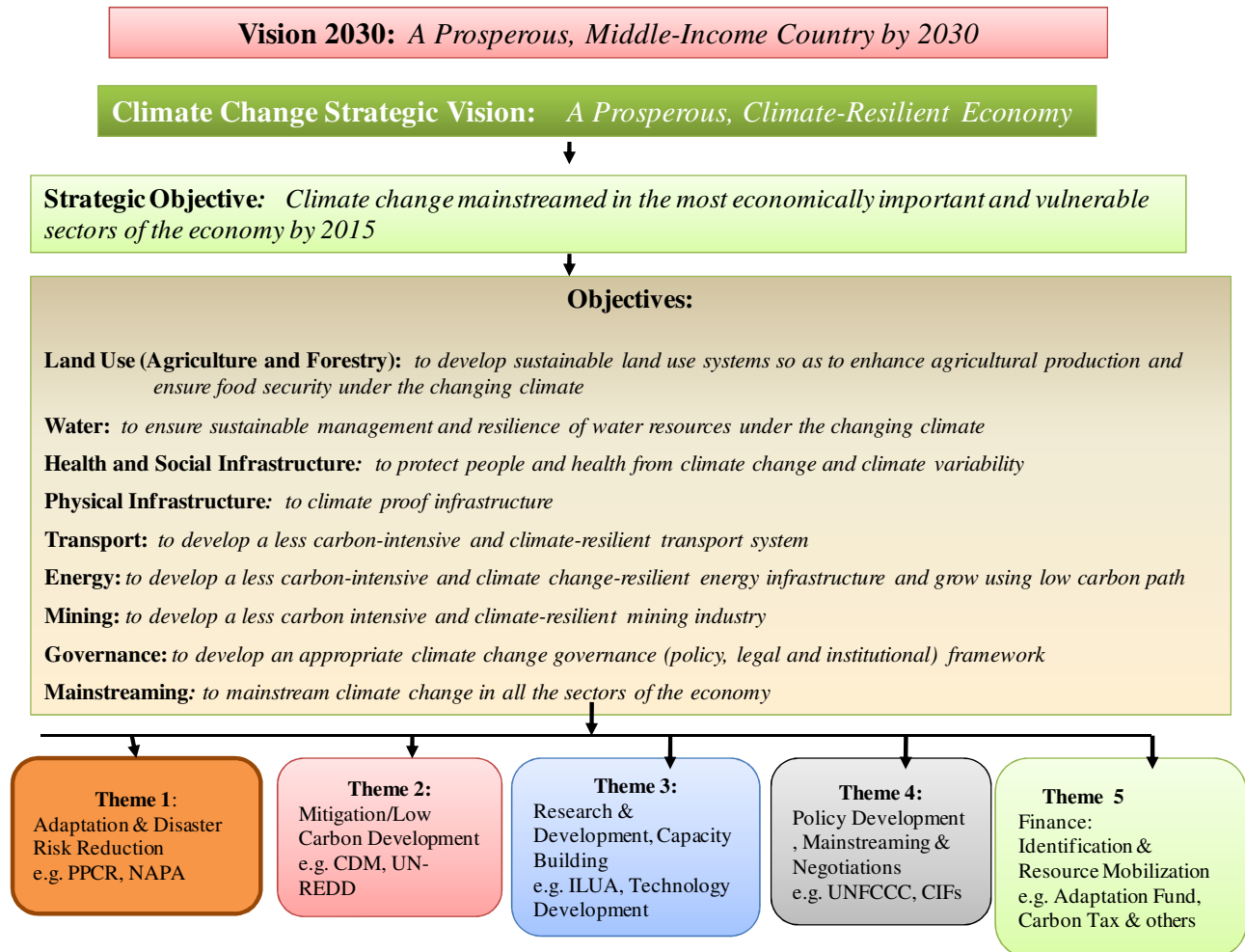
43. The Board of the NCCDC would be drawn from key Government institutions, representatives from the civil society, House of Chiefs, private sector and academia. Given the breadth of issues involved and the interest of different stakeholders, the Technical Committee stakeholders will consist of a series of stakeholder platforms aggregated according to interest. At present, such platforms include REDD, Resilient Agriculture, Resilient Infrastructure, and Climate Information. They are headed by highly respected leaders drawn from Government and academia.

Figure 11. Expected Structure of Zambia’s National Climate Change Programme



44. Zambia’s new Climate Change Programme is still evolving. However, the National Climate Change Response Strategy (currently under approval) outlines the following vision, goal, objectives and pillars for the Programme (Figure 12).

Figure 12. Objectives of Zambia’s Climate Change Programme
(as per National Climate Change Response Strategy)



Source: MTENR (2010). National Climate Change Response Strategy. Draft, November 2010.

Table 11. Institutional Responsibilities of National Government Agencies

<p>The Ministry of Finance and National Planning (MoFNP) is the focal point for the SPCR. MoFNP is responsible for the mobilization, planning and distribution of Government and external resources, and therefore in a strategic position to promote climate change mainstreaming. As senior Ministry, it also has convening power over other participating Ministries. However, given its multiple commitments, MoFNP would need to assign a dedicated team, contracted and/or seconded from technical agencies, to manage the Programme.</p>
<p>The Ministry of Tourism, Environment and Natural Resources (MTENR), is Zambia’s climate change and environmental focal point. It presently houses the Climate Change Facilitation Unit (CCFU) and has provided technical and administrative support to the development of the Climate Change Response Strategy, the National Communications on Climate Change, the Economics of Climate Change study and the NAPA. It also leads climate change negotiations. MTENR’s main constraint lies in its ability to convene other powerful Ministries, like the Ministry of Works and Supply. MTENR also has a relatively weak presence in the field, unlike MACO or DMMU, and has not yet fully absorbed CCFU into its structure.</p>
<p>The Disaster Management and Mitigation Unit (DDMU) under the Office of the Vice President, is responsible for disaster preparedness, response, mitigation and prevention. It is housed within an influential Ministry with convening powers conferred by an Act of Parliament, and has regional offices at the provincial, district and satellite (sub-district) level. It chairs the Vulnerability Assessment Committees, and is presently developing a geospatial information system for climate risks, in collaboration with WFP. However, DMMU addresses all types of disasters (including refugee issues) and has not historically been at the lead in climate change issues.</p>
<p>The Ministry of Agriculture and Cooperatives (MACO), responsible for agriculture policies and programmes at the local level. MACO is one of the key climate change Government stakeholders with strongest on-the-ground presence, having representatives in each district. However, its mandate is focused on a particular aspect of climate resilience (agriculture). Fisheries and livestock policies and management fall under the mandate of the new Ministry of Fisheries and Livestock (MFL).</p>
<p>The Ministry of Local Government and Housing (MLGH), is responsible for promoting local government systems and increasing the responsibility of local authorities (at provincial and district levels) through devolution of powers and financing. It is presently responsible for the Constituency Development Fund, which disburses the equivalent of US\$1.1 million per district per year for local projects such as rehabilitation and maintenance of water and sanitation facilities; feeder and community roads (particularly using labor-intensive methods); markets and bus shelters; community-based health and education facilities and programmes; and agriculture and marketing activities. Once the Regional and Urban Planning Bill is passed and decentralized budgeting is adopted, it is envisaged that the funds will go straight from the Treasury to local governments.</p>
<p>The Zambia Meteorological Department (ZMD) under the Ministry of Communications and Transport (MCT) is responsible for climate change assessments, early warning information, insurance risk assessments and crop yield predictions. It works collaboratively with DMMU in the dissemination of early warnings.</p>
<p>The Department of Water Affairs (DWA) under the Ministry of Energy, Water and Development (MEWD), is responsible for the formulation of policies on, and sustainable development of water resources. It is also responsible for ensuring an effective approach to hydrological data collection and monitoring. It has historically been one of the Ministerial Departments with the highest degree of climate mainstreaming.</p>
<p>The Ministry of Works and Supply (MWS) and its Road Development Agency (RDA) is responsible for applying safety standards to public infrastructure projects, particularly in the Transport Sector.</p>
<p>The Zambia Bureau of Standards (ZBS), under the Ministry of Commerce, Trade and Industry (MCTI), is the statutory organization responsible for establishing safety standards for buildings and other infrastructure.</p>
<p>The Zambia Environment Management Agency (ZEMA), formerly known as Environmental Council of Zambia (ECZ), which was established as an autonomous body through an Act of Parliament, is the main institution in charge of environmental management affairs and Environmental Impact Assessments and Audits. It has been actively involved in the preparation of National Communications to the UNFCCC.</p>

45. At present, SPCR activities are implemented directly by MoFNP, with the support of multi-stakeholder platforms. The leading Ministries (MoFNP, MTENR and OVP) are actively collaborating in formalizing the Secretariat, expected to be operational by October 2011. This will be followed by the formalization of the Steering and Technical Committees and, ultimately, the Council. The future NCCDC is expected to be established by mid-2012, at around the time of implementation of the SPCR Investment Projects. It is expected that the NCCDC will require considerable institutional strengthening from the SPCR and other complementary donor-funded projects.

Local Government Institutions

46. During Phase I of the PPCR, MoFNP led an Institutional Financial Management Assessment (IFMA) to the pilot districts, with the objective of assessing the preparedness of District Councils to administer funds under the Participatory Adaptation Component of the SPCR. The premise was that in order for funds to be disbursed at the local level, local institutions needed to have a viable and sustainable fiduciary capacity. The IFMA was carried out by key PPCR stakeholders representing the Government, civil society organizations and partner programmes in the districts of Kazungula in Southern Province, and Sesheke, Mongu and Senanga in the Western Province. The IFMA evaluated local institutions' capacity and preparedness on institutional and financial aspects, including budgeting, accounting, internal controls, fund flow, financial reporting and external audits. At the same time it sought to draw lessons on how donor funded projects have been ran and their application on the anticipated SPCR investments. The IFMA also considered the outstanding capacity needs that the SPCR would need to support.

47. The IFMA found that District Councils are at different levels of capacity and preparedness, although most have basic general knowledge and capacity on planning and budgeting, followed basic accounting and financial reporting skills, and had some degree of internal and external audit structures. However, it is apparent that more capacity building is required for district staff to improve their skills in managing external resources such as the PPCR – particularly in accounting software training, and monitoring and reporting of expenditures. In terms of preparedness, the district of Senanga rated reasonably high, followed by Sesheke, Kazungula and Mongu. At the local (sub-district or ward) levels, some structures exist – such as Area Development Committees and Satellite Disaster Management and Mitigation Committees – but their capacities to manage funds remain limited at this stage. Area Development Committees in general receive funding through Local Authorities who also administers procurement processes on their behalf. The full IFMA assessment is included as Annex 4.

48. Fortunately, the pilot districts benefitted from 7 years of experience in the Zambia Social Investment Fund (ZAMSIF), a Community Driven Development Programme which ran from 2000 to 2005, and, under a different name, up to 2007. This Programme developed the required fiduciary procedures, manuals and materials that will be adapted for use under the SPCR. Under ZAMSIF, Area Development Committee representatives co-signed the authorization and withdrawal of funds. There were also indications in all districts that the beneficiary communities had contributed labor and in-kind inputs (such

as sand, stones, water, wood, etc) towards project implementation in their areas. Based on the recommendations of the IFMA, funding to pilot districts and Area Development Committees will be phased in as their capacity is strengthened. Qualified NGOs – preferably with prior experience in the districts – would be contracted for this facilitation. The SPCR Investment projects include a provision for this overhead.

Civil Society

49. Non-Governmental and Civil Society Organisations are highly active in climate change-related issues in Zambia, particularly at the community level, and in policy/advocacy processes. They include, amongst others, the Zambia Civil Society Network (ZCSN) which represents more than 50 NGOs and CSOs involved in climate change issues in Zambia; Green EnviroWatch, an active advocacy youth group that has organized the first Climate Change Youth Conference in Zambia and is actively involved in the preparations for Durban; Concern Worldwide, who has an extensive programme of support to 45,000 farmers in Western Province; the Red Cross Zambia, who is implementing the Zambezi River Basin Initiative to strengthen disaster risk management planning at the local level; IUCN, who is working on vulnerability assessments in Luapula, Western and Central Provinces; the World Fish Center, with an active programme of technical assistance to fisheries and aquaculture; and Pellum, who is assisting poor and vulnerable farmers with livelihood diversification and sustainable agriculture. They also include Zabuntu and Machaworks, which have helped organize the Random Hacks of Kindness events (linking ICT experts with climate change and disaster risk management programmes) the National Heritage Conservation Commission, who is helping promote Barotse as a World Heritage Site; and Peace Parks Foundation, who is helping to establish the Kavango-Zambezi Transfrontier Conservation Area. Together, these NGO and CSO partners bring a formidable amount of technical and financial resources to Zambia's Climate Change Programme. In October 2011, for example, Zambia expects to host the COMESA-SADC-EAC Youth Climate Change Conference, involving representatives from 26 countries.

50. Under the coordination of MTENR, there has been active collaboration between the PPCR and NGOs/CSOs. Key NGO partners participate regularly in PPCR workshops and visits to pilot sites, and ZCSN provides a respected umbrella for continuing collaboration. Further, individual NGOs participate actively in the inter-sectoral Platform discussions according to their area of interest. Both DFID and the Governments of Denmark and Finland support dedicated Civil Society Funds (of US\$240,000 and US\$6.3 million equivalent). ZCSN and other NGOs have been trained in crowdsourcing methods to help them strengthen their coordination and information with field stakeholders. As the National Climate Change Programme is established, however, there will be a need to formalize this collaboration, and optimize NGO interventions according to their comparative advantages. In particular, the capacity of ZCSN and youth groups should continue to be reinforced. NGOs are expected to be actively involved in the SPCR at two levels: at the national level, through advocacy, awareness, and information promotion; and at the field level in the pilot SPCR sub-basins, as facilitators of community adaptation. The choice of partners is expected to be facilitated by the fact that NGOs are already specialized by region/district.

Vulnerable Social Groups

51. As indicated by the Vulnerability Assessments (see para 15), the most vulnerable social groups for SPCR targeting are women-headed households; widows and elderly (both men and women); rural youths; and people living with HIV-AIDS or caring for HIV-AIDS orphans.

52. The current HDI Gender Inequality Index (GII) value for Zambia is 0.752, giving it a rank of 124 out of 138 countries (based on 2008 data). Women are disadvantaged on three dimensions - reproductive health, empowerment, and economic activity, all of which can be impacted by climate change. Female participation in the labor market is currently 60% compared to 79% for men. Yet as discussed before, female-headed households are only one segment of vulnerable social groups. The elderly – both men and women – some men-headed households, and the chronically ill are also highly vulnerable. Rural youth are included in this group because they can be particularly disadvantaged in isolated parts of the Zambezi basin, where they lack access to the irrigated land normally reserved for their elders, face high levels of unemployment, and few alternative livelihood options to farming. In general, the prevailing high disparities in economic and social standing between these vulnerable groups and the remaining population make it imperative for the SPCR to design targeted interventions to the benefit the most vulnerable.

53. These vulnerable social groups will be particularly targeted by the SPCR, by earmarking at least 50% of the funds disbursed under climate-resilient Area Development Plans to their direct benefit (see paras. 134, 145 and Annex 1). Given the weak capacity at the sub-district level, NGO partners working with the SPCR on the target sub-basins will need to provide substantial capacity building to these vulnerable stakeholders, including helping them form groups and assist them in accessing better services and livelihoods.

Private Sector

54. Private sector stakeholders in Zambia range from large corporate, small and medium enterprises, to farmers. To date, they have had a somewhat limited role in addressing climate resilience, but given the proper incentives and information, have the potential to play leading roles in promoting innovative technologies.

55. Zambia has several agro-business companies that play major roles in the production, processing and distribution of livestock, eggs, dairy products and staple foods. Through IFC, the SPCR will explore potential adjustments in the operations of such companies in SPCR target areas (such as improved water use efficiency) to build resilience to climate change and reinforce food security. The Africa Carbon Credit Exchange (ACCE) and Lloyds Financials have recently developed two climate-related financial instruments, the Low Carbon Africa Fund and the Green Technology Credit Enhancement Fund to stimulate private investment in climate-friendly technologies. There is good potential to use financial intermediaries such as ACCE and local banks to promote climate resilient investments such as rainwater harvesting, drip irrigation,

conservation agriculture, natural capital restoration, the design of climate-resilient discharge systems in mining operations, and off-grid power, not to mention sponsorship of climate resilient events. Already, mining and ICT companies have provided active support to climate change initiatives such as the Youth Climate Change Conference (November 2010) and the Random Hacks of Kindness event (December 2010). There is also potential to expand micro-finance services to benefit vulnerable social groups in the pilot areas. IFC, for example, is already expanding microfinance services to entrepreneurs in both urban and rural environments through investments such as in Access Microfinance Holding AG.

56. Other relevant private sector players in Zambia include mobile phone platform providers such as ESOKO, which specializes on providing information to farmers (including weather information). Development of such platform in Zambia is likely to require an 'entrepreneur incubation period' whereby grant finance supports the training of local entrepreneurs to establish sufficiently of a users' network to make it a commercially viable operation in the medium term. Finally, the insurance industry has grown considerably in Zambia in the last decade, including for example Cavmont Capital Insurance Corporation Limited, Goldman Insurance Limited, Madison General Insurance Company Zambia Limited, NICO Insurance Zambia Limited, Profession Insurance Corporation Zambia Limited, and ZIGI Insurance Company Limited. IFC intends to approach such companies to determine the feasibility of establishing a weather index-based insurance product.

57. To conclude, Zambia has been the focus of keen stakeholder interest on climate change issues. The Government of Zambia has taken this challenge head-on by holding extensive consultations to formulate its National Climate Change Programme. In recognition of the challenges ahead, the Government has decided to develop a dedicated programme that is unbiased by sectoral mandates and will help channel resources and advice where they are most needed. At the same time, the institutional analysis indicated that, in order to be sustainable, climate change adaptation must be integrated with emerging decentralization trends, a task best achieved by integrating climate resilience into local planning and institutions. The PPCR should support these choices by helping strengthen Zambia's climate change framework, and thus ensure that today's programmes can be sustained well into the future.

5. PARTICIPATORY APPROACH TO DEVELOPING THE SPCR

58. Given the number of stakeholders involved, the Government of Zambia has followed an extensive participatory approach to develop its National Climate Change Programme. Instead of relying only on Joint Donor Missions, Zambia has opted for a more constant and longer consultative process to optimize national ownership. Table 12 and Annex 3 summarize the most important processes followed since July 2009. They include:

Initial Consultations (September-November 2009)

- Identification of key stakeholders directly or indirectly associated with climate change issues
- Structured interviews and group discussions to ascertain (a) on-going climate change activities; (b) interface with other existing programmes and activities; (c) degree of awareness and stakeholder concerns; and (d) gaps and recommendations.
- Presentation of the stocktaking analysis (lead by two respected national experts) at the first Joint Mission in November 2009.
- MoFNP concluded this process by holding a two-day consultative workshop on November 16-17, 2009 involving some 50 participants from key Ministries, civil society, private sector, and development partners. This was followed by discussions with groups (civil society, development partners and key sectoral Ministries) that had been under-represented at the workshop. Through this consultation process, the Zambezi River Basin was selected as the pilot area for the PPCR and strategic priorities were identified for Phase I and II.

Phase I PPCR Proposal (November 2009-May 2010)

- Presentation and approval of PPCR Phase I at the March 15-17 2010 PPCR Sub-Committee meeting (Zambia was the first country to receive PPCR financing).
- A workshop on March 10-11, 2010 with key implementing Ministries to develop the operational manual for Phase I, including a performance monitoring plan.
- Finalization of fiduciary, safeguard and legal documents for Phase I.
- Signature of the legal agreement for Phase I on June 14, 2010

Mainstreaming of the Sixth National Development Plan (August-October 2010)

- MoFNP hired four highly respected national experts – each with different sectoral specializations – to help mainstream the SNDP. The experts worked closely together with the working groups developing the SNDP, and were therefore able to incorporate climate resilience as part of the first (and subsequent) SNDP drafts. This process has been widely regarded as a success.

Broadening the Partnership Basis (August to December 2010)

- During the Second Joint Mission in August 3-12, 2010, stakeholders agreed on the three transformational “nexus” of the PPCR. These were defined as the thematic areas where Zambia would likely achieve the most significant transformational change in climate resilience, should partners agree to combine their efforts. They included: *climate information* (to and from users); (b) promoting *climate resilient infrastructure*, particularly for highly visible investments; and (c) *sustainable agriculture*, comprising participatory adaptation at the local level.
- In accordance with the themes above, three multi-stakeholder platforms were established between August and December 2010 to maximize potential partnerships. Each was headed by a well respected national expert from Government or Academia. A fourth platform, still being established, will focus on climate financing. The platforms include members from key Ministries, academia, NGOs, private sector and development partners, according to their area of interest (see Annex 2.). Platform members were encouraged to plan a 6-months Programme of activities.
- To help optimize partners’ collaboration and promote two-way communication, the World Bank and DMMU organized two crowdsourcing training sessions with assistance from the Global Facility for Disaster Reduction and Recovery (GFDRR). The first training (in August 2010) involved 18 participants and the second (in November 2010) more than 40. Participants were trained on GIS and SMS-based communication freeware, such as Frontline SMS, Ushahidi, Open Street Map and Open Action.
- During this period, Green EnviroWatch organized the first Zambia Climate Change Youth Conference (October 18-20, 2010), and Zabuntu-Zambia organized a Random Hacks of Kindness conference on December 4-5, 2010. Both events helped galvanize youth constituencies on climate change.
- MTENR, in collaboration with UNDP, also developed the Zambia Climate Change Response Strategy and the Economics of Climate Change study, thus filling critical analytical and strategic gaps.
- This overall process led to the identification of key strategic priorities for the SPCR, as well as an emerging national consensus on Zambia’s Climate Change Programme.

Field Validation and Institutional Assessment (November 2010 to March 2011)

- DMMU and MoFNP carried out two field missions, in November 2009 and February 2010, of which the second mission (led by MoFNP) was entirely planned and carried out by national stakeholders (key Ministries, NGOs, and Youth Groups and academia representatives). They visited selected pilot districts in the Southern and Western Provinces to validate the emerging SPCR design and carry out an Institutional and Financial Management Assessment of the District Councils. Infrastructure platform members also carried out a separate thematic assessment.
- On March 7-12, 2011, MoFNP organized a workshop to consolidate the mission reports, which have been used as inputs to the SPCR.

Preparation of Final SPCR Submission (March-May 2011)

- To finalize inputs to the national submission, MoFNP organized a four day workshop on May 4-7, 2011.

- As lead MDB, the IBRD (World Bank) informed regularly other cooperating partners (CPs) of the progress of the PPCR through monthly partners’ meetings.
- The final SPCR design was discussed and validated by MoFNP and key stakeholders.
- Through the above process, MoFNP was able to discuss and validate the SPCR priority investments with key national stakeholders, and benchmark them against field realities. Whenever a broader stakeholder discussion was needed, MoFNP would organize a thematic discussion workshop; for day-to-day discussions, it would rely on platform heads.

59. This consultative process –and others supported by the Climate Change Facilitation Unit – has succeeded in involving more than 40 different institutions in Zambia’s Climate Change Programme (see Annex 2). Very importantly, it brought together stakeholders to areas of common interest, and taught them the advantages of working together in the pursuit of a common goal. It also revealed key strengths and weaknesses in Zambia’s climate change framework. Strengths include Government resolve to mainstream climate change in development plans, the commitment of the various partners, and the potential to join efforts in maximizing impact. Weaknesses include the still incipient institutional coordination, low awareness, and the need for better access to information. In particular, the process revealed overlaps in institutional mandates between key Government agencies (MoFNP, MTENR, DDMU, and ZMD) that will require further debate as the SPCR is implemented. In general, however, stakeholders have expressed overwhelming support to strengthening climate resilience in Zambia.

Table 12. Summary of Participatory Process Followed by Zambia in Developing the SPCR (Key Milestones noted in Orange)

Dates	Organizer	Event	Outcome
15 July 2009	World Bank	Introductory PPCR Partners Meeting with MTENR	Clarification of PPCR objectives, phases and financing. Preparation for Joint Mission
17 July 2009	MoFNP	Stakeholders Meeting	Institutional arrangements
September 2009	World Bank, MoFNP, UNDP, DFID, AfDB	Preparation for First Joint Mission	TOR for Stocktaking Analysis and Joint Mission
November 2-14, 2009	MoFNP with assistance from DFID	Stocktaking analysis	Two national experts hired to do Stocktaking Report on relevant climate change information
November 16-27, 2009	MoFNP, with MDBs (IBRD, AfDB, IFC), UNDP and DFID	First Joint Mission	Development of Phase I proposal and first agreement on SPCR themes
November 16-17, 2009	MoFNP	PPCR Stakeholder Consultation Workshop	Agreement on priorities for Phase I and scope for Phase II, including pilot sites (Zambezi River Basin)
Jan-Feb 2010	MoFNP and MDBs	Finalization of PPCR Phase I proposal Procurement, FSM and safeguards assessment for Phase I	Phase I proposal Fiduciary assessments for Phase I
February 16, 2010	MoFNP and CCFU	Institutional harmonization	Collaboration agreement between CCFU and PPCR
March 10-11, 2010	IBRD	Preparation of Operational Manual for Phase I	Agreement on logical framework, indicators, operational procedures for Phase I
March 15-17, 2010	CIFand MoFNP	Approval of Zambia Phase I PPCR	Presentation and approval of Zambia Phase I PPCR at Sub-Committee Meeting in Manila

Table 12. Summary of Participatory Process Followed by Zambia in Developing the SPCR (Cont'd)

Dates	Organizer	Event	Outcome
April-May 2010	IBRD	Finalization of Phase I Grant Agreement Package	Grant Agreement package for Phase I
June 14, 2010	MoFNP and IBRD	Phase I effective	Countersigned Grant Agreement
August 3-12, 2010	MDBs (IBRD, AfDB, IFC), DFID, UNDP and MoFNP	Second Joint Mission (Supervision of Phase I)	Review progress in mainstreaming the SNDP; Training in crowdsourcing; Agreement on SPCR core themes and multi-stakeholder platforms
August 5, 2010	MoFNP	Mobilization of Expert Panel for SNDP Mainstreaming and SNDP workshop	Four expert national specialists hired to help MoFNP mainstream SNDP
August 5, 2010	IBRD	Roundtable Discussion of PPCR	Meeting with key stakeholders to discuss potential partnerships for PPCR. Agreement on thematic platforms along 3 nexus (climate information, climate resilient infrastructure, agriculture)
August 9-10, 2010	IBRD	First training session on Crowdsourcing	20 participants trained on crowdsourcing tools and freeware (including FrontlineSMS, Ushahidi)
August 12, 2010	IBRD	First meeting of Climate Information Platform	Climate Information platform established, led by ZMD and DMMU
Sept-October 2010	MoFNP	SNDP Mainstreamed	Climate change considerations successfully incorporated into key sectors of SNDP
August-October 2010	MTENR with UNDP/CCFU support	Development Zambia Climate Change Response Strategy	ZCCRS developed following extensive stakeholder consultation
October 18-20, 2010	Green EnviroWatch	Zambia Youth Climate Change Conference	Over 210 participants attended this conference
October 2010	MTENR	Economics of Climate Change Study	Evaluation of economic impacts of climate change and estimated adaptation/mitigation costs
November 15-30, 2010	MoFNP, with key PPCR partners	Third Joint Mission	Draft inputs to SPCR through broad-based consultation and review of strategic, analytical and institutional framework
November 11-13, 2010	PPCR Partners	First Field Visit (Western Province)	Field discussions on SPCR priorities with provincial and district stakeholders
November 16-December 10, 2010	IBRD and MoFNP	Strategic Discussions with Platforms	Agreement on platform heads, key stakeholders, objectives and key investment priorities
November 22-24, 2010	DMMU	Second training session on Crowdsourcing	3-day intensive training on crowdsourcing for 40 participants
December 4-5, 2010	Zabuntu Zambia	Random Hacks of Kindness - Zambia	Conference joining ICT experts with development practitioners (involving 130 participants)
January 21-28, 2011	MTENR and platforms	Concept Note for Field Mission to Western and Southern Provinces	Involved 1.5 weeks of intensive stakeholder preparation for the consultative field trip
February 1-13, 2011	MTENR and platform stakeholders	Field Mission to Sesheke, Kasungula, Mongu and Senanga	Institutional and Financial Management Assessment (20 participants from Government, academia, NGOs), and SPCR design validation
March 7-12, 2011	MTENR and platform stakeholders	Workshop on Preparation of Field Visit Report	Final Institutional and Financial Management Report and Infrastructure Platform Field Report
May to April 2011	MTENR, IBRD, AfDB, IFC	Finalization of inputs to SPCR Submission	Inputs to SPCR Submission (22 participants from Government, MDBs, private sector and civil society)
May 4-7, 2011	MTENR and platform stakeholders	Workshop on Preparation of SPCR National Submission	Draft SPCR Submission (17 participants from Government, MDBs, private sector and civil society)
May 1-June 3, 2011	MTENR and MDBs	Finalization of SPCR Submission	Final SPCR Submission for Zambia

PART II

RATIONALE FOR THE SPCR

60. As seen on Section 2, Zambia is already experiencing the effects of increasing temperatures and erratic rainfall – and these trends will be aggravated in the future. If left unattended, climate change will likely compromise Zambia’s growth and poverty alleviation targets, with a disproportionate impact on the poor. For vulnerable social groups, their inability to cope is further compounded by poor nutrition and health care, reduced “safety” assets (particularly land and livestock), and few alternative sources of livelihoods, forcing many to resort to eating less food and restricting their access to health and education services during extreme climate events.

61. Climate change is also likely to affect Zambia’s strategic development choices – by affecting the steady supply of water for hydropower investments, malaria control targets, or the longevity of major transport infrastructure (see Box 1). While powerless against climate trends, national policy makers have recognized that they can do much to shape development choices to make Zambia more resilient – not only to the incremental effects of climate change, but also to address the root causes of vulnerability. Thus, addressing climate change is seen as a “smart growth” strategy, rather than an alternative or obstacle to growth.

62. Zambia has made a head-start in this strategy through the mainstreaming of the Sixth National Development Plan and completion of key analytical and policy benchmarks. Through this process, it has become clear that enabling national policies play a critical role in shaping climate resilience – often more so than actual investments, which can be quickly undermined by unfavourable policies. Yet both policies and programmes will evolve over time; to ensure that their sustainability, it is crucial that they be supported by a strong institutional backbone – in this case, a dedicated National Climate Change Programme, able to continuously screen emerging policies and programmes for their role in climate resilience.

63. The need for a strong National Programme is even more evident when one considers the number of stakeholders and external projects willing to support climate change activities in Zambia (Tables 9 and 10). Without effective coordination and strategic harmonization, these efforts are likely to result in duplication and unclear impact, and could easily be undermined by a return to ‘business-as-usual’ from the part of sectoral Ministries or local authorities. To succeed over the long term, these projects need to directly or indirectly support a Government-led Programme, and a common national goal.

64. For the reasons above, Zambia has made a strategic choice to not merely support adaptation projects under the SPCR, but **to reinforce the National Climate Change Programme** in order to ensure future sustainability (see Section 4). The SPCR is uniquely positioned to help Zambia strengthen this Programme, given the MDBs’ (and partner UN and bilateral agencies) experience with budgetary planning, their

participation in multiple sectoral “troikas,”¹⁴ and the breadth of their combined portfolio. The intention of the SPCR Zambia is not to simply pilot adaptation principles, but to strengthen the backbone for long-term transformation, to which other partner initiatives can contribute. As such, the SPCR in Zambia is not a distinct programme *per se*, but forms part of Zambia’s nascent Climate Change Programme. The SPCR would also help Zambia to assess and potentially establish climate change and disaster contingency funds, building on existing initiatives such as the Green Technology Fund, the Low Carbon Africa Fund.

65. The second major rationale for an SPCR is whether it can scale up and help sustain **replicable investments at the local level**. With significant investment being placed on the national enabling institutional, it is now time to invest significantly on field-level adaptation. With the new Urban and Regional Planning Bill, Zambia has a unique opportunity to integrate climate resilience into Integrated Development Plans, the expected new basic planning tool for regional development, and thus help progressively align the national climate change programme with Zambia’s decentralization trends. This integration will give local communities a voice in addressing challenges that are by nature multi-sectoral (instead of being passive recipients of sectoral programmes). Provided that funds are correctly targeted, disbursed regularly, and shielded from local elites, it also gives communities an ideal source of contingent financing to adapt to uncertain climate events¹⁵. The SPCR is uniquely positioned to help promote this instrument across a sufficiently large area, and over sufficiently a time frame, to allow for it to be progressively adjusted and replicated across Zambia.

66. The third major rationale for an SPCR is whether it is able to catalyze **significant behavioural change** – by decision makers (to endorse climate-resilient policies) and by people at large (to become more resilient). Based on past experience with adaptation and disaster risk management projects, decision makers tend to be influenced by highly visible projects, which serve as a catalyst for public action – in particular, infrastructure projects that are national priorities. Given its size, the SPCR is uniquely positioned to demonstrate how improved infrastructure safety codes can mitigate the impact of extreme climate events in highly visible projects. With the combined experience of the three MDBs (in particular IFC), it is also uniquely positioned to capitalize on innovative ICT technologies to promote climate information – and thereby help influence the behaviour of people at large towards lower risk practices.

67. For the most vulnerable Zambian households, exposure to climate is directly related to poverty and lack of **alternative livelihoods**. As seen on paras. 15-19, casual farm labor increases during extreme weather events. Therefore, increasing short-term employment and cash-earning opportunities for the most vulnerable is a critical adaptation strategy. Through the SPCR, IFC can play an important role in broadening private sector investment which will eventually result in livelihood enhancements in the two sub-basins.

¹⁴ Sectoral Working Groups composed of development partners. Relevant troika groups include Environment and Natural Resources; Agriculture; Transport; and Decentralization.

¹⁵ See for example, World Bank (2009). *Area Development and Climate Change (West Africa: Burkina Faso, Niger and Senegal)*. Synthesis Report, October 2009, and Gremłowski, Lars (2010). *Community-based Adaptation to Floods in North-Central Namibia – A Case Study of the Omusati Region*. Master Degree Thesis. Germany.

7. SPCR PRIORITY FOCUS

68. The SPCR will have the same strategic vision and goal as Zambia’s Climate Change Programme. The National Programme Vision is:

“A prosperous, climate-resilient economy”

69. The SPCR goal, which is also the same as Zambia National Climate Change Programme Goal, is:

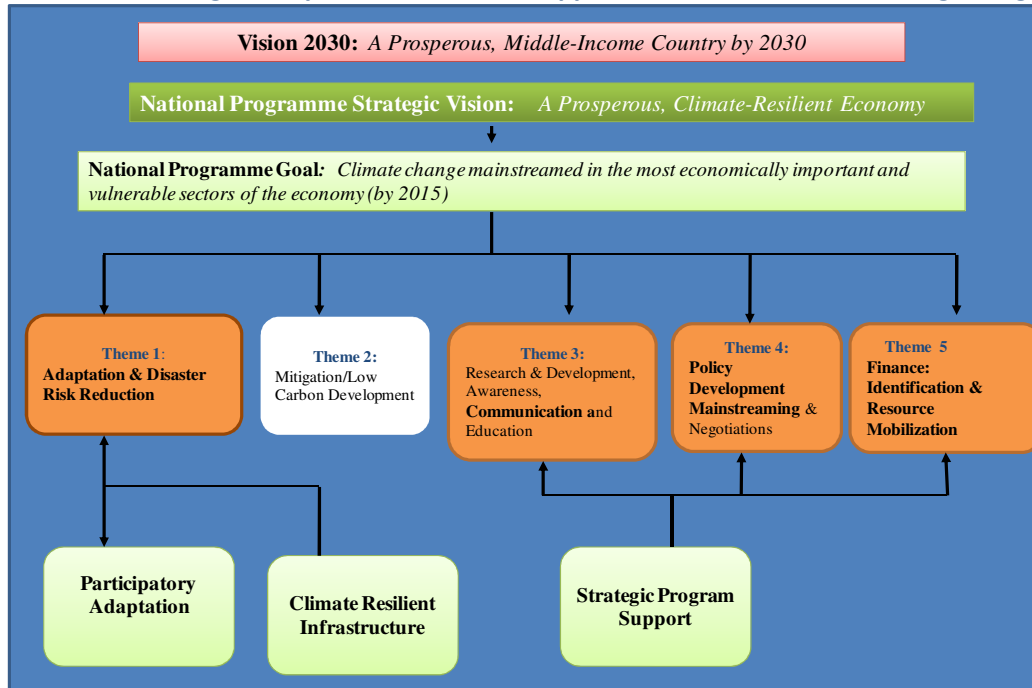
“Climate change mainstreamed in the most economically important and vulnerable sectors of the economy”

70. The SPCR will focus on three self-standing **strategic components**, as follows (see Figure 13):

- (a) Participatory Adaptation
- (b) Climate Resilient Infrastructure
- (c) Strategic Programme Support

The first two strategic components would focus on adaptation priorities in the Barotse and Kafue sub-basins of the Zambezi. The third strategic component would provide strategic support to priority themes of Zambia’s National Climate Change Programme, namely on (i) Institutional Support; (ii) Climate Information; and (iii) Mainstreaming; and (iv) Management of External Resources (Figure 13).

Figure 13. SPCR Strategic Components and their Support to National Climate Change Programme



Note: SPCR Strategic Components are shown in light green. The thematic activities they support are in bold.

SPCR Strategic Components

71. The three strategic SPCR components were selected by national stakeholders as those most likely to achieve **transformational change**, should partners' efforts be combined. A deliberate decision was made to keep the SPCR simple and focused, so as to not overwhelm national capacity, and allow for a learning-by-doing approach leading to progressive scale-up. Based on international experience and the length of time required for a programme of this type to consolidate, it was also decided that the SPCR should last 7 years (2013-2020) allowing for the possibility of follow-up phases up to the conclusion of Vision 2030. The year of 2012 would be dedicated to preparation of the three stand-alone investment projects (see Figure 1). The expected results and outcomes of the SPCR, and their relation with the PPCR Logic Model, are summarized on Table 16 and Figure 18. It should be emphasized that whilst these three components provide the strategic nexus for Zambia's SPCR, they are not equivalent to the three MDB administered investment projects (see Figure 19). The latter were packaged based on investment coherence, as explained further on paras. 109-110. Section 7 below describes the three strategic nexus of the SPCR, whilst Section 8-11 describe the three proposed investment projects.

SPCR Strategic Component 1. Participatory Adaptation (estimated costs US\$30 million)

72. The Participatory Adaptation strategic component will address adaptation challenges at the community level. The specific objective of this SPCR component would be to **strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability in priority areas of the Kafue and Barotse sub-basins**. It is expected to involve primarily agriculture and natural resources adaptation (the predominant form of livelihood in rural communities), although it could also address other community-based adaptation priorities such as improved water resources management, climate proofing of community infrastructure, or strengthen vector and water-borne disease control, depending on community priorities (see Table 12). Under Participatory Adaptation, two main sub-components would be supported:

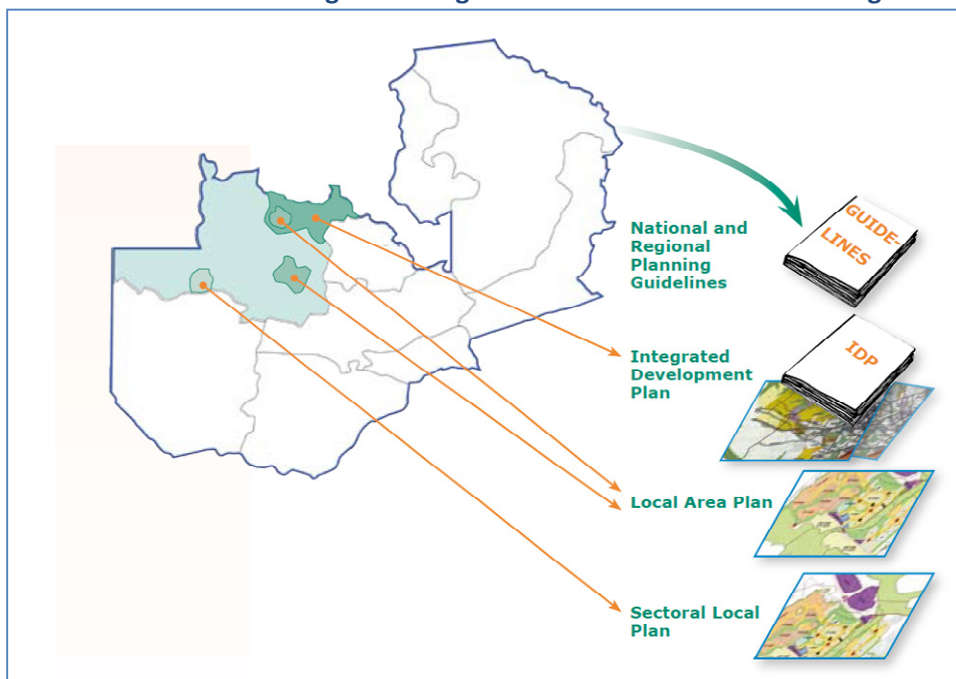
- Community-Based Adaptation (estimated at US\$24 million)
- Support to Community-Based Adaptation (estimated at US\$6 million)

73. The transformative power of the Participatory Adaptation component stems from the fact that community-based adaptation would be supported by helping to mainstream climate resilience directly into Integrated Development Plans or IDPs (prepared by District Councils) and Local Area Plans or LAPs (prepared by Area Development Committees) – in essence, by providing incremental financing as an incentive for local plans to be mainstreamed. This approach would be piloted in priority districts and sub-districts (ward-level) of Kafue and Barotse. As lessons learned became available, it would be progressively upscaled to cover the sub-basins, and eventually expanded to the national level.

Sub-Component 1.1. Community-Based Adaptation

74. This sub-component would finance actual community-driven adaptation investments. At present, Zambia allocates about ZMK 720 million per quarter to each Constituency under the Constituency Development Fund (about US\$1.1 million equivalent per district per year). This Fund – already active - targets community-based projects submitted by Area Development Committees at the sub-district level (Table 13) and is expected to become the basis for funding Local Area Plans under Zambia’s Urban and Regional Planning Bill, expected to be approved by end-2011 (Figure 14). Under the SPCR, *it is proposed that an incremental amount equivalent to 30 percent of the Constituency Development Fund be earmarked to fund climate-resilient Integrated Development Plans and Local Area Plans.* Support to climate-resilient plans would be provided to up to 24 districts in the Kafue and Barotse sub-basins (Table 14). Each district would be assisted over an average of three years to ensure sustainability – equivalent to US\$350,000/district/year or US\$1 million per target district over 3 years. The 30 percent incremental amount is consistent with the estimates of historical Post Disaster Needs Assessments to reinforce resilience and “build back better” after climate-related disasters,¹⁶ and is considered an appropriate incentive to help move community-based planning towards higher climate resilience.

Figure 14. Structure of Local Planning as Envisaged under Zambia’s Urban and Regional Planning Bill



Source: Guide to the Draft Urban and Regional Planning Bill. IFAB International. June 2009.

¹⁶ The incremental estimate of “building back better” generally ranges from 1.10 to 1.40 for productive sectors, and 1.10 and 1.50 for social sectors (see GFDRR, draft. *Guidance Notes on Estimation of Post Disaster Needs.* World Bank).

Sub-Component 1.2. Support to Community-Based Adaptation

75. To help communities prepare and implement the plans, the SPCR would allocate a 25 percent overhead to the climate resilient increment, or US\$85,000/district/year, for an average of 3 years per district. This would be used to contract experienced NGOs, as well as to support the work of platforms at the national and regional levels in reviewing and monitoring the plans. NGOs with sufficient experience in community facilitation and adaptation planning (preferably with experience in the pilot areas) would be selected to help districts and Area Development Committees integrate climate resilience into the IDPs and LAPs – either by retrofitting existing plans, or helping incorporate climate resilience into the local planning process. The facilitating NGOs would continue to target districts/sub-districts in implementing the plan.

76. The component would be overseen by the Climate Resilient Agriculture multi-stakeholder platform (see Figure 16), who would liaise with the Provincial Development Coordinating Committee for local level support, and through it, the specialized sub-committees handling disaster risk management and climate change adaptation at the provincial level (e.g. DMMU/Environmental Provincial Committee). The Climate Resilient Agriculture platform would in turn liaise with CGIAR centers or other international centers of excellence for specialized support (e.g. advice on specific crop or livestock diseases). The mainstreamed IDPs and LAPs would be first reviewed by the specialized Provincial Committees, who would send its recommendation to the national Platform for final review against a set of specific criteria. The mainstreamed plans would be then formally approved by the NCCDC Board (or, in the interim period, the Permanent Secretary of Finance or Secretary to the Treasury). The criteria for selection of the mainstreamed IDPs/LAPs are still being finalized, but are expected to include the following:

- The climate resilient plans must have been submitted and endorsed by the designated Planning Committee of the district or sub-district (Local Area Committee) level.
- The IDP or LAP must have completed a Comprehensive Vulnerability Assessment and Analysis (or equivalent) according to DMMU standards. This assessment should identify the most vulnerable social groups, including incapacitated households (without access to work), women-headed households, the elderly and other households particularly vulnerable to climate change
- At least 50 percent of the activities/funds should benefit directly the most vulnerable social groups.
- The proposing institution - District Councils and/or Local Area Committees – must have been rated level 3 or higher in fiduciary performance, according to ZAMSIF standards (see Annex 4).
- The climate-resilient plan must demonstrate clearly how it will contribute to reduced vulnerability to climate change and climate variability by promoting priority adaptation activities, in addition to those normally eligible under the Constituency Development Fund. An indicative list of adaptation activities is shown on Table 13.
- Activities proposed for financing under the SPCR supplement should be of a public nature (i.e. benefitting more than a single household or extended family), with clearly defined beneficiaries and implementation structures.

Table 13. List of Eligible Activities under Constituency Development Fund vs. Proposed Mainstreamed Activities Eligible for SPCR Funding

ACTIVITIES ELIGIBLE UNDER CONSTITUENCY DEVELOPMENT FUND	INDICATIVE LIST OF INCREMENTAL ACTIVITIES ELIGIBLE UNDER CLIMATE RESILIENT PLANS
<p>Agriculture and Natural Resources : Livestock and poultry rearing, piggeries Irrigation Marketing activities Basic farming machinery Agriculture inputs (seeds, fertilizer, pesticides)</p>	<p>Sustainable Land Management : Scaling-up of conservation agriculture and agro-forestry Physical soil conservation measures</p> <p>Forest, grassland management and afforestation : Beekeeping Support to non-timber forest products Grazing management and pasture improvement</p> <p>Support to agricultural diversification and commercialization: Promotion of climate-tolerant and short duration crop varieties Promotion of climate resilient livestock Scale up sustainable aquaculture development Commercialization of small-scale production as a way to improve livelihoods</p> <p>Disease control : Early warning and control of livestock and fish diseases linked to climate change</p>
<p>Water Supply and Sanitation : Construction and rehabilitation of wells Construction and rehabilitation of small dams Construction and rehabilitation of boreholes Piped water supply systems Construction and rehabilitation of sanitation systems Drainage systems</p>	<p>Water Supply and Sanitation : Community-based water harvesting structures Improve drainage and flood control systems</p>
<p>Social Amenities : Construction and Rehabilitation of Markets Construction and Rehabilitation of Bus Shelters Rehabilitation of Education facilities Rehabilitation of Health facilities Health Programmes such as nutrition, etc Education Programmes such as literacy Programmes Education sponsorship for the vulnerable</p>	<p>Social Amenities Construction, upgrading or retrofitting social infrastructure to climate-resilient standards Climate change awareness promotion Control of vector-borne or water-borne diseases sensitive to climate change</p>
<p>Other Economic Activities : Income generating (carpentry, tailoring and designing, etc)</p>	<p>Enhance Private Sector-driven Financing : Promote out-grower schemes and market linkages linked to climate tolerant crops and aquaculture Promote index-weather insurance (for smallholder farmers) Promote savings, loans and micro-finance schemes Promote value added and cottage industry for climate-resilient activities</p>
<p>Infrastructure : Construction, rehabilitation and maintenance of feeder and community roads, through labor-intensive methods Culvert installation Causeway installation Canals, waterways embankments</p>	<p>Infrastructure : Construction, upgrading or retrofitting community roads and/or waterways to climate-resilient standards</p>
<p>Sport and Recreation : Community halls, nurseries and gardens Recreational facilities, e.g. parks, playgrounds and fields Indoor recreational facilities (e.g. welfare halls)</p>	<p>Sports and Recreation : Construction, upgrading or retrofitting sports and recreational facilities to climate-resilient standards</p>
<p>Others :</p>	<p>Reinforcement of community early warning systems Activities which enhance community preparedness Delineation of safety and escape routes Community-based activities that promote «Living with Floods » Vulnerability mapping Other community-based activities promoting climate resilience</p>

77. The Provincial and national platform would also provide technical assistance support to the target districts and sub-districts according to their need. Local problems would be expected to be solved at the District Council or provincial levels. For more specialized support, the Provincial Committees would contact the Climate Resilient Agriculture Platform, who would be able to further link with CGIAR centres or other international centres of expertise for back-up (e.g. in the case of crop or livestock diseases).

78. In the poorest districts, further targeting is expected under a DFID-Irish Government supported assistance “Expansion of Social Protection Programme” which is providing unconditional cash transfers (equivalent to US\$12 per month per child) to all mothers in target districts. For slightly less vulnerable districts, the entitlement is provided to 10 percent of the households, identified as incapacitated (lacking labour opportunities) or poorest (based on community ranking). Approximately half of the districts in Barotse sub-basin (and one in Kafue sub-basin) are pilots under this cash transfer scheme. Early results from this programme indicate that it has been effective in stimulating alternative sources of livelihood (primarily informal commerce). As the programme is introducing e-payments to the pilot districts in 2012, vulnerable households would further benefit from savings and loans schemes, and group-based enterprise support promoted under the Participatory Adaptation component of the SPCR.

79. IFC would provide private sector support to the Participatory Adaptation component by helping extend micro-credit facilities, mobile phone-based information to farmers, index-weather insurance and the promotion of climate-resilient private investments (see Section 11). This support would be extended progressively to pilot districts as their development plans became mainstreamed.

80. Overall, the SPCR would target up to 24 districts in the two sub-basins, including 8 in Barotse, and up to 16 in Kafue, covering a potential population of 3.8 million and around 404,000 farming households (Table 14). It is expected, however, that the districts/sub-districts would be phased in according to their capacity. The total estimated incremental funding required from SPCR is US\$30 million (US\$20 million in Kafue and US\$10 million in Barotse). This would leverage an estimated investment of US\$127.3 million, including US\$79 million from the Government of Zambia’s Constituency Development Fund, and an estimated US\$48.3 million from partners. Due to the nature of the activities under this component, the SPCR allocation would be in the form of grant.

SPCR Strategic Component 2. Climate Resilient Infrastructure (estimated costs US\$50 million)

81. The second strategic component of the SPCR would target highly visible infrastructure in the two sub-basins, with a view of strengthening awareness and galvanizing public support for adaptation. Specifically, this strategic component would aim **to strengthen climate resilient infrastructure policies and pilot their effective implementation.**

Table 14. Population of Target Districts in Kafue and Barotse Sub-Basins (2010)

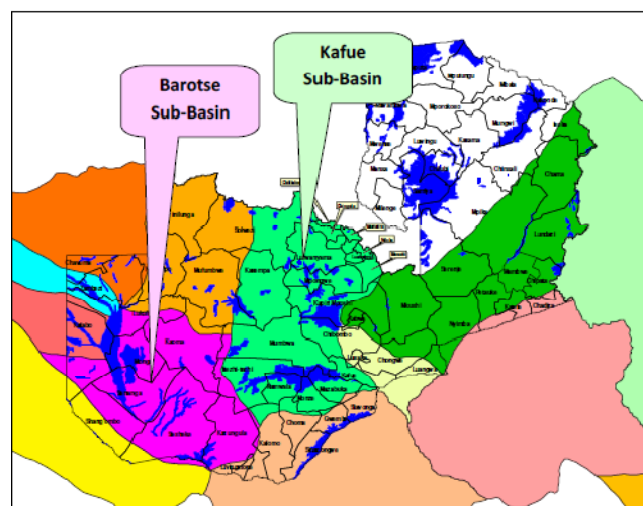
KAFUE RIVER BASIN POPULATION BY DISTRICT

DISTRICT	MALES	FEMALES	TOTAL
CENTRAL PROVINCE			
Chibombo	145,438	148,327	293,765
Mumbwa	108,151	110,177	218,328
Total Central	253,589	258,504	512,093
COPPERBELT PROVINCE			
Luanshya	75,703	77,414	153,117
Lufwanyama	37,474	38,068	75,542
Masaiti	51,182	51,321	102,503
Mpongwe	45,541	46,224	91,765
Mufulira	80,525	81,076	161,601
Total Copperbelt	290,425	294,103	584,528
LUSAKA PROVINCE			
Kafue	121,321	121,433	242,754
Total Lusaka	121,321	121,433	242,754
NORTH-WESTERN PROVINCE			
Solwezi	117,725	121,326	239,051
Kasempa	32,058	33,672	65,730
Total North-Western	149,783	154,998	304,781
SOUTHERN PROVINCE			
Choma ¹	118,486	125,694	244,180
Itezhi-tezhi	31,814	32,779	64,593
Kalomo ¹	123,325	130,886	254,211
Mazabuka	130,387	130,881	261,268
Monze	96,141	99,780	195,921
Namwala	49,016	52,573	101,589
Total Southern	549,169	572,593	1,121,762
Grand Total-Kafue	1,364,287	1,401,631	2,765,918

¹ Choma and Kalomo are technically part of the Karibe sub-basin, but are included in the Kafue SPCR support list due to their high vulnerability and geographical proximity to other districts in the Kafue sub-basin.

BAROTSE SUB-BASIN POPULATION BY DISTRICT

DISTRICT	MALES	FEMALES	TOTAL
SOUTHERN PROVINCE			
Kazungula	48,482	49,810	98,292
Total Southern	48,482	49,810	98,292
Western Province			
Kalabo	61,022	71,946	132,968
Kaoma	85,669	93,657	179,326
Lukulu	40,144	43,758	83,902
Mongu	83,494	94,960	178,454
Senanga	60,072	66,902	126,974
Sesheke	46,254	48,358	94,612
Shangambo	40,230	45,058	85,288
Total Western	416,885	464,639	881,524
Grand Total – Barotse	513,849	564,259	1,078,108



Estimated Number of Farming Households (2010)

Kafue Sub-Basin	254,000
Barotse Sub-Basin	150,000
Grand Total Pilot Sub-Basins	404,000

Sources: Central Statistics Office – 2010 Census Population and MACO. Map is from ZACPRO Project and WFP.

82. While infrastructure development is critical to Zambia’s Sixth National Development Plan, it suffers from multiple challenges which render it vulnerable to climate change and variability, particularly on the transport sector: obsolete safety standards (not adapted to climate change trends, particularly with respect to flooding return periods), lack of standards’ harmonization at the SADC level, inadequate enforcement, weak contract preparation and management, weak penalties and enforcement for non-compliance, ineffective maintenance, and limited engineering capacity to model climate-related risks.

83. The Climate Resilient Infrastructure component of the SPCR will introduce climate resilient standards in strategic, highly visible transport infrastructure in the Kafue and Barotse sub-basins. Specific emphasis will be given to hydrological and morphological modeling in the sub-basins, incorporation of modeling results in strengthened safety standards, and improved procurement and oversight. The scale of the investments would be larger than that which could be supported through community-based adaptation, and therefore it would be implemented by the responsible technical Ministries (Ministry of Works and Supply for major roads, and Ministry of Communications and Transport for waterways). However, close consultation with surrounding communities and linkages to the Participatory Adaptation component would be integral parts of implementation.

84. The Climate Resilient Infrastructure strategic component of the SPCR would consist of the following sub-components

- Pilot Climate Resilient Infrastructure Investments (estimated at US\$47 million)
- Revision of Design Standards and Codes of Practice for Key Infrastructure Adapted to Climate Change (estimated at US\$3 million)

Sub-Component 2.1. Pilot Climate Resilient Infrastructure Investments

85. The selected infrastructure would include key access roads in Kafue sub-basin, and waterways (canals) and an access road in the Barotse sub-basin. Its transformative power arises from the high visibility and potential development impact of the investments: in Kafue, it would include climate proofing about 54 km of access roads leading to and from Kafue National Park, essentially providing an all-weather access from Victoria Falls to the park (and onwards to Lusaka). Kafue National Park is presently Africa’s second largest park in Africa and Zambia’s largest. The strategic access roads are mostly gravel-based, prone to flooding, and often unpassable during floods. Upgrading them to all-weather resilient status is expected to result in a tourism boom, providing an ideal platform through which decision makers, the media, and the general public could learn more about the economic advantages of climate resilience. The estimated overall investment – including some 270 km of access roads to and from the park and 300 km inside the park - is very significant, amounting to close to US\$170 million. The Millennium Challenge Account (MCA) is expected to commit about US\$80 million, with the SPCR providing an estimated US\$25 million. The remaining gap is being discussed with potential development partners.

86. In the Barotse sub-basin, the proposed investments would focus on climate strengthening a 126 km access road, Llusó to Imusho, near the Caprivi strip, which would facilitate population access to health clinics and schools during the flood season. It would also include rehabilitation and strengthened management of major canals and waterways. These canals play a major role in ensuring low-cost transport of bulk commodities and people from the hinterland harbours of the Zambezi flood plain. They are also critically important for irrigation, drainage, fisheries and cultural activities for the Lozi people. One of these canals – Muoyowamo – is the focus of the famous Koumboka ceremony, marking the migration of the Lozi king and his people to higher grounds during annual flood events (Figure 15). Due to geomorphological conditions, the changing climate and rapidly evolving socio-economic trends (such as urbanization), infrastructure development in this area is challenging. Therefore, the proposed investments would provide expert knowledge which could feed into future climate resilient policies under similar conditions both within and outside Zambia. The list of proposed investments is summarized on Table 15.



Figure 15. Kuomboka Ceremony in the Zambezi

The Kuomboka Traditional Ceremony in the Zambezi marks the movement of the King of the Lozi and his people from lower to higher grounds on the Barotse floodplain. Canals such as Muoyowamo, where the ceremony is held, play vitally important roles in the culture and economy the Lozi. Due to the changing climate, environmental degradation and changing socio-cultural patterns (where traditional maintenance practices have been progressively abandoned), they have become impassable at critical points, affecting the transport of people and commodities, access to schools and health centers, and drainage and irrigation functions.

Source: Photo by Peter Juerges

Sub-Component 2.2. Revision of Design Standards and Codes of Practice for Key Infrastructure Adapted to Climate Change

87. The selected pilot investments would be guided and accompanied by policy reforms and studies, involving the following:

- Engaging Zambia’s Bureau of Standards and other relevant stakeholders (such as the Roads Development Agency, the Zambia Meteorological Department, and international experts) to review standards and regulations for major civil works.
- Undertake detailed design studies for the pilot infrastructure investments, including requisite environmental and social assessments
- Based on the above, develop specific recommendations for rehabilitation and/or upgrading.

Table 15. Proposed Investments for Climate Resilient Infrastructure under the SPCR

Name of Road/Canal	Km	Proposed Climate Resilient Works	Estimated Cost (US\$ M)	SPCR Contribution (US\$M)	Gov. Contribution (US\$M)	Other Partners (US\$M)
Kafue Sub-Basin:						
Roads – All Weather Access Victoria Falls to Kafue National Park						
Kafue-Chanyanya	23	All weather, double bituminous surface	7.4	7.4	0.0	0.0
Kalomo-Dundumwezi	75	Idem	24.2	17.4	6.8	0.0
Shezongo-Namwala	69	Idem	22.3	0.0	22.3	0.0
Sub-Total Financed Roads	167		53.9	24.8 (46%)	29.1	0.0
M9 to Ithezi Thezi	103	All weather, double bituminous surface	33.3	0.0	0.0	TBD
Kafue National Park	300	All weather gravel	80.0	0.0	0.0	80.0
Total Kafue Sub-Basin	570		167.2	24.8	29.1	80.0
Barotse Sub-Basin:						
Roads:						
Lluso-Imusho	126	All weather gravel and double bituminous surface *	23.5	15.2 (65%)	8.3	0.0
Canals:						
Muoyowamo Canal	28	Sustainable navigable conditions	1.7			
Ngombala Canal	15	Idem	1.0			
Fisheries Canal	4	Idem	0.3			
Mongu-Kalabo Canal	50	Idem	2.9			
Community-based O&M			2.5			
Total Canals:			8.4	7.0	1.4	0.0
Total Barotse Sub-Basin	223		31.9	22.2	9.7	0.0
Policy Support and Studies:						
Engineering and Socio-Environmental Studies (under PPG)			2.0	2.0	0.0	0.0
Policy Support to Climate Resilient Standards			1.0	1.0	0.0	0.0
Total Policy Support and Studies			3.0	3.0	0.0	0.0
Grant Total Climate Resilient Infrastructure			202.1	50.0 (25%)	38.8	80.0

Source: ARD and MCA. Kafue National Park Roads would be funded by MCA. Total costs includes capital investment, recurrent costs and periodic maintenance for a period of 5 years.

* Lluso Imusho consists of 47.5 km outside Sioma National Park, and 78.4 km inside the park. Sections inside the park would be rehabilitated to gravel, all weather standard. Sections outside the park would be rehabilitated to double bituminous surface.

- Create awareness programmes for contractors and regulators on revised climate resilient standards.
- Incorporate climate resilient into transport environmental impact assessments and strategic environmental assessments' process.
Review bidding documents to ensure that procurement practices provide the necessary incentives towards improved operation and maintenance, and incorporate climate resilience.

88. The selected options for road rehabilitation and upgrading would follow the detailed design studies. They will take into consideration the status of the road and surface conditions (poor, fair or good) and consider the following options:

- Option 1 = Gravel Standard
- Option 2 = Asphaltic Concrete Standard
- Option 3 = Double Bituminous Surface Treatment
- Option 4 = Single Surface Bituminous Treatment

89. For most road stretches, the most likely upgrading will be to double bituminous surface (Option 3). Beyond this, additional work will cover support interventions that enhance climate proofing such as:

1. *Shoulder improvements*, to fit the levels of stress that the roads are expected to be exposed to, both in current as well as future climate conditions;
2. *Drainage*: remediation based on current hydrological and hydraulic conditions, in conjunction with anticipated climate change projections to significantly reduce flooding impact during severe weather conditions (particularly by enhancing longitudinal drainage plans).
3. *Surface*: consideration of projected maximum temperature increases.

90. Investments in pilot canals are expected to include dredging, rehabilitation of embankments, and community organization to ensure their optimal use in catchment management, irrigation, transport and cultural events. Prior to any intervention in canal management, the requisite environmental and social studies would be undertaken to ensure sustainability and compatibility with the potential submission of the Barotse Canals as a World Heritage Site. In addition to these studies, the Barotse Royal Establishment, the Maritime and Inland Waterways Department, the Local Authorities, the National Heritage Conservation Commission, the Peace Parks Foundation, African Parks and other key stakeholders would be consulted to ensure that any investment in the canals would preserve their heritage status.

91. A critical aspect of climate resilience would be to strengthen infrastructure procurement practices and oversight, to encourage better operation and maintenance. In this regard, the experience of Performance Based Asset Management contracts in rural roads of Zambia (namely in Chongwe and Chome districts in Lusaka and Southern Province) is promising. These types of contracts are based on agreements that rehabilitated infrastructure will continue to be adequate for the long-term needs of the users (typically five years) and paid periodically based on satisfactory verification – thereby providing an incentive for enhanced O&M. Since poor maintenance and standards are root causes of infrastructure failure during floods, these improved procurement practices can also help strengthen climate resilience.

92. SPCR would invest an estimated US\$50 million in the Climate Resilient Infrastructure Strategic Component. This is expected to leverage an investment of about US\$216 million, making the SPCR contribution about 25 percent of the total investment, or 56 percent of the infrastructure directly funded under the SPCR. These increments are considered conservative based on estimated costs of climate resilience from international literature¹⁷.

¹⁷ Estimates for Kosrae (Federal States of Micronesia) indicate an incremental cost of climate resilience of about 27% for a new road and 84% for a retrofitted road (ADB 2005). Under Post Disaster Risk Assessments, the mark up factor for building back better in the transport factor (to upgraded standards) 1.2-1.7 of original costs (GFDRR unpublished).

SPCR Component 3. Strategic Programme Support (estimated costs US\$30 million)

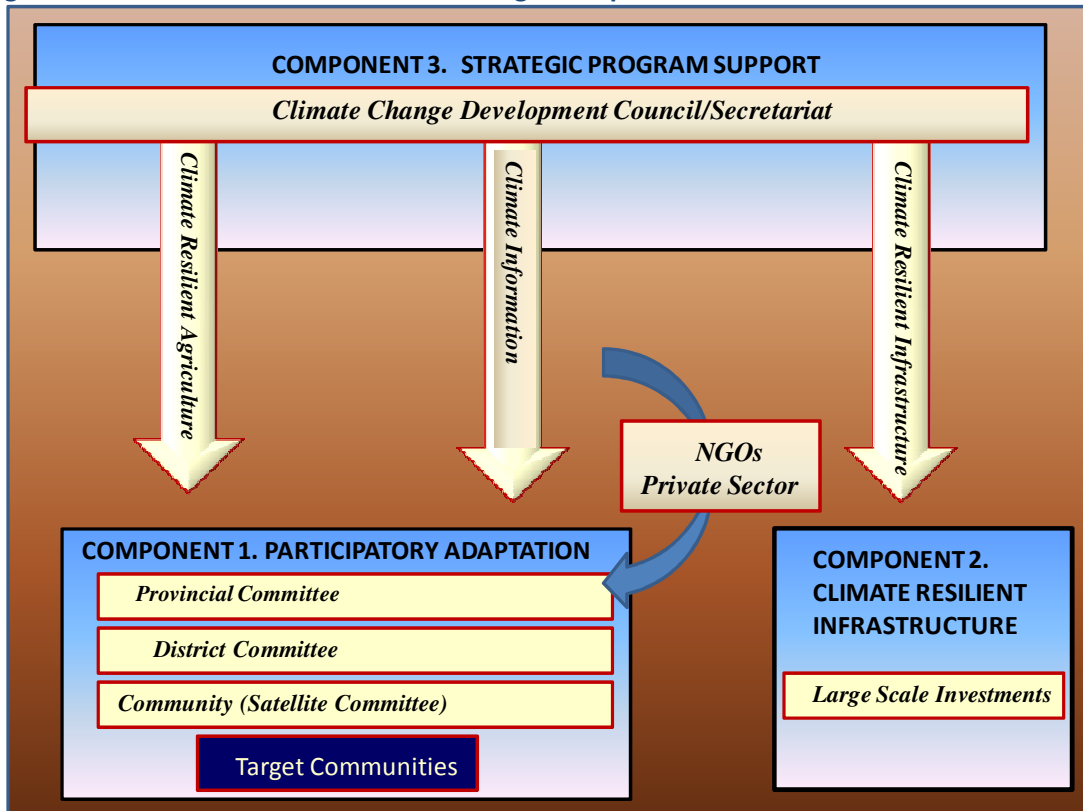
93. As seen before, Zambia requires a strong institutional structure to manage its climate change challenges and the expected partner contributions. This coordination is critical due to the multiple sectors and governance layers (national, provincial and local) involved in adaptation and, increasingly, in mitigation and disaster risk management. The third SPCR component – Strategic Programme Support – aims therefore to **strengthen the institutional structure, strategic planning, coordination and awareness for climate change resilience in Zambia**. This support would be national in scope, and involve three major sub-components:

- Institutional Support to Zambia’s Climate Change Programme (estimated at US\$7 million)
- Strengthened Climate Information (estimated at US\$8 million)
- Private Sector Support (estimated at US\$15 million)

Sub-Component 3.1. Institutional Support to Zambia’s Climate Change Programme

94. This sub-component would provide direct support to Zambia’s Climate Change Programme and its multi-stakeholder platforms at the national and regional level. It would therefore strengthen the umbrella institutional support to the SPCR and other partners’ climate change projects (Figure 16).

Figure 16. Interaction between SPCR Strategic Components and Inter-Stakeholder Platforms



95. The SPCR would fund technical assistance, equipment, training and workshops, and incremental operating costs in support of the following activities:

- (a) **Mainstreaming Climate Resilience** into key Policies, Regulations, Strategies and Sectoral Plans, continuing the process initiated during Phase I of the PPCR. These are expected to include continuing budget tracking of mainstreamed expenditures in key Ministries (see para. 25 and Table 7); mainstreaming climate change into the next (Seventh) National Development Plan; and incorporation of climate change concerns into key revised policies (e.g. Agriculture, Energy, Livestock).
- (b) **Priority Applied Studies**, with direct application to climate resilience (as approved by the Steering Committee). These are expected to include, for the pilot sub-basins: (a) an Integrated Water Resources Management Plan for Kafue; and (b) a Fisheries Management Plan and Vulnerability Risk Assessment for Barotse floodplain.
- (c) **Capacity Building and Knowledge Sharing**, including (a) targeted training for national climate change champions participating actively in the stakeholder platforms, through internships, and priority training and mentorships with international centers of excellence; participation in key international climate change and disaster risk management fora; and dissemination and exchange of lessons learned with other countries implementing or intending to implement similar adaptation programmes (e.g. south-south exchanges).
- (d) **Management of External Resources and Climate Risk Financing**, including technical assistance and training towards the establishment, and eventual support, of national climate change and disaster risk management funds. This would be an essential groundwork for the Government of Zambia to potentially receive and harmonize its various sources of climate funds, allocate them efficiently amongst its Programmatic needs, coordinate the activities of field partners with the required fiduciary oversight, and potentially manage contingency funds to proactively address climate shocks.
- (e) **Incremental Operating Costs** in support of the National Climate Change and Development Council or its interim structure, including technical assistance, procurement and financial management support, monitoring and evaluation, and audits.

96. SPCR activities under this sub-component are kept purposely open and general to allow it to adjust to the evolving needs of the National Climate Change Programme over a period of 7 years.

Sub –Component 3.2: Strengthened Climate Information

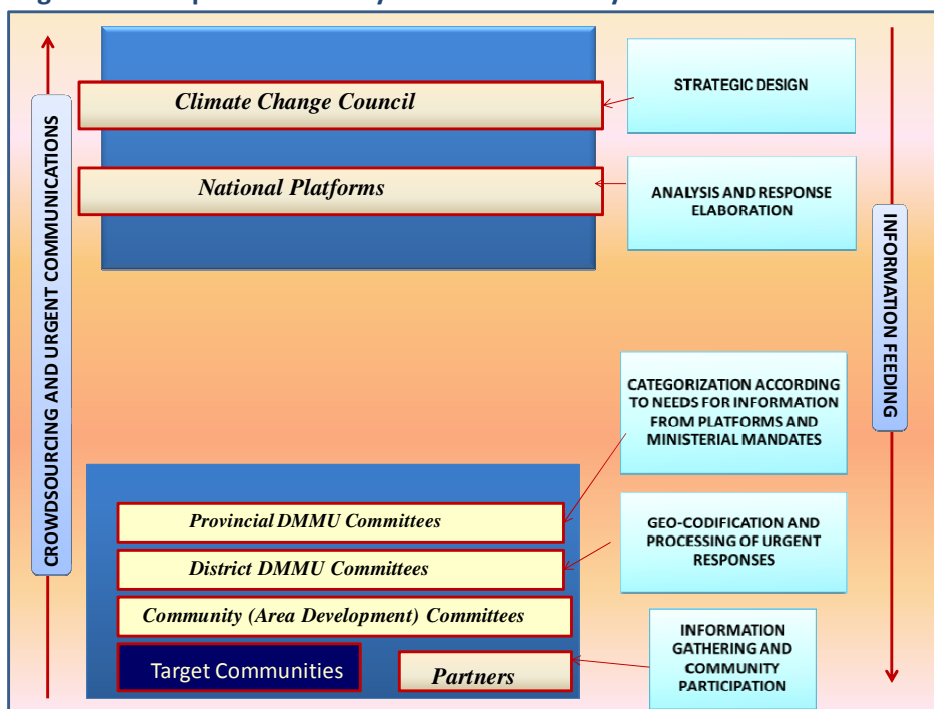
97. This sub-component would aim to **strengthen the coordination of early warning and climate information systems, to ensure availability of reliable and user-friendly climate information for effective climate risk planning**. It would facilitate two-way communications between decision makers, development actors from the national level to local communities. Specifically, it would provide technical support,

equipment, training, and incremental operating costs in support of a strengthened Climate Information System, thus improving coordination between the existing hydro-meteorological network, geospatial data sources, and international, regional and local sources. Specific activities would include:

- (a) **An assessment of gaps and weaknesses in the collection and dissemination of climate information**, including an inventory of hydro-meteorological equipment, infrastructure and personnel, and a proposal on how best to consolidate the network into an effective system
- (b) **Strengthen the institutional and operational framework for national climate information in Zambia** in accordance with the recommendations of the assessment. This is expected to include a coherent policy for climate information sharing (including collection, standardization and dissemination of climate data), and strengthened capacity for applied modeling and forecasting.
- (c) **Upgrading of selected climate infrastructure** in accordance with the assessment. This is expected to include rehabilitation and upgrading of existing hydro-meteorological stations and installation of selected automated stations in the two sub-basins; upgrading of satellite receiving equipment and electronic links; and selected purchase of satellite imagery and digital elevation models to support climate information dissemination.
- (d) **Develop an Early Warning System integrating both indigenous and scientific knowledge**. This is expected to involve training for community and line agency staff to collect, apply and disseminate climate information, and application of the integrated early warning system in the pilot districts. All efforts will be made to ensure dissemination of climate information through simplified language, easily understandable by different users.

98. Although the Strengthened Climate Information sub-component will be implemented at the national level, it will be linked closely with the Participatory Adaptation and Climate Resilient Infrastructure components, using appropriate ICT technology and crowdsourcing tools. At the community level, information would be structured and geo-referenced to allow the various Platforms to carry out a deeper analysis of the problems, and elaborate appropriate responses to problems emerging from the field. Several crowdsourcing tools are currently being explored by DMMU, ZMD and Programme partners for this purpose (including DMMU's ZEPRIIS system, which allows for the geo-location and categorization of information received from the field; and freeware such as Frontline SMS and Ushahidi). In turn, information feeding back to communities – on climate conditions, early warning, or specialized adaptation advice – would need to be translated into simple, user-friendly messages, and closely linked to community-level disaster preparedness. Figure 17 shows the proposed two-way communication system.

Figure 17. Proposed Two-Way Communication System for SPCR



Sub Component 3.3 Private Sector Support

99. This sub-component would provide private sector support to the SPCR on four strategic areas, identified as priorities by stakeholders from the Government, private sector, development partners and the civil society:

- Strengthened Private Sector Engagement in Building Climate Resilience
- Climate Information and Dissemination through Mobile Telecommunications Technology
- Agriculture Weather-Index Based Insurance
- Microfinance Promotion

100. The key objective of this sub-component – and IFC investment project – would be **to promote private sector investment in climate resilient activities, in direct support to SPCR priorities**. It would fund the following activities (see also Section 11 for further details):

- (a) **Strengthened Private Sector Engagement in Building Climate Resilience**, including (i) a feasibility study on how best to promote private sector engagement in promoting climate resilient agriculture and natural capital in the priority sub-basins; and (ii) climate change sensitization and awareness-raising seminars targeting specific private sector players.
- (b) **Climate Information and Dissemination through Mobile Telecommunications Technology**, through the development of a mobile phone platform to facilitate information to farmers about weather and prevailing market conditions. Specifically, IFC is expected to involve ESOKO (www.esoko.com), a

company that currently provides mobile phone information to farmers on crop prices and good farming practices in several African countries. The ESOKO platform is presently being extended to cover weather information. SPCR activities would include (i) a feasibility study amongst potential beneficiaries to establish the mobile phone platform; and (ii) public-private partnerships to facilitate the introduction of a mobile phone platform providing market, technical and weather information to farmers in the pilot sub-basins.

(c) Agriculture Weather-Index Based Insurance. To reinforce climate risk financing amongst farmers, IFC's Global Index Insurance Facility (GIIF) would investigate the viability of weather-index based insurance products and thereafter develop the operational, distribution and technical aspects of an affordable micro-insurance product for flood and drought risks.

(d) Microfinance Promotion. This activity would provide microfinance services and a line of credit in support of livelihood diversification in districts covered by the Participatory Adaptation component (focusing predominantly on women and youth groups).

101. The SPCR logical framework, and its relation with the PPCR Logic Model, are summarized on Figure 18 and Table 16 below, and in further detail on Annex 1. Specific quantitative targets will be developed during the preparation of the individual investment projects (Sections 9 to 11).

Figure 18. Links between Zambia and Global PPCR Logical Framework

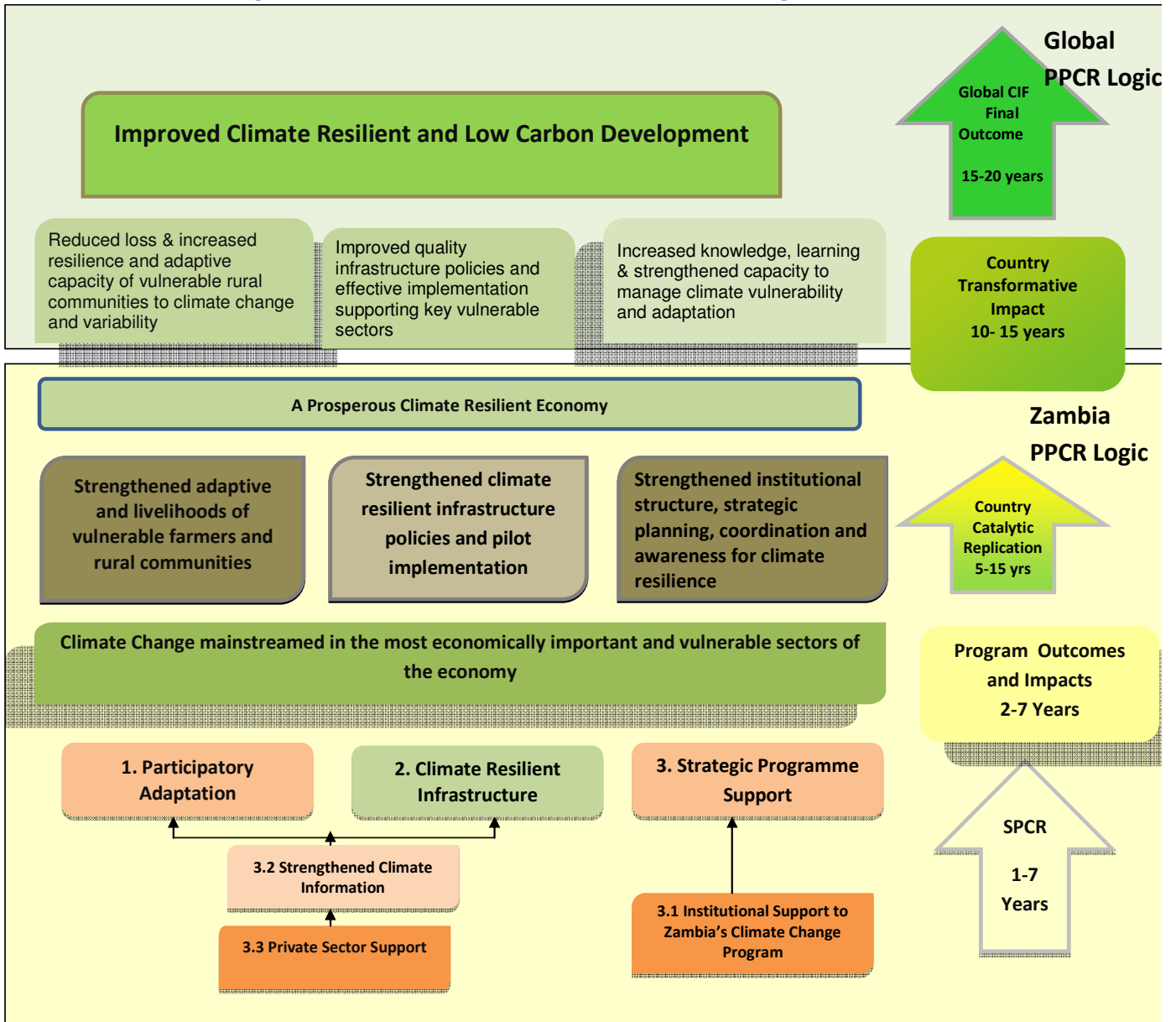


Table 16. Zambia SPCR Logical Framework and Relation to PPCR Logic Model
(for further details see Annex 1)

ZAMBIA SPCR LOGICAL FRAMEWORK			Relevant elements from the PPCR LOGIC MODEL		
GENERAL OBJECTIVE			COUNTRY PPCR TRANSFORMATIVE IMPACT		
To mainstream climate change in the most economically important and vulnerable sectors of the economy			Improved quality of life of people living in areas most affected by climate variability and climate change; Increased resilience in economic, social and eco-systems to climate variability and change through transformed social and economic development		
PPCR CATALYTIC REPLICATION OUTCOMES					
Component 1 Participatory Adaptation	Component 2 Climate Resilient Infrastructure	Component 3 Strategic Programme Support	Scaled-up investments in resilience and their replication <i>(relates to Components 1 and 2 of Zambia SPCR)</i>		Improved Institutional Structure and processes to respond to climate variability and change <i>(relates to Component 3 of the Zambia SPCR)</i>
To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability in priority areas of the Kafue and Barotse sub-basins	To strengthen climate resilient infrastructure policies and pilot their effective implementation	To strengthen the institutional structure, strategic planning, coordination and awareness for climate resilience in Zambia			
EXPECTED RESULTS			PPCR OUTPUTS AND OUTCOMES		
1.1 Significant progress in reducing population vulnerability in the two sub-basins 1.2 Reduction in crop area affected by floods and droughts in similar intensity events	2.1 Standards and codes of practice for climate-resilient infrastructure developed and adopted 2.2 Improved drainage and flood management control in key roads and canals (in the two sub-basins) 2.2 Reduced routine and periodic maintenance costs for key transport infrastructure in flood-prone areas	3.1 Increased proportion of national budget allocated to climate resilient programmes in vulnerable sectors 3.2 National Climate Change Council established and fully operational, effectively managing Zambia's Climate Change Programme (with active platforms representing Government, civil society and private sector) 3.3 Harmonized mechanisms to coordinate and manage climate change funds developed and agreed 3.4. Strengthened climate change information and early warning system in the two sub-basins supporting timely, user-friendly and accurate information 3.5 Increased private sector investment in climate-resilient activities in the two sub-basins	<i>(relates to Components 1 and 2 of Zambia SPCR)</i> Increased capacity to withstand/recover from climate change and variability effects in investment programmes/project specific priority infrastructure, coastal/agriculture/ water interventions, social safety nets, insurance schemes, etc.	<i>(relates to Component 3 of Zambia SPCR)</i> Improved integration of resilience into country development strategies, plans, policies, etc. ↑ Increased capacity and consensus on integration of climate resilience into country strategies	<i>(relates to Component 3 of Zambia SPCR)</i> Enhanced Integration of learning/knowledge into climate resilience development

ZAMBIA SPCR OUTCOMES			RELEVANT ELEMENTS FROM PPCR LOGIC		
EXPECTED OUTCOMES			PPCR OUTCOMES AND OUTPUTS		
<p>Component 1 Participatory Adaptation</p> <p>1.1.1 Climate resilience is effectively mainstreamed into integrated development plans</p> <p>1.1.2 Integrated Water Resource Management Plans are developed and implemented for the sub-basins</p> <p>1.1.3 Vulnerable social groups effectively participate in climate resilient activities</p> <p>1.1.4 Diversified agriculture, and sustainable NRM introduced in pilot sites</p> <p>1.1.5 Major social infrastructure is upgraded to climate resilience</p> <p>1.1.6 Improved community preparedness to adapt to extreme events</p>	<p>Component 2 Climate Resilient Infrastructure</p> <p>2.1.1 Climate resilience mainstreamed into revised civil works standards, regulations, and EIA processes</p> <p>2.1.2 Strategic infrastructure vulnerability assessments completed in the two sub-basins</p> <p>2.1.3. Awareness and training programmes implemented for contractors and regulators</p> <p>2.1.4. Review of standard procurement bidding documents to incorporate climate resilience</p> <p>2.1.5 Roads and canals rehabilitated to climate resilient standards</p>	<p>Component 3 Strategic Programme Support</p>	<p><i>(relates to Components 1 and 2 of Zambia SPCR)</i></p> <p>Investments (e.g. in agriculture, water, coastal areas, infrastructure, etc)</p>	<p><i>(relates to Component 3 of Zambia SPCR)</i></p> <p>Increased knowledge and awareness of Climate Variability and Change effects (e.g. CC modeling, CV impact, adaptation options) among governments/private sector/civil society (</p>	<p><i>(relates to Component 3 of Zambia SPCR)</i></p> <p>Increased learning and knowledge about climate vulnerability and adaptation</p>
<p>3.1 Institutional Support to Zambia's Climate Change Programme</p> <p>3.1.1 Climate resilience effectively mainstreamed into key national and sectoral policies, regulations and strategies</p> <p>3.1.2 Priority applied studies with direct relevance to climate resilience, completed and disseminated</p> <p>3.1.3 Climate Change Platforms formalized and meeting regularly</p> <p>3.1.4 Training, mentorships and cross-visits involving key national stakeholders</p> <p>3.1.5 Established mechanisms to mobilize and manage external resources</p> <p>3.1.6 Satisfactory evaluation of Climate Change Programme</p>		<p>3.2 Strengthened Climate Information</p> <p>3.2.1 Completed assessment of climate information network gaps</p> <p>3.2.2. National institutional framework/policy for climate information sharing and dissemination established</p> <p>3.2.3 Strengthened early warning system combining scientific and indigenous knowledge developed and applied</p> <p>3.2.4 Effective network of hydro-meteorological stations established in the two sub-basins</p>	<p>3.3. Private Sector Support</p> <p>3.3.1 SMS-based climate and agriculture information platform developed and piloted in the two sub-basins</p> <p>3.3.2 Agriculture weather index insurance product developed and applied in the target sub-basins</p> <p>3.3.3. Micro-financed instruments extended to target sub-basins, benefiting the most vulnerable</p>		

8. IMPLEMENTATION ARRANGEMENTS

Institutional Responsibilities

102. As stated on Part 4 “Institutional Assessment”, the Zambia SPCR will follow the institutional arrangements of Zambia’s Climate Change Programme (Figures 11, 12, 13, and 16). The Ministry of Finance and National Planning (MoFNP) will take overall responsibility for coordination and execution of the SPCR. During the interim period prior to the establishment of the Zambia Climate Change and Development Council, the Government will establish a Secretariat composed of the current Climate Change Facilitation Unit (CCFU), qualified staff seconded from leading Government Ministries (in particular MoFNP, MTENR, and DMMU), and contracted staff responsible for procurement, financial management and programme administration. The Secretariat would respond to the Committee of Permanent Secretaries (chaired by the Secretary to the Treasury) and the Committee of Ministers, chaired by the Minister of Finance and National Planning. The inter-stakeholder platforms - Climate Resilient Agriculture, Climate Resilient Infrastructure, Climate Information and Climate Financing (as well as others if necessary) - will operate as technical working groups responsible for, respectively, Participatory Adaptation, Climate Resilient Infrastructure, Climate Information and Climate Risk Financing Activity SPCR activities. The remaining of the Strategic Support Programme would be the responsibility of the Secretariat. At the local level, SPCR activities would be followed up by the responsible technical committees handling climate change and disaster risk management (DMMU/Environmental provincial and district sub-committees, and, at the district level, Local Area Committees), operating under the overall responsibility of the Provincial and district authorities. The Secretariat will ultimately become part of Zambia’s autonomous Climate Change and Development Council, managed by a Board composed of representative members of the Government, civil society, academia and private sector (see Section 4). At the time of NCCDC formal establishment, the SPCR would be transferred there. To ensure efficiency in SPCR operations, MoFNP would ensure that the Secretariat would have relative autonomy in operational, procurement and financial management decisions – i.e. that it would act as a Programme Management Unit up to the time of NCCDC establishment.

103. Funds for Participatory Adaptation activities would be channeled directly from MoFNP to District Councils (for activities at the district level) and to Local Area Committees (for activities at the sub-district level). As stated under Section 7, the Climate Resilient Plans would be reviewed and supervised by the Climate Resilient Agriculture Platform at the national level (led by an expert from Ministry of Agriculture and Cooperatives, and composed of representatives of involved Ministries, NGOs and private sector), and, at the provincial level, by the competent technical platforms operating under the authority of the Provincial Development Coordination Committee (e.g. Provincial DMMU/Environmental sub-committee). The NCCDC Board would formally approve the mainstreamed plans upon recommendation from the platforms. The

supporting platforms at the national and regional levels would be funded through semestrial working plans allocated by the Secretariat (through MoFNP endorsement). Partner NGOs assisting communities and districts under this component would be contracted directly by the Secretariat/MoFNP.

104. For Climate Resilient Infrastructure investments, contracts are expected to be too large to be channeled under decentralized mechanisms. Hence, in the case of roads, the funds would be channeled directly from MoFNP to Zambia's National Road Fund Agency, for which the Roads Development Agency is the implementer. For canal management in the Western Province, MoFNP would channel funds through the Maritime Department under Ministry of Communications and Transport. To ensure appropriate oversight, however, the activities would be coordinated by the Climate Resilient Infrastructure platform at the national level, led by an expert from RDA, and consisting of the relevant Ministries and NGOs.

105. The Strategic Support component would be implemented as follows: the Secretariat would be directly responsible for the Strategic Support to Zambia's Climate Change Programme sub-component and sub-contract, whenever needed, qualified NGOs or consultants to undertake capacity building, awareness and mainstreaming events. MTENR would provide lead technical inputs to this component. A Climate Risk Financing platform is also expected to become operational to oversee the potential establishment of Climate Change funds. The Climate Information sub-component would be led by the Zambia Meteorological Department and DMMU, with the technical support of the multi-stakeholder Climate Information Platform. Private sector support would be implemented through IFC and its private sector partners.

106. MoFNP would take overall fiduciary responsibility for the SPCR activities, and be responsible for organizing annual audits, financial reports and following up on the procurement plan.

Coherence between PPCR Phases

107. Similarly to other PPCR countries, the Zambia PPCR includes two phases that are expected to overlap and follow similar institutional mechanisms:

- **Phase I**, approved in March 2010 for US\$1.5 million, was designed with the objective of formulating Zambia's Strategic Programme for Climate Resilience (SPCR). It involved five strategic components: (a) Mainstreaming climate resilience into national development planning; (b) Strengthened institutional coordination; (c) Improved information for decision makers; (d) Targeted awareness and communication; and (e) Preparation for Phase II. This phase is expected to run from 2010 to mid-2013.
- **Phase II** (US\$110 million), submitted for approval in June 2011, will focus on the implementing the SPCR along its three strategic components, above. This phase is expected to run from mid-2013 to 2020, following a year of preparation of the specific investment components. Components (a)

through (d) of PPCR Phase I will then become embedded into the Strategic Programme Support component of the SPCR (Figures 1 and 19).

108. The achievements to date of Phase I of the PPCR are summarized on Annex 7.

SPCR Investment Projects

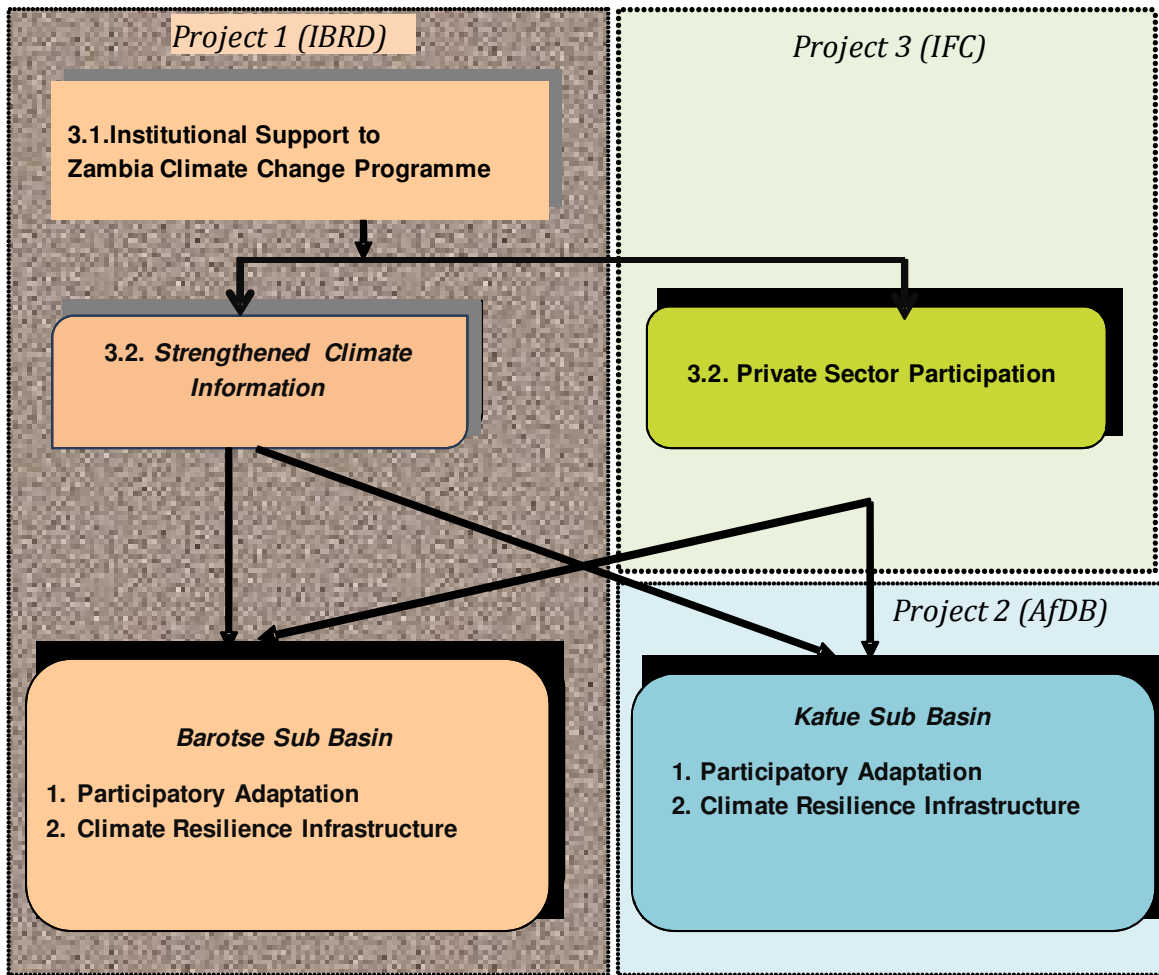
109. While the three strategic components of the SPCR are closely integrated and respond to the priorities of Zambia's Climate Change Programme, they need to be packaged into coherent investment projects. In particular, SPCR investments within each sub-basin need to be closely coordinated: management of canals in Barotse, for example, cannot be done in isolation of the Participatory Adaptation activities taking place in surrounding districts. The same applies to upgrading of strategic roads, particularly Kafue-Chanyanya and Iluso-Imusho which will link several strategic agriculture and natural resource management areas within target districts. The two sub-basins involve distinct socio-cultural and economic challenges and therefore require dedicated approaches. It is also beneficial to develop distinct investment projects under the SPCR under which the experiences of the two sub-basins can be compared, and later upscaled to the national level.

110. As such, SPCR will support three distinct Investment Projects, taking into account the MDB's comparative advantages:

- Investment Project 1, **Strengthening Climate Resilience in Zambia and the Barotse Sub-Basin (US\$50 million)**, would involve Strategic Programme Support (Component 3 of the SPCR) as well as support to the Barotse sub-basin – including both Participatory Adaptation and Climate Resilient Infrastructure investments. It would be administered by the International Bank for Reconstruction and Development (IBRD), who, as lead MDB for the PPCR, has a comparative advantage on institutional programme support.
- Investment Project 2, **Strengthening Climate Resilience in the Kafue River Basin (US\$45 million)**, would support Participatory Adaptation and Climate Resilient Infrastructure in the Kafue sub-basin (Kafue River Basin). It would be administered by the African Development Bank who is already active in the energy and water sectors in the Kafue sub-basin.
- Investment Project 3, **Private Sector Support to Climate Resilience (US\$15 million)**, administered by the International Finance Corporation, implemented by IFC, would support the various private sector support activities to the SPCR (Component 3.3).

111. The relationship between the Investment Projects and the strategic components of the SPCR are shown on Figure 19 below. The Projects are described in detail on Section 9. Given the specific relationship between the SPCR and Zambia's Climate Change Programme, and the need to work coherently within this programmatic framework, the MDB-supported projects would be stand-alone, rather than additional investments of existing sectoral programmes.

Figure 19. Relationship between SPCR Investment Projects and SPCR Strategic Components



	Investment Project 1 (IBRD): <i>Strengthening Climate Resilience in Barotse Sub-Basin/Zambia</i>
	Investment Project 2 (AfDB): <i>Strengthening Climate Resilience in the Kafue River Basin</i>
	Investment Project 3 (IFC): <i>Private Sector Support to Climate Resilience</i>

Monitoring and Evaluation Arrangements

112. Each investment component of the SPCR has been designed to take optimize synergies and achieve maximum transformational impact (see Logical Framework on Figure 18 and Table 16). The Secretariat will play a leading role in developing a programmatic Monitoring and Evaluation (M&E) Framework based on the SPCR logical framework, and assign specific responsibilities for monitoring programme indicators to the partner NGOs working in each sub-basin, as well as to the inter-stakeholder Platforms at the

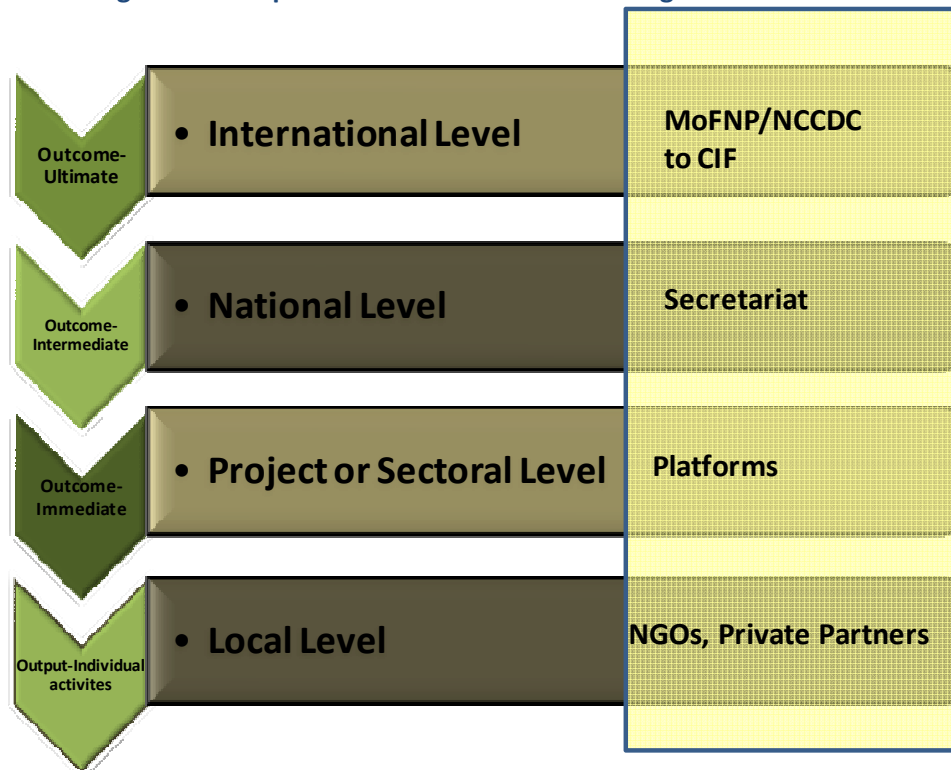
national/component levels (Figure 20). The MDB-administered projects would support and follow this coherent M&E Framework.

113. To assist with the M&E and programme coordination, the Secretariat (and ultimately MoFNP) would perform the following roles:

- Ensure that the SPCR is fully harmonized and supports, the Zambia Climate Change Programme
- Provide coordinated support to the stakeholder Platforms –including financing their incremental operations, and ensuring their regular operation and representation (including members of Government, civil society, private sector and academia)
- Assist the MDB-administered projects to identify and optimize critical inter-dependencies between their activities – e.g. ensure that private sector activities and climate information supports directly the activities on the two sub-basins.
- Monitor and report progress across the SPCR, as well as across Zambia’s Climate Change Programme
- Provide a central Government-led channel for interaction and coordination with external partners and potential new investments in climate change in Zambia.

114. As the SPCR is expected to support Zambia’s Climate Change Programme over the course of 7 years, it requires a fair amount of flexibility. As such, the proposed activities and monitoring indicators of the Strategic Programme Support component may evolve in accordance with programme needs.

Figure 20. Responsibilities for SPCR Monitoring and Evaluation



115. The impact of the SPCR on vulnerable social groups – women, the elderly, incapacitated or youths – would be monitored through specific targets and indicators, expected to include (see Annex 1):

- Number and % of socially vulnerable population benefiting directly from the Participatory Adaptation component (women, elderly, incapacitated, youth)
- % of funds from the Participatory Adaptation component benefiting directly socially vulnerable groups (target 50 percent).
- % of vulnerable population in the district covered under cash transfers (a complementary activity to the SPCR).

Strategic Environmental Assessment

116. Under Phase I of the PPCR, the MoFNP plans to carry out a Strategic Environmental and Social Assessment (SESA) of Zambia's climate change investment framework. The SESA is awaiting completion of the inventory of projects and programmes included in the investment framework, which is expected by July-August 2011 with UNDP's assistance. Once the framework is completed, the SESA will encompass:

- Potential concerns of environmental, socio-economic and institutional effects related to the investment projects
- Review Zambia's regulatory framework on social and environmental safeguards, and recommend where necessary strengthening measures to address the above concerns.
- Provide alternatives in the case of non-realization of key investments
- Recommend a list of environmental and social norms that should be considered as minimum benchmarks for all projects under Zambia's Climate Change Programme
- Provide the basis of an Environmental and Social Management Framework and Plan (ESMF/P) to be used in the implementation of specific SPCR investments.

117. Given the timing of preparation of the SPCR Investment Projects, the SESA is expected to be combined with a specific ESMF for the SPCR investments. The ESMF would ensure that all investments funded under the SPCR would be subject to and comply with the safeguards of the Government of Zambia and participating MDBs. It would also help define the thresholds whereby each SPCR activity might be subject to more detailed environmental or social assessment studies (including resettlement action plans), the likely mitigation measures and capacity building needs, and a monitoring plan for their verification.

118. This Section outlined in detail the strategic SPCR components, their relation to Zambia's Climate Change Programme, and implementation and monitoring arrangements. The next Sections (9-11) summarize the concept notes for the three proposed investment projects under the SPCR.

9. PROPOSED INVESTMENT PROJECT ONE: STRENGTHENING CLIMATE RESILIENCE IN ZAMBIA AND THE BAROTSE SUB-BASIN

Leading MDB: IBRD (World Bank)

Estimated Amount: US\$155.2 (of which US\$30 million grant and US\$20 million concessionary loan from SPCR, US\$36.1 million from Government, and an estimated US\$68.9 million from Programme partners)

Priority SPCR Components Addressed:

Strategic Programme Support;

Participatory Adaptation in the Barotse Sub-Basin

Climate Resilient Infrastructure in the Barotse Sub-Basin

Background and Rationale

119. Although many development partners have committed significant time and resources to climate change in Zambia, the results remain mitigated: vulnerability to climate change and variability is high and rising – particularly along critical river basins – and the proportion of development expenses that can be classified as “climate resilient” has remained constant from 2007-2011. At the same time, the Government of Zambia has shown a high commitment to its emerging Climate Change Programme by mainstreaming climate resilience comprehensively into its next National Development Plan (2011-2015) and by establishing the strategic pillars of its new National Climate Change Programme. This institutional backbone is expected to provide the overall framework under which the growing efforts of various partners can be correctly channelled and coordinated. As the experience of other countries indicates, such a Programme will need to be reinforced over the long-term (7-15 year) to ensure proper inter-sectoral coordination and efficient use of resources. As such, the SPCR proposes to devote significant resources (US\$15 million) to strategic support to the National Programme over a period (initial phase) of 7 years. This national-level support will focus on areas most likely to achieve results over the long-term, while ensuring programme sustainability: mainstreaming of climate resilient into vulnerable economic sectors; reinforcing institutional capacity; and strengthening climate information to users.

120. A National Climate Change Programme needs to be supported by concrete interventions, allowing for impacts through a learning-by-doing approach, which can be replicated and scaled up to the national level. As such, this Project will also focus on strategic interventions on the Barotse sub-basin.

121. The Barotse sub-basin (population 1.1 million in 2010) is one of the most vulnerable areas of Zambia. It comprises the Barotse Floodplain, Zambia’s second largest wetland, a designated Ramsar site, and currently proposed as a World Heritage Site. The Liuwa National Park The Barotse floodplain in the Zambezi is at the center of the livelihoods and culture of the Lozi people, who depend on the floodwaters

for irrigation, fisheries, wildlife, and cultural events. It is the site of the world-renowned Kuomboko ceremony, marking the migration of the Lozi king (the Litunga) and his people to higher lands at the end of the rainy season. The annual floods start around December and reach their peak 3-5 months later, flooding an area of over 1 million ha.

Figure 21. Satellite Map of the Barotse Floodplain



122. The Lozi people have learned to live with floods for centuries, relying on a complex system of canals used for navigation, drainage, and fisheries, and developing an intricate system of natural resource management under the overall patronage of the Litunga and the Barotse Royal Establishment. Traditionally, people living in the flood moved between two houses (one in the plain, one in higher land), but this tradition has been progressively abandoned due to increasing urban-rural migration and changes in livelihood patterns. Economic opportunities besides from agriculture are particularly limiting for the youth, who are typically allocated land furthest from irrigation canals. Traditional systems of canal and natural resources management are also breaking down due to intense logging and fishing (promoted by external interests), increasing concentration of cattle ownership, economic monetization, and conflicts between central government authority and traditional leadership. Vegetation clearing in eastern Angola highlands is also changing hydrology patterns.

Source: NASA

123. Climate change is adding increasing pressure to these already complex anthropogenic trends. Once heavily reliant on traditional early warning signs, Lozi farmers are now increasingly exposed to unpredictable floods, and periods of drought and intense rainfall. The traditional canals built in the late 1880s have become silted and unnavigable, affecting agriculture and fisheries production, and waterlogging is increasingly affecting shallow wells and food crop production.

124. Addressing these challenges effectively will require in-depth studies and participatory development planning endorsed by both traditional and Government authorities. In particular, attention has to be paid to livelihood diversification for the most vulnerable – women, elderly, and the youth – in ways that respect and sustain the delicate environment of Barotse and the Lozi’s socio-cultural traditions. Fortunately, the SPCR counts with the support of several partners – including Concern Worldwide, the Red Cross, the local DMMU committees, and the National Heritage Conservation Commission – who know the sub-basin well and on whose foundations the SPCR can build.

Development Objectives

125. The development objectives of the Strengthening Climate Resilience in the Barotse Sub-Basin/Zambia Project are to (a) strengthen the institutional structure, strategic planning, coordination and awareness for climate resilience in Zambia; and (b) strengthen the adaptive capacity of vulnerable rural communities in the Barotse sub-basin.

Components and Activities

126. The proposed project would have two major components and four sub-components, as follows:

A. Strategic Support to Zambia's Climate Change Programme (estimated cost US\$15 million)

127. This component would provide technical assistance, goods, training and workshops, and incremental operating costs necessary towards achieving the development objective of strengthening the institutional structure, strategic planning, coordination and awareness for climate change resilience in Zambia. It would encompass the activities described on paras. 93-98. of Section 7, under the following sub-components:

A.1 Institutional Support to Zambia's Climate Change Programme (US\$7 million)

A.2 Strengthened Climate Information (US\$8 million)

B. Strengthening Climate Resilience in Barotse

128. This component would provide services, goods, works, training and workshops, and incremental operating costs to strengthen the adaptive capacity of vulnerable rural communities in the **Barotse sub-basin**, under two strategic sub-components:

B.1 Participatory Adaptation (US\$10 million)

129. This sub-component would finance climate resilient Integrated Development Plans and Local Area Plans as described on paras. 72.to 80 of Section 7. It is expected to cover the following 8 districts of the Barotse sub-basin¹⁸:

- Southern Province: Kazungula
- Western Province: Kalabo, Kaoma, Lukulu, Mongu, Senanga, Sesheke, and Shangambo

130. Support to community-based adaptation would be provided through partnerships with qualified NGOs with experience in the target districts. These are expected to include the Red Cross Zambia for work in Kazungula and Sesheke, and Concern Worldwide for selected districts in the Western Province. Other NGOs and/or partners could also be considered if found to be qualified.

¹⁸ Subject to successful implementation, this component may be expanded to further nearby districts (including Zambezi, Kalabo and Chavuma).

131. As mentioned on para. 15-17 and 78, this component would pay particular attention to the needs of the most vulnerable social groups (women-headed households, elderly, the incapacitated and the youth). In particular, it would seek to complement the cash transfer schemes already initiated by DFID on several target districts, by scaling up group-based enterprises. Up to 50 percent of the activities promoted under climate-resilient plans should directly benefit the most vulnerable (see Key Indicators below).

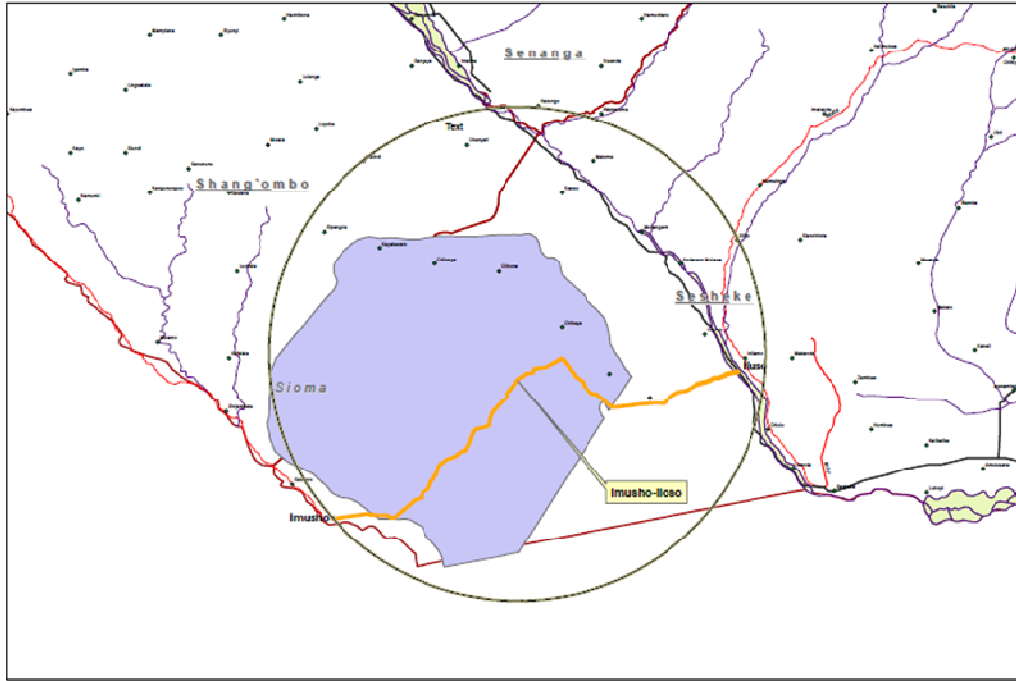
B.2 Climate Resilient Infrastructure (US\$25 million)

132. This component would support highly visible infrastructure investments in the Barotse sub-basin, as well as policy support and studies required to strengthen Climate Resilient Infrastructure at the national level (see Table 15). It is expected to involve:

- **Upgrading the Luso-Imusho road (126 km) to climate resilient standards.** This road links the main road south of Sesheke with Imusho, at Zambian-Angolan border (Figure 22). The access road is often cut by floods from the Kwando River, leaving the Imusho population and other border communities without food, medicines or access to schools for prolonged periods. The road also provides access to the Sioma Ngwezi National Park (500,000 ha), and would therefore be an important vehicle for increased tourism visitation in what is expected to become part of the Kavango-Zambezi Transfrontier Conservation Area, the world's largest planned conservation area. Because of its environmental sensitivity, the road rehabilitation to flood resilient standards would follow a scrupulous environmental and social impact assessment, and would be carried out in close collaboration with key partners working in the region – in particular Peace Parks Foundation and the National Heritage Conservation Commission. The general standards followed would be gravel inside the park (about 78.4 km), and double bituminous standard outside the park (about 47.5 km), to which would be added specific drainage and shoulder improvements to withstand flood conditions.
- **Strengthened Management of Canals to Improve Flood Resilience.** SPCR interventions would provide technical assistance to the engineering design, safeguards assessment, flood and drainage management works, community organization, equipment and incremental operating costs to strengthen the management of strategic canals in the Western Province, expected to include the following (see Figure 23 below):
 - Muoyowamo Canal (28 km), a culturally important canal for the Lozi people, linking the lowland and highland palace of the Litunga (Lealui to Leamulunga) – this is the canal where the annual Kuomboka ceremony is performed.
 - Ngombala Canal (15 km), an important canal for transportation, linking the east and west banks to Kama
 - Mongu-Kalabo Canal (50 km), a strategically important canal for irrigation, flood drainage, and transportation¹⁹
 - Fisheries Canal (4 km)

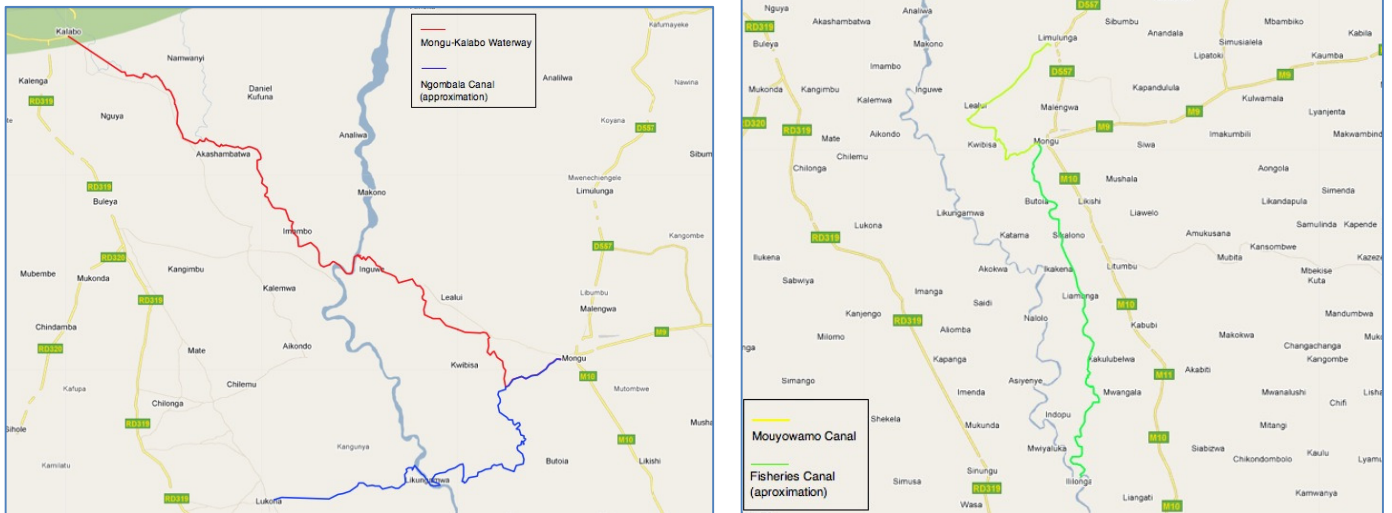
¹⁹ This pre-existent canal is not to be confused with the Mongu-Kalabo road, a controversial project which has proven to be a challenge to complete under the complex hydrological conditions of Barotse. Management of the traditional canal is important not only as a low-cost way of transportation, but for flood management, irrigation and fisheries.

Figure 22. Location of the Lluso-Imusho Road



Source: RDA

Figure 23. Location of Canals in Barotse Sub-Basin targeted for Improved Maintenance under SPCR



Sources: Project Team and Google Earth.

133. Because of their socio-environmental nature, rehabilitation and maintenance of the canals would only be undertaken following a comprehensive safeguards and engineering study, and close consultation with the Barotse Royal Establishment, local stakeholders, and NGOs working at the site (in particular the National Heritage Conservation Commission). Works in the canals would only start after the requisite studies and institutional mechanisms were set in place for their sustainable and participatory O&M.

- **Policy Support and Studies.** This activity would support the requisite engineering and safeguard assessments for the infrastructure works, as well as studies, workshops, and incremental operating costs in support of revised infrastructure design standards and codes of practice at the national level (see para. 87).

Key Indicators

134. The key indicators would follow the SPCR logical framework for the respective components (Annex 1). The main expected results and outcomes are summarized below:

- Allocations to climate resilient programmes increased by 25% in real terms for vulnerable sectors (agriculture, environment and natural resources, energy and water, infrastructure, health and disaster management) by 2020, from 2007-2011 baseline
- National Climate Change and Development Council, with active representation from key Government, civil society and private sector, established and fully operational, effectively managing Zambia's Climate Change Programme
- Harmonized mechanisms to coordinate and manage climate change funds developed and agreed (% growth in internal and external funds managed through Climate Change Programme)
- Information crowdsourcing platform (for two way communication) established, covering 70% of the pilot districts
- Proportion of the rural poor reduced by 35 percent in pilot districts (from an average of 77 percent nationally to 50 percent)
- At least 70 percent of the Integrated Development Plans in pilot districts have been mainstreamed with climate resilience considerations.
- Area under food crops affected by extreme events not more than 30 percent of official annual forecasts.
- At least 50 percent of the climate resilient plans benefit socially vulnerable groups (women, elderly, incapacitated and youths).
- Vulnerability Assessment and Fisheries Management Plan adopted and implemented for the Barotse sub-basin
- Standards and codes of practice for climate-resilient infrastructure developed and applied (km of roads and canals managed under these standards)
- Reduced maintenance costs for transport infrastructure in flood pruned areas (annual routine maintenance costs and years before periodic maintenance required)

Implementation Arrangements

135. The implementation arrangements would follow the structure of Zambia's National Climate Change Programme and the specific arrangements for the SPCR (paras. 102-106.) with MoFNP taking overall executing responsibility:

- The Institutional Support to Zambia's Climate Change Programme would be implemented by the future National Climate Change Development Council
- The Strengthened Information sub-component would be coordinated by the NCCDC, with delegated implementation to the Meteorological Department and DMMU
- The Participatory Adaptation sub-component would be implemented directly by District Councils and/or Local Area Committees, under the guidance of qualified NGOs, and oversight of Provincial technical sub-committees (DMMU) and the Climate Resilient Agriculture platform of the NCCDC.
- The Climate Resilient Infrastructure sub-component would be implemented by RDA (for roads) and the Maritime Department (for canals) in close collaboration with provincial authorities and NGO partners, and overall (national) guidance of the Climate Resilient Infrastructure platform.

Indicative Costs for Investment Project 1

Component/Sub-Component	PPCR Funding	Co-Financing	Total Costs
	US\$ Million		
A. Strategic Support to Zambia's Climate Change Programme	15.0	30.7	45.7
A1. Institutional Support to Zambia's Climate Change Programme	7.0	29.2	36.2
Mainstreaming Climate Resilience	0.7		
Priority Applied Studies	0.5		
Capacity Building and Knowledge Sharing	2.8		
Management of External Resources and Climate Risk Financing	1.0		
Incremental Operating Costs of NCCDC	2.0		
A.2 Strengthened Climate Information	8.0	1.5	9.5
Assessment of Gaps and Weaknesses	0.7		
Strengthened Institutional and Operational Framework	1.0		
Upgrading Climate Infrastructure	4.0		
Developing of Early Warning Systems	2.3		
B. Strengthening Climate Resilience in Barotse	35.2	64.6	99.8
B.1 Participatory Adaptation	10.0		
Community-Based Adaptation	8.0		
Support to Community-Based Adaptation	2.0		
B.2. Climate Resilient Infrastructure	25.2		
Pilot Climate Resilient Infrastructure Investments	24.2	9.7	33.9
Preparatory Studies (Advanced under PPG)	2.0		
Road	15.2	8.3	
Canals	7.0	1.4	
Revision of Design Standards and Codes of Practice	1.0	--	1.0
Total Investment Project 1	50.2	105.0	155.2

10. PROPOSED INVESTMENT PROJECT TWO: STRENGTHENING CLIMATE RESILIENCE IN THE KAFUE RIVER BASIN

Leading MDB: African Development Bank (AfDB)

Estimated Amount: US\$216.8 million (of which US\$20 million grant and US\$25 million concessionary loan from SPCR, US\$ 81.9 million from Government, and an estimated US\$ 89.9 million from Programme partners)

Priority SPCR Components Addressed:

Participatory Adaptation in the Kafue River Basin;

Climate Resilient Infrastructure in the Kafue River Basin

Background and Rationale

136. The Kafue River Basin plays a central role in Zambia’s economy boasting most of country’s mining, industrial, and agricultural activities. Approximately 50% of Zambia’s total population is concentrated within the basin area which occupies approximately 20% of Zambia’s total land area. Despite the Basin’s importance to the economy of the country, the area experiences extreme events such as floods, drought, disease, flood induced landslides, and pollution from industrial and sanitation effluents. . Climate change and variability is expected to exacerbate these events.

137. The Kafue River Basin is a sub-basin of the Zambezi River Basin and a headwater catchment located entirely within Zambia. Rainfall and runoff are comparatively high, averaging 1,050 millimeters and 12,913 km³ per year, respectively. The highest flows usually occur in March and are estimated to be 9,715 km³. During the worst drought on record, runoff volume was only 3,266 km³ per year. Withdrawal and demand for irrigation water is estimated to be 536 km³ per year—among the highest totals in the Zambezi River Basin with significant agriculture potential which has not been fully utilized. Furthermore, a substantial amount of hydropower is generated in the Basin from the Kafue Gorge Upper (KGU) and Kafue Gorge Lower (KGL). Releases from the upstream Itezhi Tezhi Dam (ITT) regulate power generation. Between the ITT and KGU lies the ecologically important Kafue Flats – host to the Kafue National Park which is presently Africa’s second largest national park in Africa and largest in Zambia.

138. **Floods:** During times of peak flow, the Kafue River experiences riverine flooding that can become quite extensive in some areas disrupting economic activities and making roads impassable (damaged bridges, culverts, and other transport infrastructure). The impacts of climate change are projected to increase the variability of precipitation hence exacerbating this situation. A strategy for flood management in the Kafue Basin was prepared in 2006 and translated into short-, medium-, and long-term action plans (see WMO/GRZ/APFM 2006 for more details). In 2007 and 2008, Zambia experienced widespread floods –

the 2008 floods being more severe, more widespread, causing greater damage. Rainfall came early in the season to most parts of Zambia (early November), especially in the southern half of the country. The northern half experienced delayed onset (last 10 days of December 2008). Heavy rainfall in the southern half of the country also caused localized flash floods in the Zambezi and Luangwa valley areas. **Droughts:** Recent studies²⁰ show that the frequency of droughts in Zambia is currently about 0.19 times a year indicating that historically a drought have occurred about once every five years.

Development Objectives

139. The development objectives of the Strengthening Climate Resilience in the Kafue River Basin to: strengthen the adaptive capacity of vulnerable rural communities to respond to climate change and variability in priority areas of the Kafue River Basin.

Components and Activities

140. The Project will have two mutually reinforcing components focusing on **participatory adaptation** and **climate-resilient infrastructure** in the Kafue River Basin as described below:

A. Participatory Adaptation (US\$ 20 million)

A.1. Community-Based Adaptation (US\$ 16 million)

141. This sub-component will focus on fostering sustainable water and land management, agricultural and pastoral practices that help local communities' to better address the current and future impacts of climate change and variability. It would finance climate resilient Integrated Development Plans and Local Area Plans as described on paragraphs 72 to 80 of section 7, targeting the following 16 districts:

Central Province: Chibombo, and Mumbwa

Copperbelt Province: Luanshya, Lufwanyama, Masaiti, Mpongwe and Mufulira

Lusaka Province: Kafue

North-Western Province: Solwezi, and Kasempa

Southern Province: Choma, Itezhi-Tezhi, Kalomo, Mazabuka, Monze, Namwala

142. Similarly to Investment Project 1, this component would target at least 50 percent of activities under the climate resilient plans to benefit directly the most vulnerable (women-headed households, elderly, the incapacitated and the youth). This target would be monitored as a key project indicator (see Key Indicators below).

²⁰ OFDA/CRED, 2007

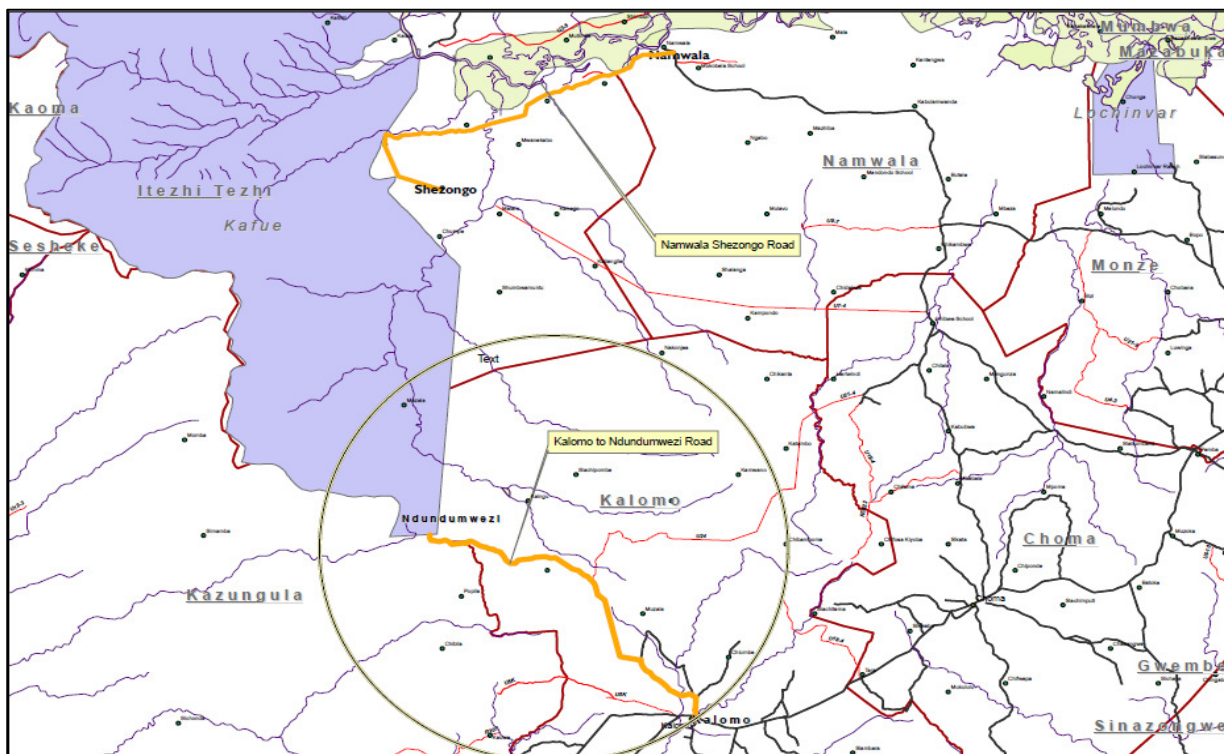
A.2. Support to Community-Based Adaptation (US\$ 4 million)

143. This sub-component will help build community capacity to prepare and implement the Integrated Development Plans and Area Development Plans as well as, for the review and monitoring of the plans provided by platforms at the provincial and national levels. The support will be provided through partnerships with qualified NGOs with experience in the target districts. These are expected to include the Millennium Challenge Account, DfID, Norway, NORAD and World Fish.

B. Climate Resilient Infrastructure (US\$ 25 million)

144. This component will support upgrading and climate proofing highly visible roads approximately 167 km all weather double bituminous access roads from Victoria Falls to Kafue National Park, 103km all weather double bituminous M9 to Itezhi Thezi road and 300km all weather gravel road within the Kafue National Park (Figure 24). Upgrading and rehabilitation will involve three activities, (i) pavement rehabilitation, (ii) shoulder improvements and (iii) drainage.

Figure 24. Location of the Kalomo-Ndundumwezi Road and Namwala-Shezongo Road



Source: RDA

Key Indicators

145. The key indicators would follow the SPCR logical framework for the respective components (Annex 1). The main expected results and outcomes are summarized below:

- Proportion of the rural poor reduced by 35 percent in pilot districts by 2015 (from an average of 77 percent nationally to 50 percent)
- Area under food crops affected by extreme events not more than 30 percent of official annual forecasts.
- At least 70 percent of the Integrated Development Plans in pilot districts have been mainstreamed with climate resilience considerations.
- Integrated Water Resource Management Plan adopted and implemented for the Kafue River Basin
- At least 50 percent of the climate resilient plans benefit socially vulnerable groups (women, elderly, incapacitated and youths).
- km of roads rehabilitated to climate resilient standards
- Reduced maintenance costs for key transport infrastructure in flood prone areas(annual routine maintenance costs and years before periodic maintenance required)

Implementation Arrangements

146. The implementation arrangements would follow the structure of Zambia’s National Climate Change Programme and the specific arrangements for the SPCR (paras. 102-106.) with MoFNP taking overall executing responsibility:

- The Institutional Support to Zambia’s Climate Change Programme would be implemented by the future National Climate Change Development Council
- The Participatory Adaptation sub-component would be implemented directly by District Councils and/or Local Area Committees, under the guidance of qualified NGOs, and oversight of Provincial technical sub-committees (DMMU) and the Climate Resilient Agriculture platform of the NCCDC.
- The Climate Resilient Infrastructure sub-component would be implemented by RDA (in close collaboration with provincial authorities and NGO partners, and overall (national) guidance of the Climate Resilient Infrastructure platform.

Indicative Costs for Investment Project 2

Component/Sub-Component	PPCR Funding	Co-Financing	Total Costs
	US\$ Million		
A. Participatory Adaptation	20.0	81.9	101.9
A.1 Community Based Adaptation	16.0		
A.2 Support to Community Based Adaptation	4.0		
B. Climate Resilient Infrastructure	25.0	89.9	114.9
Road upgrading and rehabilitation	25.0	89.9	114.9
Revision of Design Standards and Codes of Practice	1.0	--	1.0
Total Investment Project 2	45.0	171.8	216.8

11. PROPOSED INVESTMENT PROJECT THREE: PRIVATE SECTOR SUPPORT TO CLIMATE RESILIENCE

Leading MDB: IFC (International Finance Corporation)

Estimated Amount: US\$55 million (of which US\$15 million loan from SPCR, US\$13.5 from IFC, and an estimated US\$27 million from development partners)

Priority SPCR Components Addressed:

Component 3, Strategic Programme Support, sub-component 3.3 Private Sector Support

Background and Rationale

147. The private sector underpins a country's economic growth and stability. In order to effectively contribute to and engage in programmes related to building climate resilience, private sector companies need to have the knowledge, capacity and financial incentives necessary to embark on appropriate and timely climate resilience building interventions. The result will be maintaining the country's economic and social prosperity.

148. Through existing regional efforts of the IFC and in partnership with the PPCR, the IFC have been working with appropriate private sector stakeholders (including finance and insurance companies, ICT companies and companies involved in the agriculture and industry sectors within Zambia) to design and implement private sector-based climate resilience projects in line with the Zambia SNDP and considered under the Zambia SPCR.

149. This sub-component will support four strategic areas of private sector involvement in the SPCR concept (see paras. 99-100 for further information), as identified through the robust consultations with appropriate stakeholders from the public, private sector, international organizations and civil society.

Development Objectives

150. The key development objective of this project would be **to promote private sector investment in climate resilient activities, in direct support to SPCR priorities**. Specific objectives would include:

- (i) to improve the capacity of the private sector to use risk modeling to assess climate change risk within all the SPCR projects and sub-basins;
- (ii) to increase the resilience of the agricultural private sector to climate change via weather index-based insurance products;

(iii) to incentivize the private sector to invest in climate resilience building through the development of new financial mechanisms; and

(iv) to identify and initiate private sector investments in alignment with the three SPCR platforms.

Components and Activities

The project would consist of four components and several activities, as follows:

Component 1: Private Sector Engagement

151. Conduct a feasibility study on the engagement of the private sector in building climate resilience in the agriculture sector and in the natural capital of priority sub-basins. This will include investigations into:

- appropriate technologies for disseminating climate information;
- appropriate investments for improving water use efficiency in agriculture; and
- management of natural resources in the face of climate change in a commercially viable manner.

As well as conducting climate change sensitization and awareness-raising seminars targeting specific private sector players.

Component 2: Climate Information and Dissemination Networks (weather, technical and market information to farmers) through Mobile Telecommunication Technology

152. Access to information is of fundamental importance for economic growth, for implementing climate resilience plans and for managing disaster risks. In Zambia such access to information is in many areas very limited. The implication of this in the agriculture sector, for example, is that farmers are often left without adequate forecasts and at the mercy of erratic weather, disease and pest outbreaks. Where there are good growing conditions, farmers may not have access to price information that could assist negotiations with buyers or with decisions on which markets to use.

153. A reliable and well-paying market will maintain farmer productivity. A productive community engaged in sustainable food production is likely to protect the environment that sustains its livelihood and thereby ensure improvements in the climate resilience within such an area. ICT will underpin access to information for climate resilience building. For example, mobile phone technology is being used in many countries as a strong platform for providing information to farmers about weather conditions and prevailing market information.

154. IFC has invested in ESOKO (www.esoko.com). This company provides, via mobile phones, market and technical information to farmers on crop prices and good farming practices in Ghana (HQ), Benin, Burkina Faso, Cameroon, Ivory Coast, Madagascar, Mali, Togo and Sudan. At present, this mobile phone platform offers solutions to governments, businesses and association groups in the area of market indexing, extension services/training, data collection/dissemination. The ESOKO platform is presently extending its involvement in provision of weather information to enhance climate resilience in the

agriculture sectors. Esoko and other companies that can provide mobile phone platforms will be approached to determine the feasibility of a commercial roll-out of such a platform in Zambia. The activities proposed under this component would include:

- Determine the feasibility of establishing a mobile phone platform in the private sector in Zambia.
- Develop appropriate public-private sector partnerships to facilitate the establishment of a mobile phone platform that provides market, technical and weather information to farmers.

Component 3: Agricultural Weather Index-Based Insurance Assessment

155. Despite the fact that up to 80% of the Zambian population is dependent on agriculture for their livelihoods, access to agricultural insurance is limited within the country. As a result, poor risk management measures exist and there is macroeconomic vulnerability to catastrophic weather risks. Having a functional market for weather index-based insurance products in place is critical for building resilience in the face of climate change-related catastrophes.

156. Within the context of this project, the IFC Global Index Insurance Facility (GIIF) in partnership with the Zambian PPCR team, seeks to provide beneficiaries with a comprehensive and commercially sustainable weather index-based insurance product for flood and drought risks in Zambia. Assuming that such products are financially viable, the project will provide capacity building for index-based micro-insurance in Zambia. This will consist of developing all operational, distribution and technical aspects of an affordable and sustainable index-based insurance product for flood and drought risks. The activities proposed under this component would include:

- Conduct a feasibility study of weather index-based insurance in the agriculture sector in Zambia.
- Based on the feasibility study results, design and implement (if appropriate) a commercially sustainable index-based product for flood and drought micro-insurance.

Component 4: Microfinance Promotion

157. Promoting access to microfinance to expand livelihood opportunities (particularly for youth and women's groups) is seen as one of the most important strategies to break the cycle of poverty in rural communities; and in turn to build climate resilience. This component will promote microfinance services and a line of credit in support of livelihood diversification in areas covered by the Participatory Adaptation component. The activity will be carried out in partnership with IFC and appropriate private sector partners in the microfinance sector. The activities proposed under this component would include:

- Promote microfinance services and a line of credit in support of livelihood diversification in areas covered by the Participatory Adaptation component.
- Develop and implement a model enhancing access to microfinance to expand livelihood opportunities focused predominantly on youth and women's groups.

Key Indicators

158. The key indicators would follow the SPCR logical framework (Annex 1). The main expected results and indicators are summarized below:

- Number of and extent to which private sector is involved at the end of the PPCR (target size for the two sub-basins: US\$10 million)
- Number, extent and reach of the climate information platform established (target number of farmers using the SMS-based platform: 2,000 farmers)
- Scope and degree of implementation of an Agricultural Weather Index-based Insurance plan, and accessibility of the insurance product to the most vulnerable groups (number of farmers using weather based insurance product by the end of the project: 800 farmers)
- Number of recipients and beneficiaries of the micro-finance schemes (number of livelihood-enhancing schemes approved, relative to the total village population in the sub-basins: target 1 scheme per 1,000 villages).

159. As per Investment Projects 1 and 2, it is expected that a significant proportion (at least 50 percent) would benefit the most vulnerable, in particular women and youth groups.

Table 17. Anticipated Key Indicators and Baseline

Activities	Indicator (s)	Baseline	Intended Target	Intended Impact (s)
Private Sector Engagement.	Number of and extent to which private sector is involved at the end of the PPCR.	Zero involvement of private sector in climate resilience activities within targeted districts.	Target size of investments by private sector in climate resilient activities in the two sub-basins: an additional US\$10 million	Improved and better private sector involvement in climate resilience building/interest in climate risk action.
Strengthened Climate Information and Dissemination Networks.	Number, extent and reach of the climate information platform established.	Zero plan being implemented at the national and provincial levels, and within targeted districts for climate information dissemination through public or private sector.	Target number of farmers using the SMS-based platform: 2,000 farmers	Tangible and sustainable social and economic benefits to communities and Zambia's climate resilience; especially with respect to the most vulnerable groups.
Agricultural Weather Index-based Insurance Assessment.	Scope and degree of implementation of an Agricultural Weather Index-based Insurance plan, and accessibility of the insurance product to the most vulnerable groups.	Zero assessment or record of an Agricultural Weather Index-Based Insurance plan.	Number of farmers using weather-based insurance products by the end of the project: 800 farmers	Improved management of weather risk in the agricultural sector using insurance.
Microfinance Promotion.	Number of recipients and beneficiaries of the scheme.	Limited access to microfinance.	Number of livelihood-enhancing schemes approved, relative to the total village population in the sub-basins: 1 scheme per 1,000 villages	Reduced poverty and increased livelihood.

Implementation Arrangements

160. The project would be implemented by the respective IFC private sector partners. To ensure close coordination with the other SPCR Investment Projects and coherence with the programmatic logical framework, IFC would participate actively in key multi-stakeholder platform discussions and ensure the reporting of regular results to the Secretariat of the Zambia National Climate Change Programme.

Indicative Costs for Investment Project 3

Component/Activity	PPCR Funding	Co-Financing		Total Costs
		US\$ Million		
		IFC	Private Sector Partner	
1. Private Sector Engagement	8.2	7.7	15.4	31.3
Investigate/implement appropriate technology for disseminating climate information	1.0	1.0	2.0	4.0
Investigate/implement appropriate investments for improving water use efficiency in agriculture	2.7	2.7	5.4	10.8
Investigate/implement management of natural resources in the face of climate change in a commercially viable manner	4.0	4.0	8.0	16.0
Conduct climate change sensitization and awareness raising seminars targeting specific private sector players	0.5	--	--	0.5
2. Climate Information and Dissemination Networks	1.8	1.5	3.0	6.3
Determine the feasibility of establishing a mobile phone platform in the private sector in Zambia	0.3	--	---	0.3
Develop appropriate public-private sector partnerships to facilitate/implement the establishment of a mobile phone platform that provides market, technical and weather information to farmers	1.5	1.5	3.0	4.5
3. Agriculture Weather Index Based Insurance Assessment	2.0	1.6	3.2	6.8
Conduct a feasibility study of weather index-based insurance of the agriculture sector in Zambia	0.4	--	---	0.4
Design and implement (if viable) a commercially sustainable index-based product for flood and drought micro-insurance	1.6	1.6	3.2	6.4
4. Microfinance Promotion	3.0	2.7	5.4	11.1
Promote microfinance services and a line of credit in support of livelihood diversification in areas covered by the Participatory Adaptation component (Kafue and Barotse sub-basins)	0.3	----	---	0.3
Develop and implement a model enhancing access to microfinance to expand livelihood opportunities focused predominantly on youth and women's groups	2.7	2.7	5.4	10.8
TOTAL Investment Project 3	15.0	13.5	27.0	55.5

PART 3

REQUEST FOR PROJECT PREPARATION FUND

Overview

161. The Government of Zambia is requesting US\$50 million of PPCR grant financing and US\$60 million in PPCR concessionary loans under three separate, stand-alone investment projects. As required under the PPCR guidelines, detailed project concepts for the three projects and their cost estimates, financing plan, implementation arrangements, and the specific requests for grants and concessional finance from the PPCR have been provided in Part2 of this document.

162. Of the proposed projects, Investment Projects 1 and 2 would involve public works in environmental and socially sensitive areas, the Kafue and Barotse sub-basins. To correctly design these works, complex engineering and safeguard studies will need to be undertaken which take into consideration the hydrology, hydrographic, geomorphological and socio-economic conditions of the two sub-basins. To fund these detailed studies, the Government of Zambia is requesting conservatively a Project Preparation Fund advance (to come out of the overall SPCR allocation for Zambia), estimated at US\$1 million per sub-basin or a total of US\$2 million. The remainder institutional and participatory project preparation process would be covered under the on-going Phase I grant. To ensure coordination, this PPG would be managed as a single Trust Fund, executed by the Ministry of Finance and National Planning, and administered through IBRD. The TOR for these related studies and assessments will be developed during the project planning.

Pilot Programme for Climate Resilience Project/Programme Preparation Grant Request			
1. Country/Region:	Zambia, Africa	1. CIF Project ID#:	(Trustee will assign ID)
3. Project Name:	<i>Project 1: Strengthening Climate Resilient in Zambia/Barotse (IBRD)</i> <i>Project 2: Strengthening Climate Resilient in the Kafue River Basin-AfDB</i> <i>Project 3: Private Sector Support to Climate Resilience (IFC)²¹</i>		
4. Tentative Funding Request (in USD million total) for Project at the time of SPCR submission (concept stage):	<i>Loan:</i> <i>Project 1: US\$20.0 million</i> <i>Project 2: US\$25.0 million</i> <i>Project 3: US\$15 million</i>	<i>Grant:</i> <i>Project 1: US\$ 30.0 million</i> <i>Project 2: US\$ 20.0 million</i>	
5. Preparation Grant Request (in USD million):	<i>US\$1.0 million to prepare Project 1 and US\$1.0 million to prepare Project 2 (combined under a single PPG Advance against Project 1)</i>		<i>MDB: IBRD</i>

²¹ The PPG would only encompass Projects 1 and 2.

6. National Project Focal Point:	<p><i>Ms. Monde Sitwala</i> <i>Deputy Director, Economic Management Department</i> <i>Ministry of Finance and National Planning, Government of Zambia</i></p> <p><i>Ph. 260-251105/+260 979965337</i></p>
7. National Implementing Agency (project/Programme):	<p><i>Ministry of Finance and National Planning, Government of Zambia</i></p>
8. MDB PPCR Focal Point and Project/Programme Task Team Leader (TTL):	<p><i>MDB Focal Point:</i> <i>Sofia Bettencourt, Lead Operations Officer and TTL,</i> <u>sbettencourt@worldbank.org</u></p>

9. Description of activities covered by the preparation grant:

The preparation grant will finance detailed feasibility and environmental and social assessments for the investments proposed under Investment Projects 1 and 2, in the pilot districts of the Kafue and Barotse sub-basins. The planned interventions – particularly those related to the Climate Resilient Infrastructure – are located in sensitive areas from an environmental and social perspective. In Kafue, the proposed road rehabilitation leads to and from the Kafue National Park, Zambia’s largest conservation area. In Barotse, the proposed road and canal management to climate resilient standards would involve a Ramsar site and a proposed World Heritage and Transfrontier Conservation area. This area is also inhabited by the indigenous Lozi people, who follow an intricate system of traditional resource management. While the activities proposed under Participatory Adaptation are primarily of a community-driven development type, those under Climate Resilient Infrastructure need to be designed with close attention to the complex hydrology and geomorphology of the sites, in order not to correctly address flood risks. Such a feasibility study – involving detailed engineering and (likely) aerial and satellite imagery, will need to be carried out over several seasons. The feasibility study will need to be accompanied by a detailed Environmental and Social Impact Assessment (including local consultations) meeting the highest standards of MDBs and Government of Zambia’s requirements. To ensure that these studies are correctly oriented, the national team will involve key stakeholders such as the Barotse Royal Establishment, National Heritage Conservation Commission, Peace Parks Foundation, Concern Worldwide and the Red Cross, and local authorities.

Specifically, the PPG will fund:

- (i) A detailed feasibility study of the targeted areas proposed for rehabilitation and strengthened management under the Climate Resilient Infrastructure component.
- (ii) Development of an implementation plan, modality, timeframe, detailed costing and monitoring framework
- (ii) Detailed Environmental and Social Impact Assessment for the proposed works (EIA and SIA)
- (iii) Specific safeguard documents as indicated by the projects’ Environmental and Social Management Frameworks and Strategic Environmental and Social Assessment
- (vi) Focus group discussions and stakeholder consultation verify and validate and monitor the conclusions of the above studies.

A separate Environmental and Social Assessment Framework, covering the proposed investments under the Participatory Adaptation component, is expected to be funded under the existing PPCR Phase I.

To facilitate the administrative burden of processing the PPG and ensure that the Government’s preparatory actions are well coordinated, the PPG would be processed as a single grant (covering studies necessary for the preparation of Investment Projects 1 and 2) administered through IBRD and executed by MoFNP. This advance is noted under “Preparatory Studies” in the Indicative Costs for Investment Project 1.

Proposed Investments & Technical Assistance	Estimated Cost Of preparation Funds	Activities to be funded	Estimated Cost of Proposed Project	Financing/Co-financing for Investment Project(s) (\$ Millions) PPCR	
				Grant	Loan
<i>Strengthening Climate Resilient in Zambia and in the Barotse Sub-Basin</i>	1,000,000	Assessments Feasibility studies Workshops and consultations	50	30,000,000	20,000,000
<i>Strengthening Climate Resilient in the Kafue River Basin-AfDB</i>	1,000,000		45	20,000,000	25,000,000

10. Outputs:

Deliverable	Timeline
(a) Terms of Reference and Request for Proposals for Feasibility Study	October 2011 ¹
(b) Terms of Reference and Request for Proposals for detailed EIA and SIA	September 2011 ¹
(c) Completion of Feasibility Study (including geomorphology, hydrology and hydrographic assessments)	November 2011-December 2012 ²
(d) Completion of EIA/SIA	November 2011-August 2012
(e) Final stakeholder consultations	August-September 2012
(f) Implementation Plan	November-December 2012

¹ This takes into account the realistic expected time for PPG activation (2-3 months)

² This takes into account the time required for competitive bidding and the need to do surveys in multiple seasons

11. Budget (indicative):

Expenditures	Amount (USD) - estimates
Assessments/Studies (Consultancy Services)	
1. Feasibility Study (including implementation plan)	1,200,000
2. EIA/SIA (including stakeholder consultations)	700,000
Contingencies (max. 10%)	100,000
Total Cost	2,000,000
Other contributions:	
Government	75,000 (in-kind staff time)
PPCR Phase I	200,000 (Environmental and Social Assessment Framework and local consultations)
IBRD	50,000 (Bank Budget and in-kind staff time)

12. Timeframe (tentative)

Submission of pre-appraisal document for PPCR Sub-Committee Approval: September 2012
Expected Board/MDB Management approval date: February 2013¹

¹The expected mandatory time from finalization of safeguard documents to Board is 120 days

13. Other Partners involved in PPG design and implementation: Ministry of Finance and National Planning; Ministry of Tourism, Environment and Natural Resources (especially through its specialized agencies Zambia Environmental Management Agency and Zambia Wildlife Authority); Ministry of Works and Supply (Roads Development Agency); National Heritage Conservation Commission; Ministry of Communications and Transport (Maritime Department); Barotse Royal Establishment; Provincial Development Coordinating Committees; District Councils; Concern Worldwide; Red Cross – Zambia; Peace Parks Foundation; World Fish; Local Communities and Villages; Private Sector Contractors, IBRD and AfDB

14. If applicable, explanation for why the grant is MDB executed: N/A (the Grant will be recipient-executed)

15. Implementation Arrangements (incl. procurement of goods and services):

The Grant will be executed by the Ministry of Finance and National Planning who is also the leading focal agency under the SPCR. MoFNP designated procurement officer would prepare the bidding documents in accordance with World Bank procedures and an agreed procurement plan. In order to ensure the quality required under the PPCR, the likely procurement method would be quality-based selection.

The Terms of Reference for the study would be prepared by the MoFNP staff responsible for the PPCR, in close consultation with the above stakeholders (in particular with Zambia Environmental Management Agency, the Roads Development Agency, the Maritime Department, Provincial authorities, Zambia Wildlife Authority and the National Heritage Conservation Commission.

Since financial management and procurement assessments have already been carried out for Phase I, they would simply be updated for the purposes of the PPG. Standard financial management, disbursement and auditing requirements, already specified in the Phase I Grant documentation, would apply.

ANNEXES

(see separate Volume)

Annex 1: Detailed SPCR Performance Monitoring Table

Annex 2: List of Stakeholders involved in Climate Resilience in Zambia

Annex 3: Zambia PPCR Participatory Process

Annex 4: Institutional and Financial Management Assessment

Annex 5: Key Complementary Projects supported by Development Partners Promoting Climate Resilience in Zambia

Annex 6: Government Programmes Mainstreamed in the 2011-2015 SNDP and Draft Budget Tracking Tool

Annex 7: Summary Report on Implementation of Phase 1

NOTE: Annexes 2-7 can be found on the Annexes Volume of the SPCR Zambia Submission

ANNEX 1. DETAILED SPCR PERFORMANCE MONITORING TABLE

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
PROGRAMME DEVELOPMENT OBJECTIVE				
To mainstream climate change in the most economically important and vulnerable sectors of the economy	Increased proportion of national budget allocated to climate resilient programmes in vulnerable sectors	Allocations to climate resilient programmes increasing by 25% in real terms for vulnerable sectors (agriculture, environment and natural resources, energy and water, infrastructure, health and disaster management) by 2020, from 2007-2011 baseline	Ministry of Finance and National Planning Yellow and Blue Books (Annual Budgets)	Zambia Climate Change Network and MoFNP
COMPONENTS				
1. Participatory Adaptation				
To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability in priority areas of the Kafue and Barotse sub-basins	1.1 Significant progress in reducing population vulnerability in the two sub-basins	Proportion of poor in pilot districts reduced by 35% by 2015 (in accordance with SNDP targets for reduction of rural poverty)	Central Statistics Bureau	Secretariat
	1.2 Reduction in crop area affected by floods and droughts in similar intensity events in the two sub-basins	Area under food crops affected by extreme events not more than 30% of official annual forecasts in pilot districts	MACO and CSO statistics	Secretariat
2. Climate Resilient Infrastructure				
To strengthen climate resilient infrastructure policies and pilot their effective implementation	2.1. Standards and codes of practice for climate-resilient infrastructure developed and adopted	Km (and %) of roads complying with climate resilient standards	RDA records	DMMU and RDA

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	2.2 Improved drainage and flood management control in key roads and canals	# flooded days/year	Provincial records	DMMU and RDA
	2.3 Reduced routine and periodic maintenance costs for key transport infrastructure in flood prone areas	Annual routine maintenance costs # years before periodic maintenance requirements for key roads and canals	Provincial records	RDA and Maritime Department
3. Strategic Programme Support				
To strengthen the institutional structure, strategic planning, coordination and awareness for climate resilience in Zambia	3.1 National Climate Change Development Council established and fully operational, effectively managing Zambia's Climate Change Programme	NCCDC established by decree, with regular budget allocations and a Board composed of representatives of Government, civil society and private sector	NCCDC Records	Secretariat
	3.2. Harmonized mechanisms to coordinate and manage climate change funds developed and agreed	Establishment and annual budget of contingency fund % growth in internal and external funds managed through Climate Change Programme	NCCDC Records	MoFNP and Secretariat
	3.3 Strengthened climate change information and early warning system in the two sub-basins, supporting timely, user friendly and accurate information	Information crowdsourcing system (two way communication) established and operational, covering 70% of pilot districts	NCCDC and DMMU records	Climate Information Platform
	3.4 Increased private sector investment in climate-resilient activities in the two sub-basins	Amount of investment by private sector in climate resilient projects in two sub-basins (target US\$10 million)	IFC Records	NCCDC and IFC
SUB-COMPONENTS	OUTCOMES			
1. Participatory Adaptation	1.1.1 Climate resilience effectively mainstreamed into integrated development plans (IDPs)	At least 70% of IDP have been mainstreamed with climate resilience considerations	NCCDC Records	Climate Resilient Agriculture Platform
	1.1.2. Integrated Water Resource Management Plans developed and implemented in the sub-districts	IWRMP adopted and implemented in the Kafue Sub-Basin Vulnerability Assessment and Fisheries Management adopted and implemented in the Barotse Sub-Basin	NCCDC Records	Climate Resilient Agriculture Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	1.1.3 Vulnerable Social Groups effectively participate in climate resilient activities	<ul style="list-style-type: none"> - At least 50% of climate resilient funding for IDPs and Local Development Plans benefit socially vulnerable groups - Estimated # and % of women, elderly, incapacitated and youths benefiting from SPCR activities - % of vulnerable population covered under cash transfers 	<p>NCCDC Records</p> <p>DFID Records</p>	<p>Partner NGOs and Climate Resilient Platform</p> <p>Partners supporting cash transfers</p>
	1.1.4. Diversified agriculture and sustainable NRM introduced in pilot sites	<p># and % of Farmers Practicing:</p> <ul style="list-style-type: none"> - Sustainable Land Management - Agroforestry - Community-based NRM - Grassland management - Climate resilient crop varieties - Aquaculture - Outgrower schemes supporting climate resilience <p>% of total district land under above practices</p>	<p>Provincial and District Agricultural Office Records</p> <p>Local Forestry Records</p>	Climate Resilient Agriculture Platform and Partner NGOs
	1.1.5 Major social infrastructure upgraded to climate resilience	<p># and type of climate resilient social infrastructure supported by SPCR funds, viz:</p> <ul style="list-style-type: none"> - Water harvesting - Canals - Drainage - Schools - Health centers, etc. 	District Council records and provincial and district DMMU	Agriculture Platform and Partner NGOs
	1.1.6 Improved community preparedness during extreme events	<ul style="list-style-type: none"> - # and % of Districts completing Vulnerability Assessments - # of % of DMMU Satellite Committees operational, with adopted contingency plans for extreme events - # of DMMU Satellite Committees trained in disaster simulation 	Provincial DMMU Records	Agriculture Platform and Provincial DMMU

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
2. Climate Resilient Infrastructure	2.1.1. Climate resilience mainstreamed into revised civil works standards, regulations and EIA processes	Updated climate-resilient safety standards adopted for: - Major transport infrastructure - Other civil works	MWS and Bureau of Standards records	Climate Resilient Infrastructure Platform
	2.1.2. Strategic infrastructure vulnerability assessments completed in the two sub-basins	# Assessments and Management Plans developed, identifying types of vulnerabilities and type of infrastructure upgrading to be carried out	NCCDC Records	Climate Resilient Infrastructure Platform (and RDA)
	2.1.3. Awareness and training activities implemented for contractors and regulators	# of awareness and training sessions for (a) contractors; (b) policy makers Materials developed	MWS and NCCDC Records	Climate Resilient Infrastructure Platform
	2.1.4. Review of standard procurement bidding documents to incorporate climate resilience	Extent to which new requests for Proposals/bidding documents incorporate climate resilience and/or strengthened procurement methods (eg. OPRCs)	MWS and Ministry of Communications and Transport (MCT) Records	Climate Resilient Infrastructure Platform
	2.1.5 Climate resilience incorporated into EIAs and SEAs	Environmental Impact Assessment standards for key civil works (particularly transport) incorporate climate resilience requirements	MWS records	Climate Resilient Infrastructure
	2.1.5 Roads and canals rehabilitated to climate resilience standards	- Km of road rehabilitated to climate resilience standards (and type of interventions) - Km of canals and waterways rehabilitated - Trend in maintenance costs (for climate resilient and control infrastructure)	MWS and MCT records	Climate Resilient Infrastructure
3.1. Institutional Support to Zambia's Climate Change Programme	3.1.1. Climate resilience mainstreamed into key national and sectoral policies, regulations and strategies	- # and type of policies, strategies, and regulations mainstreamed	NCCDC Records	Secretariat
	3.1.2. Priority applied studies with direct relevance to climate resilience completed and disseminated	- # and type of applied studies completed and disseminated	NCCDC Records	Secretariat

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
3.1 Institutional Support to Zambia's Climate Change Programme (Cont'd)	3.1.3. Climate change platforms formalized and meeting regularly	<ul style="list-style-type: none"> - Decree formalizing platforms - # of Platforms meeting regularly (and regularity of meetings) - # of stakeholder groups represented - Platform working plans developed and implemented 	NCCDC Records	Secretariat
	3.1.5. Climate Change champions effectively contributing to Zambia's Climate Change Programme	<ul style="list-style-type: none"> - # of climate change champions sponsored - Type of sponsorship (e.g training, event, conference) - Competition events results (e.g. RhOK) - Demonstrated strengthened capacity of national champions to contribute to the SPCR 	NCCDC Records	Secretariat
	3.1.6 . Public awareness events organized	<ul style="list-style-type: none"> - # and type of events/materials 	NCCDC Records	Secretariat
	3.1.7 Strengthened capacity of civil society to undertake climate resilience	<ul style="list-style-type: none"> - Demonstrable improvements in NGO coordination and organizational capacity (e.g. statues, # of members represented, mapping of who does what where) 	ZCSN Records	ZCSN
	3.1.5. Established mechanisms to mobilize and manage external resources	<ul style="list-style-type: none"> - Design (and potential establishment) of national climate and DRM funds, with clear operational procedures - Amount allocated to the funds 	NCCDC and DMMU Records	Secretariat
	3.1.6. Satisfactory evaluation of Climate Change Programme	<ul style="list-style-type: none"> - Independent evaluation report, showing strengthened inter-sectoral coordination, fiduciary probity and engagement of partners towards a common goal 	NCCDC Records	Secretariat
3.2. Strengthened Climate Information	3.2.1. Completed assessment of climate information network gaps	<ul style="list-style-type: none"> - Assessment report 	NCCDC Records	Climate Information Platform
	3.2.2. National institutional framework/policy for climate information sharing and dissemination agreed	<ul style="list-style-type: none"> - Framework and/or policy adopted by key climate information stakeholders 	NCCDC Records	Climate Information Platform
	3.2.3. Strengthened early warning system combining scientific and indigenous knowledge developed and applied	<ul style="list-style-type: none"> - Community-based early warning system established and operational in vulnerable districts of Kafue and Barotse sub-basins - Feedback from users on reliability of early warning system - Crowdsourcing system in place in target districts, supporting two-way communication 	NCCDC Records	Climate Information Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
	3.2.4. Effective network of hydro-meteorological stations established in the two sub-basins	Effective implementation of the assessment recommendations (3.2.1): - # of automated stations -# of existing hydro-meteorological stations upgraded	ZDM Records	Climate Information Platform
3.3. Private Sector Support	3.3.1 SMS-based climate and agriculture platform developed and piloted in the two sub-basins	- Number of farmers using SMS based information platform (target 2,000)	IFC Records	Secretariat
	3.3.2 Agriculture weather index insurance product developed and applied in the target sub-basins	- Number of farmers using index-based insurance products (target: 800)	IFC Records	Secretariat
	3.3.3. Micro-finance instruments extended to target sub-basins, benefitting the most vulnerable	Number of livelihood-enhancing schemes approved, relative to target village population in the sub-basins (target 1 scheme per 10,000 villages)	IFC Records	Secretariat

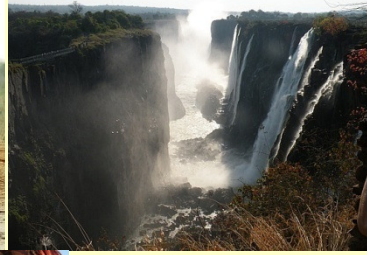
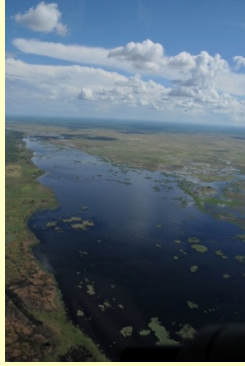
Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	2.2 Improved drainage and flood management control in key roads and canals	# flooded days/year	Provincial records	DMMU and RDA
	2.3 Reduced routine and periodic maintenance costs for key transport infrastructure in flood prone areas	Annual routine maintenance costs # years before periodic maintenance requirements for key roads and canals	Provincial records	RDA and Maritime Department
3. To strengthen the institutional structure, strategic planning, coordination and awareness for climate resilience in Zambia	3.1 National Climate Change Council established and fully operational, effectively managing Zambia's Climate Change Programme	% growth in internal and external funds managed through Climate Change Programme	NCCDC Records	Secretariat
	3.2. Harmonized mechanisms to coordinate and manage climate change funds developed and agreed	Establishment and annual budget of contingency fund Establishment and budget of a national climate change fund	NCCDC Records	MoFNP and Secretariat
	3.3 Strengthened climate change information and early warning system in the two sub-basins, supporting timely, user friendly and accurate information	Information crowdsourcing platform (two way communication) established, covering 70% of pilot districts	NCCDC and DMMU records	Climate Information Platform
	3.4 Increased private sector investment in climate-resilient activities in the two sub-basins	Amount of investment by private sector in climate resilient projects in two sub-basins (target US\$10 million)	IFC Records	NCCDC and IFC
SUB-COMPONENTS	OUTCOMES			
1. Participatory Adaptation	1.1.1 Climate resilience effectively mainstreamed into integrated development plans (IDPs)	At least 70% of IDP have been mainstreamed with climate resilience considerations	NCCDC Records	Climate Resilient Agriculture Platform
	1.1.2. Integrated Water Resource Management Plans developed and implemented in the sub-districts	IWRMP adopted and implemented in the Kafue Sub-Basin Vulnerability Assessment and Fisheries Management adopted and implemented in the Barotse Sub-Basin	NCCDC Records	Climate Resilient Agriculture Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	1.1.3 Vulnerable Social Groups effectively participate in climate resilient activities	<ul style="list-style-type: none"> - At least 50% of climate resilient funding for IDPs and Local Development Plans benefit socially vulnerable groups - Estimated # and % of women, elderly, incapacitated and youths benefiting from SPCR activities - % of vulnerable population covered under cash transfers 	<p>NCCDC Records</p> <p>DFID Records</p>	<p>Partner NGOs and Climate Resilient Platform</p> <p>Partners supporting cash transfers</p>
SUB-COMPONENTS	OUTCOMES			
1. Participatory Adaptation (Cont'd)	1.1.4. Diversified agriculture and sustainable NRM introduced in pilot sites	<p># and % of Farmers Practicing:</p> <ul style="list-style-type: none"> - Sustainable Land Management - Agroforestry - Community-based NRM - Grassland management - Climate resilient crop varieties - Aquaculture - Outgrower schemes supporting climate resilience <p>% of total district land under above practices</p>	<p>Provincial and District Agricultural Office Records</p> <p>Local Forestry Records</p>	Climate Resilient Agriculture Platform and Partner NGOs
	1.1.5 Major social infrastructure upgraded to climate resilience	<p># and type of climate resilient social infrastructure supported by SPCR funds, viz:</p> <ul style="list-style-type: none"> - Water harvesting - Canals - Drainage - Schools - Health centers, etc. 	District Council records and provincial and district DMMU	Agriculture Platform and Partner NGOs
	1.1.6 Improved community preparedness during extreme events	<ul style="list-style-type: none"> - # and % of Districts completing Vulnerability Assessments - # of % of DMMU Satellite Committees operational, with adopted contingency plans for extreme events - # of DMMU Satellite Committees trained in disaster simulation 	Provincial DMMU Records	Agriculture Platform and Provincial DMMU

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
2. Climate Resilient Infrastructure	2.1.1. Climate resilience mainstreamed into revised civil works standards, regulations and EIA processes	Updated climate-resilient safety standards adopted for: - Major transport infrastructure - Other civil works - Estimated km of roads using climate resilient standards	MWS and Bureau of Standards records	Climate Resilient Infrastructure Platform
	2.1.2. Strategic infrastructure vulnerability assessments completed in the two sub-basins	# Assessments and Management Plans developed, identifying types of vulnerabilities and type of infrastructure upgrading to be carried out	NCCDC Records	Climate Resilient Infrastructure Platform (and RDA)
	2.1.3. Awareness and training programmes implemented for contractors and regulators	# of awareness and training sessions for (a) contractors; (b) policy makers Materials developed	MWS and NCCDC Records	Climate Resilient Infrastructure Platform
	2.1.4. Review of standard procurement bidding documents to incorporate climate resilience	Extent to which new requests for Proposals/bidding documents incorporate climate resilience and/or strengthened procurement methods (eg. OPRCs)	MWS and Ministry of Communications and Transport (MCT) Records	Climate Resilient Infrastructure Platform
	2.1.5 Climate resilience incorporated into EIAs and SEAs	Environmental Impact Assessment standards for key civil works (particularly transport) incorporate climate resilience requirements	MWS records	Climate Resilient Infrastructure
	2.1.5 Roads and canals rehabilitated to climate resilience standards	- Km of road rehabilitated to climate resilience standards (and type of interventions) - Km of canals and waterways rehabilitated - Trend in maintenance costs (for climate resilient and control infrastructure)	MWS and MCT records	Climate Resilient Infrastructure
3.1. Institutional Support to Zambia's Climate Change Programme	3.1.1. Climate resilience mainstreamed into key national and sectoral policies, regulations and strategies	- # and type of policies, strategies, and regulations mainstreamed	NCCDC Records	Secretariat
	3.1.2. Priority applied studies with direct relevance to climate resilience completed and disseminated	- # and type of applied studies completed and disseminated	NCCDC Records	Secretariat

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
3.1 Institutional Support to Zambia's Climate Change Programme (Cont'd)	3.1.3. Climate change platforms formalized and meeting regularly	<ul style="list-style-type: none"> - Decree formalizing platforms - # of Platforms meeting regularly (and regularity of meetings) - # of stakeholder groups represented - Platform working plans developed and implemented 	NCCDC Records	Secretariat
	3.1.5. Climate Change champions effectively contributing to Zambia's Climate Change Programme	<ul style="list-style-type: none"> - # of climate change champions sponsored - Type of sponsorship (e.g training, event, conference) - Competition events results (e.g. RhOK) - Demonstrated strengthened capacity of national champions to contribute to the Climate Change Programme 	NCCDC Records	Secretariat
	3.1.6 . Public awareness events organized	<ul style="list-style-type: none"> - # and type of events/materials 	NCCDC Records	Secretariat
	3.1.7 Strengthened capacity of civil society to undertake climate resilience	<ul style="list-style-type: none"> - Demonstrable improvements in NGO coordination and organizational capacity (e.g. statues, # of members represented, mapping of who does what where) 	ZCSN Records	ZCSN
	3.1.5. Established mechanisms to mobilize and manage external resources	<ul style="list-style-type: none"> - Design (and potential establishment) of national climate and DRM funds, with clear operational procedures - Amount allocated to the funds 	NCCDC and DMMU Records	Secretariat
	3.1.6. Satisfactory evaluation of Climate Change Programme	<ul style="list-style-type: none"> - Independent evaluation report, showing strengthened inter-sectoral coordination, fiduciary probity and engagement of partners towards a common goal 	NCCDC Records	Secretariat
3.2. Strengthened Climate Information	3.2.1. Completed assessment of climate information network gaps	<ul style="list-style-type: none"> - Assessment report 	NCCDC Records	Climate Information Platform
	3.2.2. National institutional framework/policy for climate information sharing and dissemination agreed	<ul style="list-style-type: none"> - Framework and/or policy adopted by key climate information stakeholders 	NCCDC Records	Climate Information Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
	3.2.3. Strengthened early warning system combining scientific and indigenous knowledge developed and applied	<ul style="list-style-type: none"> - Community-based early warning system established and operational in vulnerable districts of Kafue and Barotse sub-basins - Feedback from users on reliability of early warning system - Crowdsourcing system in place in target districts, supporting two-way communication 	NCCDC Records	Climate Information Platform
	3.2.4. Effective network of hydro-meteorological stations established in the two sub-basins	<p>Effective implementation of the assessment recommendations (3.2.1):</p> <ul style="list-style-type: none"> - # of automated stations -# of existing hydro-meteorological stations upgraded 	ZDM Records	Climate Information Platform
3.3. Private Sector Support	3.3.1 SMS-based climate and agriculture platform developed and piloted in the two sub-basins	- Number of farmers using SMS based information platform (target 2,000)	IFC Records	Secretariat
	3.3.2 Agriculture weather index insurance product developed and applied in the target sub-basins	- Number of farmers using index-based insurance products (target: 800)	IFC Records	Secretariat
	3.3.3. Micro-finance instruments extended to target sub-basins, benefitting the most vulnerable	Number of livelihood-enhancing schemes approved, relative to target village population in the sub-basins (target 1 scheme per 10,000 villages)	IFC Records	Secretariat



Zambia: Strategic Program for Climate Resilience (SPCR)

**Prepared for the
Pilot Program for Climate Resilience (PPCR)**

ANNEXES

June 14, 2011

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ANNEX 1. DETAILED SPCR PERFORMANCE MONITORING TABLE

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
PROGRAM DEVELOPMENT OBJECTIVE				
To mainstream climate change in the most economically important and vulnerable sectors of the economy	Increased proportion of national budget allocated to climate resilient programs in vulnerable sectors	Allocations to climate resilient programs increasing by 25% in real terms for vulnerable sectors (agriculture, environment and natural resources, energy and water, infrastructure, health and disaster management) from 2007-2011 baseline	Ministry of Finance and National Planning Yellow and Blue Books (Annual Budgets)	Zambia Climate Change Network and MoFNP
COMPONENTS				
1. Participatory Adaptation				
To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability in priority areas of the Kafue and Barotse sub-basins	1.1 Significant progress in reducing population vulnerability in the two sub-basins	Proportion of poor in pilot districts reduced by 35% by 2015 (in accordance with SNDP targets for reduction of rural poverty)	Central Statistics Bureau	Secretariat
	1.2 Reduction in crop area affected by floods and droughts in similar intensity events in the two sub-basins	Area under food crops affected by extreme events not more than 30% of official annual forecasts in pilot districts	MACO and CSO statistics	Secretariat
2. Climate Resilient Infrastructure				
To strengthen climate resilient infrastructure policies and pilot their effective implementation	2.1. Standards and codes of practice for climate-resilient infrastructure developed and adopted	Km (and %) of roads complying with climate resilient standards	RDA records	DMMU and RDA

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	2.2 Improved drainage and flood management control in key roads and canals	# flooded days/year	Provincial records	DMMU and RDA
	2.3 Reduced routine and periodic maintenance costs for key transport infrastructure in flood prone areas	Annual routine maintenance costs # years before periodic maintenance requirements for key roads and canals	Provincial records	RDA and Maritime Department
3. Strategic Program Support				
To strengthen the institutional structure, strategic planning, coordination and awareness for climate resilience in Zambia	3.1 National Climate Change Development Council established and fully operational, effectively managing Zambia's Climate Change Programme	ZCCDC established by decree, with regular budget allocations and a Board composed of representatives of Government, civil society and private sector	ZCCDC Records	Secretariat
	3.2. Harmonized mechanisms to coordinate and manage climate change funds developed and agreed	Establishment and annual budget of contingency fund % growth in internal and external funds managed through Climate Change Program	ZCCDC Records	MoFNP and Secretariat
	3.3 Strengthened climate change information and early warning system in the two sub-basins, supporting timely, user friendly and accurate information	Information crowdsourcing system (two way communication) established and operational, covering 70% of pilot districts	ZCCDC and DMMU records	Climate Information Platform
	3.4 Increased private sector investment in climate-resilient activities in the two sub-basins	Amount of investment by private sector in climate resilient projects in two sub-basins (target US\$10 million)	IFC Records	ZCCDC and IFC
SUB-COMPONENTS	OUTCOMES			
1. Participatory Adaptation	1.1.1 Climate resilience effectively mainstreamed into integrated development plans (IDPs)	At least 70% of IDP have been mainstreamed with climate resilience considerations	ZCCDC Records	Climate Resilient Agriculture Platform
	1.1.2. Integrated Water Resource Management Plans developed and implemented in the sub-districts	IWRMP adopted and implemented in the Kafue Sub-Basin Vulnerability Assessment and Fisheries Management adopted and implemented in the Barotse Sub-Basin	ZCCDC Records	Climate Resilient Agriculture Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
	1.1.3 Vulnerable Social Groups effectively participate in climate resilient activities	<ul style="list-style-type: none"> - At least 50% of climate resilient funding for IDPs and Local Development Plans benefit socially vulnerable groups - Estimated # and % of women, elderly, incapacitated and youths benefiting from program activities - % of vulnerable population covered under cash transfers 	<p>ZCCDC Records</p> <p>DFID Records</p>	<p>Partner NGOs and Climate Resilient Platform</p> <p>Partners supporting cash transfers</p>
	1.1.4. Diversified agriculture and sustainable NRM introduced in pilot sites	<p># and % of Farmers Practicing:</p> <ul style="list-style-type: none"> - Sustainable Land Management - Agroforestry - Community-based NRM - Grassland management - Climate resilient crop varieties - Aquaculture - Outgrower schemes supporting climate resilience <p>% of total district land under above practices</p>	<p>Provincial and District Agricultural Office Records</p> <p>Local Forestry Records</p>	Climate Resilient Agriculture Platform and Partner NGOs
	1.1.5 Major social infrastructure upgraded to climate resilience	<p># and type of climate resilient social infrastructure supported by SPCR funds, viz:</p> <ul style="list-style-type: none"> - Water harvesting - Canals - Drainage - Schools - Health centers, etc. 	District Council records and provincial and district DMMU	Agriculture Platform and Partner NGOs
	1.1.6 Improved community preparedness during extreme events	<ul style="list-style-type: none"> - # and % of Districts completing Vulnerability Assessments - # of % of DMMU Satellite Committees operational, with adopted contingency plans for extreme events - # of DMMU Satellite Committees trained in disaster simulation 	Provincial DMMU Records	Agriculture Platform and Provincial DMMU

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
2. Climate Resilient Infrastructure	2.1.1. Climate resilience mainstreamed into revised civil works standards, regulations and EIA processes	Updated climate-resilient safety standards adopted for: - Major transport infrastructure - Other civil works	MWS and Bureau of Standards records	Climate Resilient Infrastructure Platform
	2.1.2. Strategic infrastructure vulnerability assessments completed in the two sub-basins	# Assessments and Management Plans developed, identifying types of vulnerabilities and type of infrastructure upgrading to be carried out	ZCCDC Records	Climate Resilient Infrastructure Platform (and RDA)
	2.1.3. Awareness and training programs implemented for contractors and regulators	# of awareness and training sessions for (a) contractors; (b) policy makers Materials developed	MWS and ZCCDC Records	Climate Resilient Infrastructure Platform
	2.1.4. Review of standard procurement bidding documents to incorporate climate resilience	Extent to which new requests for Proposals/bidding documents incorporate climate resilience and/or strengthened procurement methods (eg. OPRCs)	MWS and Ministry of Communications and Transport (MCT) Records	Climate Resilient Infrastructure Platform
	2.1.5 Climate resilience incorporated into EIAs and SEAs	Environmental Impact Assessment standards for key civil works (particularly transport) incorporate climate resilience requirements	MWS records	Climate Resilient Infrastructure
	2.1.5 Roads and canals rehabilitated to climate resilience standards	- Km of road rehabilitated to climate resilience standards (and type of interventions) - Km of canals and waterways rehabilitated - Trend in maintenance costs (for climate resilient and control infrastructure)	MWS and MCT records	Climate Resilient Infrastructure
3.1. Institutional Support to Zambia's Climate Change Programme	3.1.1. Climate resilience mainstreamed into key national and sectoral policies, regulations and strategies	- # and type of policies, strategies, and regulations mainstreamed	ZCCDC Records	Secretariat
	3.1.2. Priority applied studies with direct relevance to climate resilience completed and disseminated	- # and type of applied studies completed and disseminated	ZCCDC Records	Secretariat

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
3.1 Institutional Support to Zambia's Climate Change Programme (Cont'd)	3.1.3. Climate change platforms formalized and meeting regularly	<ul style="list-style-type: none"> - Decree formalizing platforms - # of Platforms meeting regularly (and regularity of meetings) - # of stakeholder groups represented - Platform working plans developed and implemented 	ZCCDC Records	Secretariat
	3.1.5. Climate Change champions effectively contributing to Zambia's Climate Change Program	<ul style="list-style-type: none"> - # of climate change champions sponsored - Type of sponsorship (e.g training, event, conference) - Competition events results (e.g. RhOK) - Demonstrated strengthened capacity of national champions to contribute to the program 	ZCCDC Records	Secretariat
	3.1.6 . Public awareness events organized	<ul style="list-style-type: none"> - # and type of events/materials 	ZCCDC Records	Secretariat
	3.1.7 Strengthened capacity of civil society to undertake climate resilience	<ul style="list-style-type: none"> - Demonstrable improvements in NGO coordination and organizational capacity (e.g. statues, # of members represented, mapping of who does what where) 	ZCCN Records	ZCCN
	3.1.5. Established mechanisms to mobilize and manage external resources	<ul style="list-style-type: none"> - Design (and potential establishment) of national climate and DRM funds, with clear operational procedures - Amount allocated to the funds 	ZCCDC and DMMU Records	Secretariat
	3.1.6. Satisfactory evaluation of Climate Change Programme	<ul style="list-style-type: none"> - Independent evaluation report, showing strengthened inter-sectoral coordination, fiduciary probity and engagement of partners towards a common goal 	ZCCDC Records	Secretariat
3.2. Strengthened Climate Information	3.2.1. Completed assessment of climate information network gaps	<ul style="list-style-type: none"> - Assessment report 	ZCCDC Records	Climate Information Platform
	3.2.2. National institutional framework/policy for climate information sharing and dissemination agreed	<ul style="list-style-type: none"> - Framework and/or policy adopted by key climate information stakeholders 	ZCCDC Records	Climate Information Platform
	3.2.3. Strengthened early warning system combining scientific and indigenous knowledge developed and applied	<ul style="list-style-type: none"> - Community-based early warning system established and operational in vulnerable districts of Kafue and Barotse sub-basins - Feedback from users on reliability of early warning system - Crowdsourcing system in place in target districts, supporting two-way communication 	ZCCDC Records	Climate Information Platform

Objectives/Components	Results/Outcomes	Indicator	Means of Verification	Responsibility
SUB-COMPONENTS	OUTCOMES			
	3.2.4. Effective network of hydro-meteorological stations established in the two sub-basins	Effective implementation of the assessment recommendations (3.2.1): - # of automated stations -# of existing hydro-meteorological stations upgraded	ZDM Records	Climate Information Platform
3.3. Private Sector Support	3.3.1 SMS-based climate and agriculture platform developed and piloted in the two sub-basins	- Number of farmers using SMS based information platform (target 2,000)	IFC Records	Secretariat
	3.3.2 Agriculture weather index insurance product developed and applied in the target sub-basins	- Number of farmers using index-based insurance products (target: 800)	IFC Records	Secretariat
	3.3.3. Micro-finance instruments extended to target sub-basins, benefitting the most vulnerable	Number of livelihood-enhancing schemes approved, relative to target village population in the sub-basins (target 1 scheme per 10,000 villages)	IFC Records	Secretariat


ANNEX 2: LIST OF STAKEHOLDERS INVOLVED IN CLIMATE RESILIENCE IN ZAMBIA

A. List of Potential Partners of Zambia Climate Change Programme


Government of Zambia		Private Sector	
1	Ministry of Finance and National Planning	28	Lloyds Financials
2	Ministry of Tourism, Environment and Natural Resources:	29	Profit Zambia
3	Climate Change Facilitation Unit	30	African Carbon Credit Exchange
4	Office of the Vice President (Disaster Management and Mitigation Unit)	31	Chamber of Commerce and Industry
5	Ministry of Local Government and Housing	32	Zambia Federation of Employees
6	Ministry of Science, Technology and Vocational Training	33	Association of Consulting Engineers
7	Ministry of Agriculture and Cooperatives	34	Economics Association of Zambia
8	Ministry of Communication and Transport	35	Center for Energy, Environment and Engineering of Zambia
9	Zambia Meteorological Department	36	Snow Systems
10	Ministry of Works and Supply	37	Chamber of Mines
11	Road Development Agency	38	Green Knowledge Institute
12	Zambia Environmental Management Agency	39	Google (Potential Interested Partner)
13	University of Zambia	40	NASA (Potential Interested Partner)
14	Zambia Copperbelt University	41	Esoko (Potential Interested Partner)
15	Zambia Wildlife Authority		Civil Society
16	Policy Analysis and Coordination Division (Cabinet Office)	42	Zambia Civil Society Climate Change Network
17	Ministry of Livestock and Fisheries Development	43	Zambia Red Cross Society
18	Ministry of Energy and Water Development	44	Green Environmental Watch
19	Ministry of Health	45	International Union for Conservation of Nature
20	Ministry of Commerce, Trade and Industry	46	Concern Worldwide
21	National Food and Nutrition Commission	47	National Heritage Conservation Commission
22	National Council for Construction	48	Pelum Participatory and Ecological Land Use Management Zambia Land Alliance
23	Zambia Bureau of Standards (ZABS)	49	Centre For Energy, Environment and

			Engineering Zambia
24	Ministry of Mines and Minerals Development	50	Munda Wanga Environmental Park
25	Ministry of Community Development and Social Services	51	Green Living Movement
26	Ministry of Education	52	Zambia Ornithological Society
27	Zambezi River Authority	53	Jesuit Center for Theological Reflection
		54	Energy and Environment Concerns of Zambia
		55	Peace Parks Foundation
		56	Africa Parks
		57	MDG Campaign
		58	Zabuntu
		59	Machaworks
		60	Wageningen University and Research
		61	Random Hacks of Kindness (RHOK)
Development Partners			
62	Cooperating Partner Group on Environment		
63	The World Bank		
64	International Finance Corporation		
65	African Development Bank		
66	Global Facility for Disaster Reduction and Recovery		
67	UK Department for International Development		
68	World Food Program UN Global Mechanism		
69	Millenium Challenge Account – Zambia		
70	UN Global Mechanism		
71	COMESA		
72	WorldFish Center		
73	Norway		
74	Finland		
75	Denmark		
76	United Nations Development Programme		

B. Potential Partners Distributed by Stakeholder Platforms

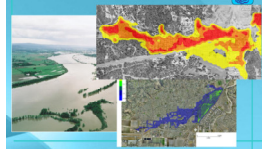


Potential Partners for Improved Climate Information
Potential Partners





World Bank
Global Facility for Disaster Reduction/
DRM Labs
AfDB/CLIMDEV
IFC/ESOKO
Zambezi River Authority
UN
Red Cross
Random Hacks of Kindness (RhOK)

Google
NASA
Italian Government
ESA



ZMD
DMMU
CCFU
MACO
MEWD
UNZA
ZAWA
Copperbelt University
CEEEZ
Zambia Climate Change Civil Society Netw
Green Environmental Watch
Zambian Youth Environmental Network
Zambutu
MachaWorks



**Second Nexus: Climate Resilient Infrastructure
(Potential Partners)**



- MPWS
- RDA
- MACO
- MLFD
- MEWD
- MCT
- ECZ
- LWCS
- Zambia Bureau of Standards (ZABS)
- National Council for Construction
- National Heritage Conservation Commission
- Environmental Council of Zambia
- IFC
- NEPAD
- Lloyds Financials, Ltd

Improve resistance to floods



- MCA
- World Bank
- AfDB
- IFC



**Third Nexus: Sustainable Agriculture
Potential Partners**

- MACO
- MLFD
- MTENR
- MLGH
- DMMU
- MOH
- GEEEZ
- UNZA

- Diversification*
- Climate-resistant varieties*
- Vector disease control*
- Soil/water conservation*

- AfDB
- World Bank
- UN
- DfID
- UN Global Mechanism
- COMESA
- Norway
- Finland
- MCC
- Zambezi River Basin Initiative/Red Cross
- PELUM
- Climate Change Civil Society Network
- UNZA
- World Fish
- IUCN
- Green Environmental Watch
- Wageningen University and Research



Weather index insurance

- IFC
- World Bank/GFDRR
- Profit Zambia
- African Carbon Credit Exchange
- Lloyds Financials Ltd
- Green Knowledge Inst.



C. Platform Members (Informal) and Terms of Reference for Platforms

Strengthened Climate Information

Leads: Dr. Joseph Kanyanga, Meteorology Department Mr. Anderson Banda, DMMU

Potential Participants: DMMU, ZMD, CCFU, UNZA, ZAWA, MACO, MEWD

Development Partners: World Bank/IFC (lead donors), AfDB, UN, Red Cross, Zambia Climate Change Civil Society Network, Zambian Youth Climate Change Network, WorldFish/Peace Corps, RhOK/Zabuntu, MachaWorks, Copperbelt University, Green Environmental Watch, IUCN, Panos Institute Southern Africa – and other interested partners in Climate Information Platform Crowdsourcing.

DDMU is already heading this Climate Information Group, specifically to discuss the application of geospatial data to climate information dissemination and vulnerability assessments (through a GEOSDI platform). The mission would build upon this existing effort by fostering further discussion with partners on how best to downscale climate information and transmit it reliably to users, e.g. through SMS (Esoko) and community radio networks, and how best to collect climate variability and vulnerability information from users into the national platforms – e.g. through the use of Ushahidi and other crowdsourcing platforms.

The discussions in this group should be closely steered by DDMU and ZMD, and accompanied by crowdsourcing training of partners groups interested in participating in the national platform. In particular, the training would focus on how field partners might use SMS information, Open Street Map and other GIS-based freeware to assist communities in building up participatory risk maps, sending and receiving information on early warning, and receiving more reliable information on weather forecasts. The training would be provided by Ms. Anahi Iacucci from Crisis Mappers. Crowdsourcing training would also be provided to interested partners wishing to collaborate in the Climate Resilient Agriculture nexus.

The group would also discuss required investments in equipment and the hydro-climatological network.

Finally, the group would analyze the priorities of financing under the SNDP – with a particular geographical focus on the Zambezi River Basin – and match it against the expected commitments from the various partners, identifying potential financing gaps.

An important part of the discussion would be a proposal on incremental financing – ie the proposed level of subsidy, expected cost recovery mechanisms, and sustainability that would be expected from this nexus of investment.

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Climate resilience Infrastructure

Leads: Dr. Michael Mulenga, RDA; Prof. F. D. Yamba, CEEZ; Prof. Lloyd Chingambo, Lloyds Financials; Paul Lupunga, Ministry of Finance and National Planning

Potential Participants: MWS, RDA, MACO, MCT, National Council for Construction, ECZ, NEPAD, Lloyds Financials, African Credit Carbon Exchange, Millennium Challenge Account

Development Partners: World Bank/IFC (lead donors), AfDB, EC, JICA, DANIDA (tbc),

This component is expected to involve a large component of public private partnerships (PPPs) or a high participation of private sector partners. The group should discuss, first, any key climate resilience policies that should be promoted under the SNDP – e.g. stronger safety norms for infrastructure, bitumen heat resistance codes, etc. – and ways whereby these codes could be adopted in the near future.

Second, it should discuss how best to promote stronger maintenance of infrastructure in climate sensitive regions (with a focus on the Zambezi River Basin). In particular, the group should discuss the experience of using Output and Performance Based Transport Contracts (OPRCs) in rural roads, and how they may have shifted incentives towards better maintenance.

Third, the group should convey meetings with key private sector representatives (e.g. NEPAD) and the financial sector to discuss under which circumstances OPRCs (or similar mechanisms emphasizing stronger maintenance) and climate resilient codes would be attractive to them. Specifically, what conditions, stimulus, climate subsidy would need to be place to attract private sector interest in collaborating in climate resilience? What level of incremental financing would be optimal and acceptable to the Government, private sector and donors? How should funding be channeled? Would a fund/exchange work, or should climate resilient contracts continue to flow through sectoral programs?

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Climate resilience Agriculture

Lead: Mr. Martin N. Sishekanu, MACO; Prof. Munyinda, UNZA; Mrs. Suman Jain, UNZA; Mr. Edward Kapwepwe, Deputy Director, Economic Management, MoFNP.

Potential Participants: MACO, MTENR, MLGH, DDMU, MOH

Development Partners: AfDB (lead donor), IFC, World Bank, UN, Global Mechanism, DfID, Norway, Finland, MCC, Red Cross, UNZA, Pelum, World Fish, Climate Change Civil Society Network, Profit Zambia, African Carbon Credit Exchange, Lloyds Financials.

This component aims to strengthen the adaptive capacity and livelihood in agriculture, fisheries, livestock, natural resources and natural ecosystems in the most affected areas of the Zambezi River Basin, focusing on sustainable agriculture production and natural ecosystems' outcomes.

The discussion group would work, first, in defining the priority areas for intervention, building as much as possible on existing programs. The PPCR should be seen only as one of the contributing partners the idea is that the Government program be much larger and composed of the coordinated interventions of partners in a high priority geographical area (the Zambezi River Basin). Thus, if the Red Cross was working on a given sub-basin, and there were advantages in combining it with DDMUs, MACO or MTENR's program, this should be further promoted, but with a view to mapping out an integrated program where partners would regularly be kept informed of who worked where when, and at what cost – thus maximizing opportunities for synergies.

Secondly, the group would make a list of existing programs and potential commitments from the various partners. It would then attempt to match it against the climate resilient priorities of the SNDP, and identify any missing geographical and financing gaps.

Because of the easy trade-offs with ODA, it would be particularly important for this group to try to define a fair rate of incrementality, i.e. what should be eligible for climate resilient financing (as grant) and what should be part of normal ODA. Climate financing should not simply be seen as an easy source of fulfillment of financial shortfalls because of the dangers that it will replace ODA for which Zambia would be normally eligible

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Management and Financing

Leads: David Kaluba, Ministry of Finance and National Planning; Prof. Lloyd Chingambo, Lloyds Financials; Mr. Shitima Mwepya, CCFU; Mr. Simon M. Kayekesi, MoFNP

Participants: Management Team (Team Leaders of participating partners in the mission)

This group would discuss key cross-cutting issues relevant to the management and financing of a future climate resilience program. Based on the extensive institutional discussions that have already taken place in Zambia (in the context of the Climate Change Strategy and others) it would formulate recommendations on how best to integrate PPCR and other climate change/DRM financing into a future institutional framework, which would optimize institutional capacity, maximize resources, and achieve maximum impact. It is critically important that the group take the ongoing national consultations and high level decision making as the basis for these recommendations, with the proviso that ultimate decisions must rest with the Government of Zambia.

The group would also examine the potential, merits and mechanisms for Zambia to establish pooled climate change funds to combine several windows of financing to which it may be eligible (including potentially PPCR funds), and thereby leverage other funding – e.g. private financing in the form of PPPs for climate resilient investments.

Thirdly, the group would examine any other cross-cutting functions that a national program should support, besides from direct field investments – such as capacity building, policy and strategy, and awareness.

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ANNEX 3: ZAMBIA PPCR PARTICIPATORY PROCESS

1. Initial Consultation Process Followed up to First Joint Mission-November, 2009

The Joint Mission marked the initial preparation of the PPCR process. The lead Government agency – Ministry of Finance and National Planning (MFNP) followed a three step consultative process with its development partners:

1. First, it engaged two consultants to prepare a **stocktaking analysis** and carry out initial consultations with stakeholders prior to the arrival of the Joint Mission (a process that took two weeks, from November 2-14, 2009). This initial consultation involved:
 - Identification of key stakeholders directly or indirectly associated with climate change issues
 - Written requests to ask them to participate in discussions and interviews
 - Preparation of structured questions and discussions topics covering
 - (i) On-going Activities;
 - (ii) Awareness and Concerns;
 - (iii) Climate Change Interface into Activities and Planning; and
 - (iv) Gaps and Recommendations.
 - Group discussions and key informant interviews with key stakeholders
 - Analysis of findings – particularly identifying recurring themes to incorporate into findings, lessons and recommendations.
 - This initial consultation led to a compilation of a Stocktaking Report, which was available in draft form by the time of the mission’s arrival and whose main findings were discussed at the consultative workshop below.
2. Second, Ministry of Finance and National Planning organized a two-day **consultative workshop** upon arrival of the Joint Mission (November 16-17, 2009), attended by 45-50 participants from key Ministries, civil society, private sector, and some development partners. The workshop discussed preliminary PPCR priorities for Phase I and II. The minutes of the workshop are attached as Annex 3.
3. Given that civil society, development partners and private sector were under-represented at the workshop and there was a need to follow up in further detail with priority sectoral Ministries, the Joint Mission organized further **follow-up consultation meetings** with representatives of these groups to discuss their recommendations, suggestions for involvement in the PPCR, and potential concerns. The list of stakeholders consulted and key meeting minutes is attached as Annex 2.
4. During November 18, 2009, Mission Leaders also participated in a ZNBC TV program on Climate Change.

The consultations revealed three consistent weaknesses in the national framework: weak institutional coordination, low awareness, and the need for better access to and sharing of data.

There were perceived overlaps in institutional mandates between MoFNP, MoTENR, DDMU and other sectoral agencies (e.g. Met Department) that require further debate and a national consensus. Regardless of institutional mandates, stakeholders expressed a clear need to be further involved in the process of helping strengthen climate resilience in Zambia.

2. Zambia PPCR Mission Outline Notification – November, 2009

To optimize the mission time, the following activities were reviewed prior to the mission:

1. **Stocktaking** of relevant information on climate resilience
2. **Compiling of all country level programs and activities** that are planned or already in place, relevant to the PPCR.
3. **Initial consultation** with relevant stakeholders

This allowed the joint mission to be forward-looking and focus on the following main activities:

1. **Analysis** of stocktaking and key documents
2. **Engagement** of key stakeholders
3. **Agreement on priority sectors and activities** for Phase I focus
4. Advance the preparation of the **Phase I proposal**

1. *Analysis of Stocktaking and Key Documents*

Based on the stocktaking made by the consultants, the mission identified the key programmatic gaps on the following Phase I priority areas:

- **Analytical needs**
- **Planning and strategic needs,**
- **Knowledge and Awareness**
- **Capacity Building, Institutional Strengthening and Improved**
- **Revised Policies**

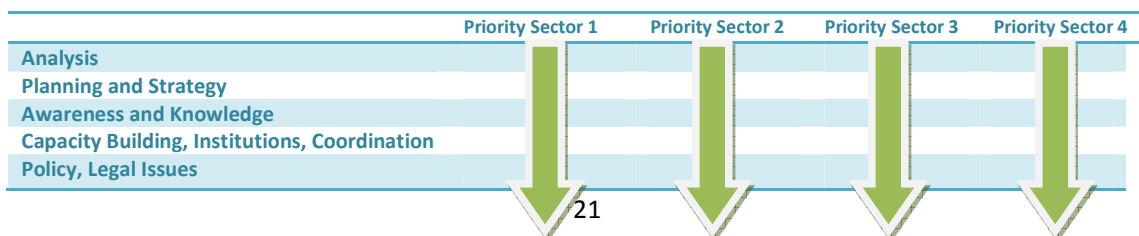
2. *Engagement of key stakeholders*

The mission is expected to engage representatives from the following stakeholders

Government of Zambia; Private Sector; Civil Society; Development Partners

3. *Agreement on priority sectors and activities for Phase I*

The Ministry of Finance and National Planning organized an initial 2-day consultative stakeholder workshop aimed at securing a consensus amongst broad number of participants (government, civil society and private sector) on the priority sectors to mainstream. Following the workshop, the mission continue with more intensive consultations with key stakeholders in the priority sectors, aiming at helping build the elements of the proposal for Phase I.



To ensure national ownership, MoFNP would lead the mission. Each key donor representative would designate a lead representative to the management team.

4. Assist Zambia in the Preparation of Phase I Proposal

To the extent possible, the mission would assist the Government of Zambia and its key stakeholders in preparing a proposal for Phase I

Mission Composition

The mission would consist of the following experts whose names and roles are described on Table B:

- Chief Economist (Team Leader)
- Economic Planner
- Adaptation/ Risk Management Specialist (co-Team Leader)
- Climate Change Specialist
- Environment Advisor
- Climatologist
- Agriculture Specialist
- Transport/Infrastructure Specialist
- Water Sector Specialist
- Vulnerability and Social Protection Specialist
- Public Awareness Specialist
- Private Sector/Energy Specialist
- Biodiversity/Tourism Specialist
- Civil Society/Media Specialist
- Decentralized Government/Institutions Specialist
- Health Specialist

Mission Outcomes

The mission outcomes will be:

- (a) a brief Aide Memoire outlining the process followed during the Joint Mission;
- (b) a draft Proposal for Phase I (to be completed after the mission) – this will incorporate the findings of the stocktaking, the prioritization of the workshop, and the outcomes of the consultations.

Mission Schedule: See the proposed calendar in the adjoining page (Table A).

TABLE A. MISSION CALENDAR							
	Monday 16	Tuesday 17	Wednesday 18	Thursday 19	Friday 20	Saturday 21	Sunday 22
AM	PPCR Workshop – DAY 1 Opening by PS of Finance Opening by Mission - Objectives of Mission Presentation (Cons/MFNP) – Review of Economic Mainstreaming Doc’s Stocktaking	PPCR Workshop – DAY 2 Stakeholder Groups: Gap analysis (Components Phase I): 1.	Meeting with Climate Change Steering Committee	Consultation with priority sectors	Consultation with priority sectors	Write-up	Write-up
PM	Sectoral prioritizations – towards a stakeholder consensus (facilitated session)	Presentation of findings Closure of workshop	Consultation with priority sectors	Consultation with priority sectors	Consultation with priority sectors		

	Monday 23	Tuesday 24	Wednesday 25	Thursday 26	Friday 27	Saturday 28	Sunday 29
AM	Consultation with priority sectors (cont’d)	Consultation with priority sectors (cont’d)	Write-up	Write-up	First Draft: Aide Memoire Proposal Phase I		
PM	Meeting with Environment and Natural Resources Partners Team Meeting	Write-up	Write-up				

	Monday 30	Tuesday 1	Wednesday 2	Thursday 3	Friday 4	Saturday 5	Sunday 6
AM							
PM	Finalize Aide Memoire	Signature Aide Memoire	Draft Proposal Phase I				

Table B. Mission Members and Description of Individual Duties

Agency	Name	Expertise	Contributions to mission outputs
Government of Zambia			
MoFNP	Mr. John Chunga	Overall Mission Leader Chief Economist	Jointly coordinate and lead mission activities. Review planning and strategic needs. Ensure engagement of key stakeholders. Review and consolidate inputs to Phase I proposal
MoFNP	David Kaluba	Principal Economist	Prepare and coordinate key mission activities. Review inputs to mission documents.
MoFNP	Paul Lupunga	Chief Economist	Facilitate stakeholder planning workshop
MTENR/CCFU	Mr. Makumba	Public Awareness	Review awareness and knowledge status, gaps and opportunities.
Office of VP/DMMU	Mr. Domiciano Mulenga	National Coordinator, Disaster Management	Ensure harmonization and complementarity with DRM initiatives
Consultant	Prof. F. D. Yamba	Climate Change Specialist	Complementarity in issues of climate change and vulnerability; Coordinate stocktaking review
Consultant	Mrs. P. N. Mwangala	Economic Planner	Complementarity in economic planning; Coordinate stocktaking review
Transport Sector Program			
	Michael Mulenga	Transport/Infrastructure Specialist	Together with key stakeholders, review opportunities and gaps to strengthen climate resilience in the transport sector. Coordinate inputs to Infrastructure Resilience Component
IBRD			
	Sofia Bettencourt	Co-Mission Leader (World Bank) Adaptation and DRM Expert	Jointly coordinate and lead mission activities. Consolidate inputs into Phase I proposal.
	Mark Tadross	Climatologist	Review analytical needs, particularly with regards to climate change trends, sectoral impacts and adaptation options. Consolidate inputs to Analytical component.
	Patricia Palale	Decentralization/Institutions	Review all institutional issues.
	Jumbe Ngoma	Civil Society/Media Specialist	Ensure the appropriate engagement and feedback of key civil society and media representatives during the mission.
	Alex Mwanakasale	Agriculture Specialist	Participate in agriculture sector consultations; review institutional and policy issues in agriculture sector.
	Marcus Wishart	Water Resources Specialist	Review issues in water sector and climate change analytical background
	Jean-Michel Pavy	Senior Environmental Specialist	Development partners and sectoral background

African Development Bank			
	Hang Shalaby	Co-Mission Leader (African Development Bank)/ Environmental Specialist	Jointly coordinate and lead mission activities. Consolidate mission inputs into Aide Memoire
	Kisa Ilava Mfalila	Environmental Specialist	Consolidate the budget and schedule for Phase I; review climate resilient infrastructure component.
	Themba Bhebe		
	Lewis Bangwe	Agriculture Specialist	Consolidate inputs to sustainable agriculture and ecosystem component. Coordinate and participate in agriculture sector discussions.
International Finance Corporation			
	Christelle Beyers	Co-Mission Leader (IFC) Energy Specialist	IFC Advisory Services input to mission, including capacity building, market development and technical assistance. Private sector contribution (strategic alignment) to mission analysis and findings.
UNDP			
	Georgina Fekete	Co-Mission Leader (UNDP) Deputy Country Director	Coordination of UNDP Team (part-time)
	Winnie Musonda	Assistant Resident Representative and Environmental Advisor	Consolidate inputs to mainstreaming component. Review institutional and coordination needs. Coordinate development partners meetings. Identify capacity development including institutional arrangements with the development partners
	Frank Pinto	Climate Change and Development Advisor	Discuss with line ministries and donors/agencies the impacts of climate change on development and attainment of MDGs and identify entry points for PPCR as well as joint initiatives that could be implemented with development partners including roles and responsibilities
	Assan Ng'ombe	Programme Officer/Focal Point (Climate Change Adaptation)	Assess the implementation of the NAPA in Zambia and propose interventions that could be implemented in the PPCR in the short-term for quick gains at both national and community level to promote climate change adaptation. Coordinate inputs to awareness component and stakeholder participation. Review institutional issues.
DFID			
	Kelley Toole	Vulnerability and Social Protection	Ensure that the most vulnerable are protected from the impacts of climate change, in particular

			through considering ways in which social protection measures could better integrate adaptation. Review institutional and development partners issues.
	Gordon Ross	Second Secretary Political/British High Commission	Copenhagen negotiation options. Media and policy makers' briefing.

3. Mission for the Preparation of a Strategic Pilot Program for Climate Resilience (PPCR) August 3rd to 12th, 2010

INTRODUCTION

1. The Phase I Proposal was approved in March 2010. Zambia was the first country worldwide to have phase 1 approved. The Grant of USD 1.5 million became effective on June 14, 2010. Phase 1 PPCR is now ongoing and is being executed by the Ministry of Finance and National Planning (MoFNP).
2. A mission agreed by the Ministry of Finance and National Planning (MoFNP), with the three MDBs, namely the African Development Bank (AfDB), the World Bank (WB), the International Finance Corporation (IFC), including UNDP and DFID took place from August 3rd to 12th, 2010. The mission composition and program are attached as Annex A to the Aide Memoire.
3. The specific objectives of this second PPCR mission were the following:
 - a. Review progress in addressing climate risks and mainstreaming climate change in development plans starting with the Sixth National Development Plan (SNDP);
 - b. Assist the Government and major PPCR stakeholders in clarifying any questions that may ensure a smooth launch and start-up of Phase I; and
 - c. Provide a platform for joint work of the cooperating partners, the private sector and NGOs to support government in the formulation of an agreed strategic approach and investment program for integrating climate resilience into core national and sub-national development and key sector strategies and actions.
4. The findings and recommendations of this draft aide memoire were discussed at a wrap-up meeting with MoFNP on August 12, 2010.

MISSION FINDINGS

A. Mainstreaming of Sixth National Development Plan (SNDP)

5. It is noted that the ***Sixth National Development Plan (SNDP)*** draft zero has been produced and a panel of 4 national consultants are reviewing the SNDP to ensure that climate change is well mainstreamed in the Plan

B. Progress of Phase I

6. The rest of activities planned for phase 1 are on-going since phase 1 has just started. The priority activities are:
 - ***Strengthening and harmonisation of organisational and coordination***

- ***Improved information for Decision-Makers.***
- ***Targeted awareness and communication.***

C. Partnerships

7. A major achievement during the mission was the exploration of potential PPCR partnership opportunities through a roundtable discussion with prospective PPCR partners on the 5th of August; a meeting with the NEPAD private sector platform on the 9th of August; 3 presentations and one training on Crowd Sourcing for PPCR stakeholders, civil society, media and private sector representatives on August 9-11, 2010; meetings with bilateral partners; and a meeting with stakeholders from the Climate Information platform on August 12, 2010.

D. Preparation of Phase 2 Work programme

8. During Phase I, considerable effort will be dedicated to preparing the Strategic Program for Climate Resilience. Through the mainstreaming of CC in the SNDP, institutional strengthening, analytical and awareness efforts, in addition to the joint collaborative efforts of all key development partners, it is expected that Zambia will have identified the sectors for climate resilience and the roles of development partners in an Integrated Program for Climate Resilience (programmatic approach for adaptation), of which the PPCR will finance a portion.

Three major inputs would be required to be able to produce these outputs:

- A medium term expenditure framework (part of the SNDP budgets)
 - A SESA or strategic environmental and social assessment for the Strategic Financing Framework for Climate Resilience
 - A Matrix of the priority sectors to be proofed or made climate resilient (a mainstreaming guide to which sector ministries have been targeted in the SNDP).
9. As part of preparation for Phase 2, a discussion between the PPCR partners during the mission has confirmed the need to have a lead agency/partner for each of the 3 components that were prioritized earlier for investments in phase 2, with a primary focus on the Zambezi basin/watershed (comprising agro- ecological regions 1 and 2). These are:
 - ***Improved Climate Information (and reinforcing early warning systems):***
 - ***Agriculture production systems and ecosystems (Climate Resilient Agriculture***
 - ***Climate Resilient Infrastructure***

List of Mission Members

Ministry of Finance and National Planning Team

1. Paul Lupunga Lead Economist
2. David Kaluba Principal Economist

AfDB Team

3. Hany Shalaby Co-Team Leader PPCR /Principal Environmental Specialist
4. Kisa Mfalila Senior Environmental Specialist
5. Lewis Bangwe Agriculture Expert

World Bank Team

6. Sofia Bettencourt Co-Team Leader PPCR/Lead Operations Officer
7. Hellen Mungaila Team Assistant
8. Anahi Iacucci Crowdsourcing Expert
9. Alex Mwanakasale Senior Agriculturist
10. Iris Dueker Tourism Specialist
11. Kanyuka Mumba Transport Specialist
12. Jean-Michel Pavy Senior Environmental Specialist
13. Jumbe Ngoma Communications Officer

IFC Team

14. Paul Kirai Climate Change and Energy Specialist
15. Siobhan Franklin Agribusiness Expert

DfID Team

16. Vicky Seymour Deputy Team Leader. Low Carbon Development Team, SCF and PPCR Committee Member
17. Kelley Toole Vulnerability and Food Security Adviser

UNDP Team

18. Winnie Musonda Assistant Resident Representative - Environment
19. Samuli Leminen Programme Officer - Environment

Mission Program, August 3 to 12, 2010

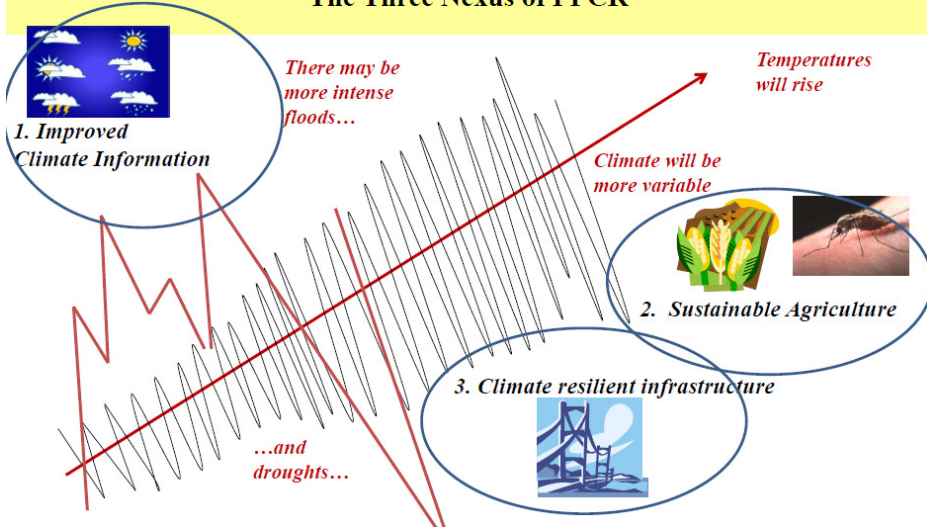
PPCR MISSION

Date	Time	Activity	Venue	Purpose of Meeting	Participants	Status/ comments/ Previous Contacts
Tuesday 08-03-2010	09:00	OPEN for other activities(morning)	Room 19 – Reserved in case there are any meetings for this day			
	14:00 – 16:00 hrs	Mission Meeting	W/Bank – Room 19	Mission Objective, Schedule Analysis of Climate Resilience Financing Priorities under SNDP	All mission participants David Kaluba	Confirmed
Wed. 08-04-2010	08:00 – 12:00 hrs	OPEN for other activities(morning)	Room 19 – Reserved in case there are any meetings for this day			
	15:30	Meeting with Permanent Secretary	MoFNP	Briefing Mr. E. Ngulube, Permanent Secretary MoFNP	All mission participants	Confirmed
Thursday 08-05-2010	14:00 - 16:00 hrs	Round Table Discussion with Cooperating Partners – Potential Financiers of Climate Resilience Framework	W/Bank Offices – Room 16	Round Table discussion	CPs involved in Climate Resilience Private Sector Partners Leading Gov Agencies	Confirmed
Friday 08-06-2010						

Sunday 08-08-2010		Arrival, Anahi Ayala Iacucci				Airport Pickup by Taj Pamodzi Hotel
Monday 08-09-2010	09:00 - 11:00 hrs	Presentation PPCR Stake Holders– Anahi	W/Bank – Room 16	Presentation on Crowd Sharing	PPCR Stakeholders invited	Confirmed- Send out invitation letters
	14:30 – 16:30 hrs	Presentation on Crowd Sharing Media– Anahi	ADB- Conference Room	Presentation on Crowd Sharing	Media Participants	Confirmed- Send out invitation letters
Tuesday 08-10-2010	09:00 - 11:00 hrs	Presentation on Crowd Sharing CSOs/ Private Sector – Anahi	W/Bank – Room 16	Presentation on Crowd Sharing	Civil Society Organizations Zambia Climate Change Civil Society Network	Confirmed- Send out invitation letters
Wed. 08-11-2010		Departure – Anahi Ayala Iacucci				
Wed 08-12-2010	16.00	Wrap- up Meeting	AfDB			



The Three Nexus of PPCR



First Nexus: Improved Climate Information





Second Nexus: Climate Resilient Infrastructure (through Public Private Partnerships)

- *Stronger floods and higher temperature may require revised infrastructure standards and oversight.*
- *Greater use of Output and Performance Based Transport Contracts (OPRCs) shift incentives towards stronger maintenance and higher quality*
- *OPRCs may require contractors to access upfront commercial credit and/or IFC financing*
- *Focus would be on reviewing climate resilient policies/codes and promoting climate resilient PPPs and OPRCs in exposed infrastructure (e.g. transport, irrigation, power, social infrastructure)*
- *Geographical focus on Zambezi Basin*

Improve resistance to floods



Improve bitumen heat resistance



Third Nexus: Sustainable Agriculture

Community-based

- *Diversification*
- *Climate-resistant varieties*
- *Vector disease control*
- *Conservation farming*
- *Afforestation*
- *Water management*



Focus: Zambezi River Basin



Weather index insurance

ROUND TABLE DISCUSSION PILOT PROGRAM FOR CLIMATE CHANGE RESILIENCE(PPCR)

Thursday, August 5, 2010, World Bank Offices

Attendance List

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TRAINING ON CROWD SOURCING- Tuesday, August 10 2010
World Bank Offices 14:30 hours
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Strengthened Climate Information Group
PPCR MEETING – Thursday, August 12, 2010- World Bank offices
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4. Joint Mission for the Preparation of a Strategic Program for Climate Resilience (SPCR) November 15-30, 2010

Introduction

A Joint Mission led by the Government of Zambia and composed of representatives from the World Bank, the African Development Bank, the International Finance Corporation, the United Nations, the UK Department for International Development (DFID), civil society, and private sector representatives met in Lusaka during November 15-30, 2010. The specific objectives of this mission were the following:

- To assist the Government of Zambia in developing a draft Strategic Programme for Climate Resilience based on key priorities of the Sixth National Development Plan and other climate change and sustainable development programs, through broad-based consultation with potentially interested partners.
- To assist the Government in reviewing the institutional, analytical and strategic progress in establishing a national framework for climate change in Zambia.

The mission was part of an on-going process of programmatic discussions with national stakeholders on how best to address climate change challenges in Zambia supported by various Cooperating Partners. These processes have involved, in recent months: (a) mainstreaming of climate change into the Sixth National Development Plan; (b) the development of a Climate Change and Response Strategy; (c) policy and regulatory reforms, including the adoption of a new Disaster Management Act and increasing focus on deconcentrated and participatory planning; (d) development of the renewable energy strategy; (e) a new study on the economics of climate change impacts in Zambia; (f) strengthened analysis on climate change impacts; (g) renewed collaboration amongst partners on early warning systems and climate information data; (h) discussions on integrated land use assessment and REDD readiness; and (i) the introduction of crowdsourcing as a way to further involve civil society partners in program collaboration.

Building on these on-going processes, and following an introductory meeting with the Permanent Secretary of Finance, mission discussions were structured around four key stakeholder discussion platforms, coinciding with the priorities of the Sixth National Development Plan:

- Strengthened Climate Information
- Climate Resilient Agriculture
- Climate Resilient Infrastructure
- Management and Financing

Key Mission Finding

Progress on the Strategic and Analytical Framework for Climate Resilience in Zambia

Over the past year, Zambia has made significant progress on developing a conducive policy, strategic, institutional and analytical framework for climate change. Specific achievements include:

- Resilience to climate change has been comprehensively mainstreamed into Zambia's Sixth National Development Plan (2011-2015).
- Zambia's recently drafted National Climate Change Response Strategy
- Zambia adopted a Disaster Management Act

- Zambia’s future Urban and Regional Planning Bill in view and should provide an important way to incorporate climate resilience into planning concerns.
- Economic Assessment of the Impacts of Climate Change analysis carried out.

Proposed Strategic and Programmatic Priorities for the SPCR

Based on mission discussions, the platforms proposed the following strategic and programmatic priorities for the Strategic Programme for Climate Resilience:

Geographical Focus (see map):

National: **Strategic and Capacity Building Support** to the Climate Change Platforms

Regional: **Programmatic Investments on Barotse and Kafue Sub-Basins**

The Proposed Strategic Program for Climate Resilience (SPCR) – Phase II of the PPCR

The Strategic Program for Climate Resilience (SPCR) would be funded through an estimated US\$110 million contribution from CIF (US\$50 million grant and US\$60 million concessional financing) and co-financing (to be estimated) from Government, multilateral, bilateral, private and NGO partner sources. It would be a major contributor to Zambia’s broader Climate Change Program and for this reason, is not considered to be a separate program in Zambia, but rather an intrinsic part of its financing framework. Nonetheless, to keep consistency with international nomenclature, the term SPCR is used here.

The proposed *transformational objectives* of the SPCR would be, for priority areas of the Barotse and Kafue sub-basins:

To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate variability and change

To strengthen climate resilient infrastructure policies and pilot their effective implementation

To strengthen the coordination of early warning and climate information systems, to ensure availability of reliable and user-friendly climate information for an effective climate risk planning.

In addition, at the national level, the program would seek:

To strengthen the strategic planning, coordination, and awareness for climate change management in Zambia.

SPCR support would consist of three major investment components, with the platforms serving as informational and supporting structures:

- Programmatic Investment Component 1. Participatory Adaptation (*Estimated costs: US\$35 million*)
- Programmatic Investment Component 2. Climate Resilient Infrastructure (*Estimated costs: US\$50 million*)
- Programmatic Investment Component 3. Strategic Program Support (*Estimated costs: US\$25 million*)

Proposed Role of the Multilateral Development Banks and Other Development Partners

To optimize their role within the program, it is proposed that the SPCR be implemented as three complementary projects, as follows:

- The African Development Bank would administer the Kafue Sub-Basin SPCR Project – including both the Participatory Adaptation and Climate Resilient Infrastructure (estimated at US\$45 million)
- The World Bank would administer the Barotse Sub-Basin and Program Support SPCR Project – including Participatory Adaptation, Climate Resilient Infrastructure (in Barotse) and Program Support (estimated at US\$50 million).

- The International Finance Corporation would administer the Private Sector Participation SPCR Project (estimated at US\$15 million).
- The UN as One, civil society partners and the private sector would be integral partners to the proposed program. The preliminary distribution of interested partners amongst the key platforms of the program are included as Annex C to this Aide Memoire.

**MONGU-WESTERN PROVINCE
STAKEHOLDERS MEETING**

19th NOVEMBER 2010

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8.	MATOMOLA MWAULUSI	COMMITTEE MEMBER	KAHONHO VILLAGE

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5. FIELD MISSION TO KASUNGULA AND SESHEKE, MONGU AND SENANGA DISTRICTS FOR INSTITUTIONAL AND FINANCIAL MANAGEMENT ASSESSMENT

CONCEPT NOTE

The Pilot Program for Climate Resilience (PPCR) in Zambia, led by the Government of Zambia, is designed to pilot and demonstrate effective ways to integrate climate risk and resilience into the country's core development policies, plans and programmes. Following the Joint Mission of PPCR partners to Zambia in November 2010, the PPCR is currently preparing a Strategic Program for Climate Resilience (SPCR) to be ready for implementation by March 2011. In order to support this process, PPCR partners in Zambia will carry out rapid assessment and verification missions to strategically important field locations. A first Field Mission will be undertaken to Kasungula and Sesheke, Mongu and Senanga Districts from 1st February to 13th February 2011.

To effectively inform and support the preparation of the SPCR, the Field Mission will carry out the following tasks:

1. Institutional capacity assessment.

4. The Mission will assess the capacity of local agencies for procurement and financial management, as well as their legal and institutional status, with a view of identifying best possible mechanisms and institutional arrangements for effective and accountable fund flows for implementation of the SPCR. The Mission will implement a standardized questionnaire (developed by Wedex) and will be objective and transparent in its assessment. Agencies to be assessed include:
 - i. deconcentrated Government agencies (e.g. District Government, Provincial Government);
 - ii. decentralized structures (Council);
 - iii. community/ward structures; and
 - iv. civil society partners most active in the field.

5.

2. Test the robustness of the SPCR design.

The Mission will discuss with stakeholders whether the three major investment components proposed under the Draft SPCR (Participatory Adaptation, Climate Resilient Infrastructure, Strategic Program Support) and their supporting national platforms are sufficiently robust, or need adjustments.

For example, under Participatory Adaptation, this will focus on assessing the feasibility and conditionalities for developing and funding climate-proofed Local Area Development Plans through the SPCR. Questions to be discussed include: Are communities and districts prepared to develop Local Area Development Plans? What kind of support do they require for developing and implementing these Plans and how can this support best be delivered? What criteria and quality controls should be used for submission, review and funding of Local Area Development Plans through the SPCR? How should this funding be related to regular Government funding of these Plans?

The Mission will also discuss the feasibility of proposed pilots under the Climate Resilient Infrastructure component (e.g. proposed roads, canals) with relevant stakeholders.

3. Addressing comments by the PPCR Sub-Committee.

The Mission will make use of stakeholder discussions to address some of the comments by the PPCR Sub-Committee on the proposed design of the SPCR. These will specifically include: (a) the role of gender in

adaptation; (b) the role of private sector; (c) how results and lessons learned could be captured, scaled up and shared.

4. Environmental and Social Screening Checklist

The Mission will administer a standard Environmental and Social Screening Checklist (provided by the World Bank) for the prototype activities most likely to be financed under the Participatory Adaptation component of the SPCR.

5. Preparation of TORs for key strategic studies under Phase I of the PPCR.

The Mission will identify, on the basis of stakeholder dialogue and field observations, the specific focus of key strategic studies required to support the design and implementation of the SPCR and will draft Terms of Reference for these studies. Strategic studies have so far been proposed in the following areas:

- a) Information Platform:
 - Mapping of "who does what where and how much they invest";
 - Inventory of existing hydro-met and climate information network to identify gaps and coordination needs.
- b) Infrastructure Platform:
 - Assessment of social and economic vulnerability of infrastructure due to climate change (this team should also participate in the TOR for mapping of who does what where).
- c) Agriculture Platform:
 - Identification of key climate change mainstreaming gaps that need to be incorporated into upcoming strategies and policies (e.g. Agriculture, Fisheries, Livestock, Water Resources).

Reporting

The Mission will produce a joint **Mission Report** within 10 days of completing the Mission detailing its findings, observations and recommendations, including Terms of Reference for strategic studies. A list of stakeholders consulted and meetings held as well as standard questionnaires and checklists used will be annexed.

Mission team

The Mission will carry out its work through consultations with relevant agencies and stakeholders at provincial, district and community levels. Specific responsibilities for implementation of the tasks listed above will be assigned to different members of the Mission. The participating PPCR partners will provide complementary areas of expertise and skills to implement these tasks, will contribute to the preparation of the joint Mission Report and will overall jointly ensure that the objectives of the Mission are being achieved.

The Mission to Kasungula and Sesheke, Mongu and Senanga will comprise the following PPCR partners:

Meteorological Department (lead agency)
Ministry of Finance
Ministry of Agriculture and Cooperatives
Ministry of Livestock and Fisheries Development
DMMU

Zambia Red Cross Society
University of Zambia
World Fish Center
UNDMT
Green Enviro Watch

6. WORKSHOP ON THE PREPARATION OF THE FIELD VISIT REPORT AND THE STRATEGIC PROGRAMME FOR CLIMATE RESILIENCE

TRAINING PLAN

Summary

Dates: 4th to 11th March, 2011 (8 days)

Stakeholders: Platform Heads, MOFNP (Secretariat), MDB representatives and NGOs

Outcomes of the Workshop: SPCR, Field Mission Report

1.0. Introduction

Following the recommendations of the Joint Mission on the preparation of the Strategic Programme for Climate Resilience (SPCR) in Zambia held from 15th November to 30th November, 2010 (See Appendix 1. Aide Memoire), a Multi-Stakeholder field Mission was undertaken from 1st to 13th February, 2011. As a follow-up to the field mission and a response to the recommendation, a workshop for the preparation of the Strategic Programme for Climate Resilience has been scheduled for 3rd to 12th March, 2011. The purpose of the workshop is to complete the field report whose findings will provide strategic inputs to the SPCR. It is hoped that once completed, the report will be forwarded to respective Ministries for a no-objection prior to its submission to the Pilot Programme for Climate Resilience (PPCR) Sub-Committee.

2.0. Preparation of the Report on the Field Mission

As outlined in the concept note for field mission (See appendix 2. PPCR Field Mission to Kazungula, Sesheke, Mongu and Senanga), the field visit was undertaken to derive information that would effectively inform the preparation of the SPCR and was carried out under the following tasks:

- 2.1. **Institutional Capacity Assessment:** assessed the capacities of local agencies for procurement and financial management as well as their legal and institutional status. The aim of the exercise was to identify best possible mechanisms and institutional arrangements for effective and accountable funds flow for implementing the SPCR.
- 2.2. **Test the robustness of the SPCR design:** held discussions with stakeholders whether the three major investment components proposed under the draft SPCR (Participatory Adaptation. Climate Resilience Infrastructure and Strategic Programme Support) and their supporting national platforms are sufficiently robust or needed adjustment.
- 2.3. **Addressing comments by the PPCR Sub-Committee** on the proposed design of the SPCR which addresses concerns of gender in adaptation, role of private sector and other lessons learned that can be derived from the field.

2.4. Environmental and Social Screening Check list administration

2.5. Preparation of TORs for key strategic studies under Phase I of the PPCR.

In this regard, participants at the proposed workshop will edit and complete the report detailing findings, observations and recommendations including terms of reference for strategic studies. The exercise to prepare the report will take approximately 3 days (3rd March to 6th March, 2011)

3.0. Preparation of the Strategic Programme for Climate Resilience (SPCR)

The Joint Mission on the Preparation of the Strategic Programme for Climate Resilience (SPCR) recommended the urgent constitution of stakeholders to commence the designing process of the SPCR that will be presented to the PPCR Sub-Committee. Zambia is at the verge of qualification to access over US\$100 million in investment funds that will be utilized towards strategic sectors in the development of the country. As such it essential that a team of experts is constituted to support Government efforts in designing the relevant documents that define the country's investment strategy on climate change under the PPCR.

During the drafting process, members of the team will be expected to review documents, consult with relevant institutions and Ministries, draft, edit the proposal and make a final submission. This exercise is expected to take approximately 5 days (7th March to 12th March, 2011).

4.0. Stakeholder Participation

The workshop will be attended by representatives from the four Platforms namely, Information, Agriculture, Infrastructure and Finance. The list is attached as appendix 3.

5.0. Workshop Outcomes

Three priority outcomes of this workshop are envisioned and they include:

- 5.1. The completed Draft Strategic Programme for Climate Resilience (SPCR)
- 5.2. Field Mission Report detailing findings

Participants at the Workshop to prepare the Strategic Programme for Climate Resilience (SPCR)			
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2	Paul Lupunga	Acting Deputy Director	MOFNP
3	David C. Kaluba	Principal Economist	MOFNP
4	Simon Kayekesi	Principal Economist	MOFNP
5	Martin Sishekanu	Chief Agriculture Specialist	MACO
6	Micheal Mulenga	Senior Lecturer	UNZA
7	Praim Jain	Technical Coordinator	CCFU/MTENR
8	Lusajo Ambukege	IT Specialist	DMMU
9	Noah Zimba	CSO/Private Sector	ZCSNCC
10	Iretoniwa Olatunji	Advisor	World Bank
11	Choolwe Milambo	Director of Programmes	Green-Enviro
12	Sofia Betterncourt	Lead Operations Officer	World Bank
13	Wisford Mudenda	Disaster Management Coordinator	Red Cross
14	Representative	Senior Planning Officer	Ministry of Works & Supply
15	Wezi Phiri	IT Officer	MOFNP
16	Mr. Sampa	Accountant	MOFNP

7. WORKSHOP ON FINAL COMMENTS AND INCORPORATING INPUTS INTO THE STRATEGIC PROGRAMME FOR CLIMATE RESILIENCE (SPCR) SUBMISSION

SUMMARY

Dates: 4th to 7th May, 2011 (4 days),

Stakeholders: Platform Heads, MOFNP (Secretariat), MDB representatives and NGOs

Outcomes of the Workshop: Final SPCR Report, Power Point Presentation

6.0. Introduction

The Government of the Republic of Zambia is scheduled to submit its Strategic Programme for Climate Resilience (SPCR) in June 2011 during the PPCR Sub-Committee meeting in Cape Town, South Africa. During this meeting, Zambia will discuss its investment strategy for creating a resilient economy to effects and impacts of climate change. In order to guarantee a well structured report for presentation at a committee of Donors and Pilot Countries, the forthcoming workshop is being constituted to receive final comments and inputs into the SPCR.

7.0. Stakeholders and Workshop Objectives

The workshop will bring together 17 participants comprising Platform Heads from the Climate Information, Resilient Agriculture, Resilient Infrastructure and Finance and Management. Stakeholder will come from Government Ministries, Private Sector and Civil Society and Multilateral Development Banks. Representatives have been called as such to ensure continuity and availability of expertise with background knowledge on the PPCR and SPCR activities.

Therefore, the objective of the workshop is to afford stakeholders an opportunity to review each Part of the draft SPCR and to refine the submission in readiness for external evaluation by experts as guided by the Climate Investment Funds (CIF). In addition, the workshop will review the budgetary allocations among investment components as well as among MDBs leads for each sector. Furthermore, the workshop will also prepare the Power Point Presentations to be used during the forthcoming Sub-Committee and Meetings of Pilot Countries for lesson sharing. In addition to the finalization process, the workshop will strengthen a community of partners from various Government and Civil Society Institutions around the PPCR activities in Zambia

8.0. Workshop Outcomes

Three priority outcomes of this workshop are envisioned and they include:

- 8.1. The Final Strategic Programme for Climate Resilience (SPCR)
- 8.2. Power Point Presentation of the SPCR
- 8.3. Schedule of Accompanying Activities After SPCR submission

Participants at the Workshop to edit the Strategic Programme for Climate Resilience (SPCR)				
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12	Simon M. Kayekesi	Principal Economist (Multilateral)	MOFNP	
13	Mr. Chileshe	Driver	MOFNP	
14	Wezi Phiri	Data Entry Operator	MOFNP	
15	Dr Micheal Mulenga	Chief Executive Officer	RDA	
16	James Zulu	Civil Society	Red Cross	
17	Choolwe Milambo	Civil Society	Green Enviro Watch	

ANNEX 4: INSTITUTIONAL AND FINANCIAL MANAGEMENT ASSESSMENT

Institutional and Financial Management Assessment

1.1. Introduction

The Financial Management Assessment was administered in the Districts of Kazungula, Sesheke, Mongu and Senanga to officials at the District Councils which included Treasurers, Accountants and Internal Auditors. This was done through group discussions, applying the Financial Management Assessment questionnaire, observations and review of documentation. The purpose of the exercise was to assess the preparedness of District Councils to administer funds under the Participatory Adaptation Component of the Strategic Programme for Climate Resilience (SPCR) currently being designed. Categories of the assessment covered included Budgeting, Accounting, Internal Controls, Funds Flow, Financial Reporting and External Audits. It also drew lessons on how donor funded projects have been administered and their application on anticipated investments under the PPCR including their sustainability. In addition, this assessment considered the outstanding capacity needs that the PPCR could enhance in preparation for the implementation of priority projects yet to be identified.

Most of the Councils surveyed showed evidence of capacity to plan and budget as well as follow basic accounting financial reporting skills. Internal and external audit structures exist to some extent. However, it is apparent that more capacity building activities are required to enable staff improve professionalism in managing resources under projects such as the PPCR. Whilst some a number of personnel at Districts has minimum qualifications to perform accounting routines, capacities are required in the use of accounting software, monitoring of expenditures and reporting of expenditures at the operation level. In terms of preparedness, Senanga ranks reasonable high, followed by Sesheke, Kazungula and then Mongu. Mongu requires serious attention prior to disbursement of any resources to the District Council. Whilst structures at local community levels such as Area Development Committees exist, it is apparent that capacities to manage finances are limited and at this stage may not be have adequate institutional arrangements to administer resources under the PPCR.

1.2. Findings

2.0. Budget and Budgetary Execution

During the assessment it was established that all District Councils operate activity based budgets which are approved by the Full Council and eventually by Central Government. Individual departments initiate projected expenditures based envisioned work plans. The consolidated budgets are presented to finance purpose committee which presents these for adoption by the full council. The Minister of Local Government and housing grants the final approval of Council budgets. This is standard budgeting procedure with Government Ministries and grant aided institutions such as Councils. The role of Area Development Committee (ADC) in the budgeting process is not apparent as ADCs seemingly are represented by the area Councilor who is also an Ex-officio on ADC Committee. In addition, there is a lack of sensitization on the budgeting process and the role of communities.

Execution of the budget in all Councils is largely dependent on the flow of funds from various revenue sources received on a monthly basis. The major sources of income for Councils comprise grants from Central Government which makes up 60% and other internally generated funds which account for the remainder of the 40% of the budget. It was further evident from submissions that local council possess some experience in managing both Council and project resources. On average, District Councils' annual funding portfolio ranges from K1.8 billion to K2.5 billion with Sesheke generating the highest and Senanga the lowest (appendix 1.1). Among the four Districts, only Senanga's budget for 2011 has so far been approved and evidence was provided to this effect. This was aided by the availability of a clear timetable from budgeting to reporting including submission of appropriate reports. Budgets for Mongu, Sesheke and Kazungula were still awaiting approval by the Minister.

3.0. Accounting and Financial Reporting

All District local authorities have financial structures in place as prescribed under the Local Government Financial Regulations. Officials at District Councils indicated that the financial guidelines provided by the Ministry of Local Government and Housing abide by acceptable international financial standards but their application by some officers remain a major challenge. Mongu District Council, prior 2009, failed to apply basic accounting principles around preparation and reporting. The District is yet to finalize the 2008, 2009, 2010 financial reports. Comparative, Senanga which is a smaller District has already completed its 2010 financial report and has submitted to Central Government. Sesheke and Kazungula Districts were at the time of this assessment in the process of finalizing the 2010 reports.

It was also noted that at project level adherence to donor reporting requirements is higher compared to Government regulations. This was evidenced by the implementation of activities under ZAMSIF, D-WASHE, Community Access and DANIDA rural water and supply projects which were implemented with minimal financial irregularities in Sesheke and Senanga. Specific project bank accounts have been opened for project activity's implementation needs. It was also noted that the Ministry of Local Government and Housing suspended Mongu District Council over mis-application of funds under the DANIDA funded rural water and sanitation project for one year prior to 2009. Since 2009, the District Council has had the suspension lifted and is currently implementing activities under DANIDA.

In terms of qualifications, Mongu has the highest qualified personnel with the Director of Finance holding Association of Certified Chartered Accountants (ACCA) and holding the Associate membership with the Zambia Institute of Chartered Accountants (ZICA). We noted, however, that the Director of Finance at Mongu District Council only joined the Municipality in 2009. The other Councils' most senior staff such as the Council Treasurer holds a Diploma in Accountancy. Staffing levels of Accounts departments at Councils assessed ranges from 11 to 24 personnel with Kazungula having the lowest number and Mongu having the highest. Revenue collectors at each District make up the largest number of the Accounting staff contributing between 50 to 63 percent of the total staffing levels.

3.1. Internal Controls

General observations are that Internal Control processes are in existence in all District Councils. These Internal Control procedures or processes are enshrined in the Local Government Financial procedures which are also expected to be adhered to by local authorities. The standard internal process involves generating of requests by respective departments, checking by Internal Auditor, Authorization by the Council Treasurer and final approval by the Town Clerk who is also the Controlling Officer. Whilst these

procedures are in place, adherence to them remains a major challenge in all Districts visited. This was particular evident in Mongu where there are still some outstanding audit queries resulting from none compliance to established internal controls.

In terms of existing thresh holds, the Town Clerk can authorize up to K50 million and above this amount, approval processes go through tender procedures under the Zambia Public Procurement Authority (ZPPA) guidelines (Appendix 1 subsection 3.1). Within the ZPPA guidelines, issues regarding conflict of interest are regulated and clearly stipulate the need to declare interest in an event that individuals connected to the procurement of specified goods and services wish to become suppliers. It is not clear how this has been enforced in various projects.

In an event that a financial fraud is uncovered, appropriate disciplinary actions have been undertaken at both the Central Government level and Council Disciplinary Committee level. In one instance, Mongu District Council suspended discharged a member of staff alleged to have flouted procedures in the same District. There were no reports of prosecutions in courts of laws resulting from theft, misappropriation or any other fraudulent activities.

3.2. Funds Flow

During the implementation of the ZAMSIF, all the Districts implemented projects for the benefit of local communities. Based on performance Districts were rated accordingly with Senanga having attained level which was one level below the highest rating of 5. Mongu had reached level 4 but was dropped to level 3 due to over procurement of goods and services. Kazungula ended at level three and could not attain higher levels due to the perceived lack of transparency such as the non-display of approved work plans as prescribed in the indicator of the project guidelines. Sesheke failed to generate quality reports compounded late procurement of goods meant for the construction of the market. The District, however, cited the poor road infrastructure at the reason for this failure. As stated above Senanga, at the time of the project closure had submitted a request for assessment to attain level 5, indicating a fairly consistent progression and capacity to manage funds.

Regarding, the transfer of proceeds of the grant, the relevant donor institution would ordinarily provide the guidelines to the recipient Council. DANIDA is currently transferring funds through the Ministry of Local Government and housing which transmits to the Local Authorities. Area Development Committees receive funding through Local Authorities who also administers procurement processes on their behalf. Under ZAMSIF, ADC representatives co-signed the authorization and withdrawal of funds. In all the Districts there were indications that respective communities have contributed labor and materials in-kind towards the implementation of projects in their areas. In kind contributions have included sand, stones, water, wood etc. Reports of fraudulent activities at ADC level were not apparent.

3.3. Financial Reporting

As noted above, Sesheke, Kazungula and Senanga have either completed the 2010 financial reports of are finalizing them. These reports are either manually prepared or are compiled basic software packages such as excel or word. Where accounting departments are computerized, they are either outdated or insufficient without any accounting packages. For example whilst there seem to be clear division of labor in handling reports such bank reconciliations they are however manually generated. Other reports produced included income and expenditure statements, basic receipts and payments statement but

excludes balanced sheets. Senanga District was an exception in that they have managed to produce a balance sheet. In Kazungula the first attempt to produce a balance sheet was being made in the 2010 report. Notable also was the absence of Assets Registers in most Councils except Senanga which has compiled its balance sheet. With the exception of motor vehicle insurance coverage all Council properties such as buildings are not insured.

3.4. External Audit

All local Authorities undergo statutory annual audits which are conducted by the Office of the Auditor General. Where reports are not available or are late, respective Authorities are summoned to appear before Parliamentary on Accounts to exculpate themselves. The Parliamentary Committee would often recommend disciplinary measure to be instituted on erring Districts and Officials in such circumstances.

As stated above, audits for Sesheke, Senanga and Kazungula for 2009 have been completed. Impressively, Senanga is currently being audited for the 2010 financial year. Mongu is still responding to audit queries of 2008. Regarding audits project accounts, individual donor agencies assign an external auditor to verify reports in addition to the Auditor General's audits.

3.5. Discussions

Some efforts have been attempted by the councils to involve community stakeholders and civil society in the past as a prerequisite of project mandate and were reported to have enhanced the transparency and accountability in use of resources. However, the involvement or oversight roles of stakeholders such as communities and NGO's are not firmly enshrined in the current structure of the local financial structures and this dilutes the relationship and involvement of beneficiaries to efficient use of resources.

Invariably, the structures to be used to administer resources that offer increased chances of making significant impact on outcomes should involve grassroots' owned oversight system that realigns capacity building recipients of financial management to grassroots' institutions rather than the traditional approach that has focused only on the apex centralized organisations. From field evidence the turnover of human resource in councils is high and challenges the need for enhancing sustainability of capacities at local levels.

3.6. Recommendations

- a. All the four District Councils sampled showed evidence of adherence to budgeting processes. The lack of timely disbursement of resources has hampered the timely implementation of activities envisioned. Whilst the budget estimates may be realistic factors outside Council's control affect them. In addition, there are challenges with locally generated resources and the effectiveness of collection mechanism. Therefore it is recommended that prior to the implementation of activities under the PPCR, all Council planners and Accounting staff are reoriented to the budgeting, executing, monitoring and reporting process. Senanga can be used as a model District to showed potential and capacities that already exists.
- b. All the four Districts require capacity building in the use of budgeting, accounting and reporting software packages including computer or IT infrastructure such as email, intranet and internet. This will enable efficiency and transparency in reporting of progress and activities being undertaken. This training will build upon the already existing accounting expertise noted in all the Districts.

- c. Whilst internal controls exist to a large extent, their enforcement capacities or adherence to are relatively weak. Therefore, there is need to sensitize personnel in accounts and internal audit departments about internal controls. In addition, it will essential for qualified staff to be regulated by the professional accounting bodies such as ZICA. Also, audit functions require not only skilled personnel but experienced staff.
- d. Disbursement procedures have depended on the guidelines provided by concerned donor agencies or institution. In this regard, they vary depending on preference and procedures of each donor or non-Government Organization. Under the PPCR, disbursement of funds could be done from the Ministry of Finance and National Planning's special designated account to the project account of the recipient District Council. Whilst the experience under ZAMSIF has been acknowledged, capacities developed then may not exist today and hence the need to expose priority or participating officials to disbursement, procurement and reporting procedures of the World Bank.
- e. It is clear that external audits are an ongoing activity and programme by the Auditor General's Office. However, to ensure adherence to sound financial management other external auditors as required by donor by the World Bank be undertaken. In scenarios such exist in Mongu audits could be done bi-annually to ensure consistency and observance of regulations.
- f. Area Development Committees sample vary in terms of preparedness to administer funds in their localities. One ADC in Senanga showed high level of organization due to informed and knowledgeable composition of members. However, due to the lack of legal status the Moyo ADC in Senanga cannot open a bank account to receive funding. Apart from using District Council structures, Non-Government Organizations such as Concern Worldwide, Red Cross, Keepers, World Vision and Caritas and World Fish Center as the ideal instrument for channeling funds to ADCs.
- g. Efforts should be taken to impart skills capacitate Districts to handle bigger projects and the procurement process should also be streamlined so that Districts are a part of the whole process.

APPENDIX: ZAMSIF Standard

Introduction

The major objective of the ZAMSIF was to contribute to the building of capacity for improved local governance in the districts. The DIF component supported substantial capacity building so as to enhance the capacity of district staff to facilitate the activities of the CIF project cycle, so that , in the long term, districts will be able to undertake all the tasks including financing community projects. The ZAMSIF standard has five levels.

With the aid of the Provincial Assessment Committee (PAC), the progression of a district from one level to the next will be based on an annual assessment made by the PAC. The PAC will have representatives from district officers (both Local Government and Line Department) as well as Provincial Officers and ZAMSIF. The PAC will also make recommendations to the ZAMSIF Steering Committee. The assessment will be based on criteria set by the Steering Committee of the ZAMSIF and will be agreed in a consultative process with districts. The criteria and the indicators of performance are found in table below. The levels are:

Level 1: Level 1 reflects current practices for SRP II. The community will identify its highest priority project and submits its proposal to the district Planning sub Committee (PSC). The PSC will appraise the proposal with the ZAMSIF Regional Officer (RO). The DDCC recommends the sub project to the ZAMSIF Management Unit (MU), the project design and costing is completed and the project will be submitted to the ZAMSIF Steering Committee for approval. The community will implement the project, with support provided by the district with the ZAMSIF RO. ZAMSIF MU will disburse funds to the communities who will account directly to the ZAMSIF MU.

Level 2: Districts in Level 2 will have demonstrated their capacity and fulfil agreed criteria for the appraisal of project proposals and support for the implementation with regular monitoring and technical advice. Districts will recommend sub projects to ZAMSIF MU for funding and the ZAMSIF Steering Committee will then approve these.

Level 3: Districts in Level 3 will have the capacity and fulfil agreed criteria for the complete appraisal, budgeting and costing of the sub project and will support the implementation with regular monitoring and technical advice. Districts will recommend sub projects to ZAMSIF MU for funding and the ZAMSIF Steering Committee will then approve these.

Level 4: Districts in Level 4 will have the capacity and fulfil the agreed criteria to support the justification function. They will also be responsible for the approval of sub projects (up to US \$ 50,000) and will submit these for funding from ZAMSIF MU. The ZAMSIF MU will disburse funds to communities but communities will account for funds to the district. The district will submit a financial report to ZAMSIF and, based on this, will recommend (or not) subsequent release of funds from the ZAMSIF MU to the communities.

Level 5: Districts in Level 5 will have shown adequate financial management capacity and accountability to receive an annual commitment for CIF projects at the beginning of each financial year from ZAMSIF which will be disbursed to districts in tranches. The district will then cost and approve community sub projects, disburse funds to communities, communities will account to the district and the district supports implementation and evaluates the sub projects. It is proposed that the annual allocation may be calculated on the basis of population size, prevalence of poverty and size of district but a consultative process will determine this.

The combined criteria and levels for the CIF and DIF form the ZAMSIF standard.

Levels of DIF and CIF

Key

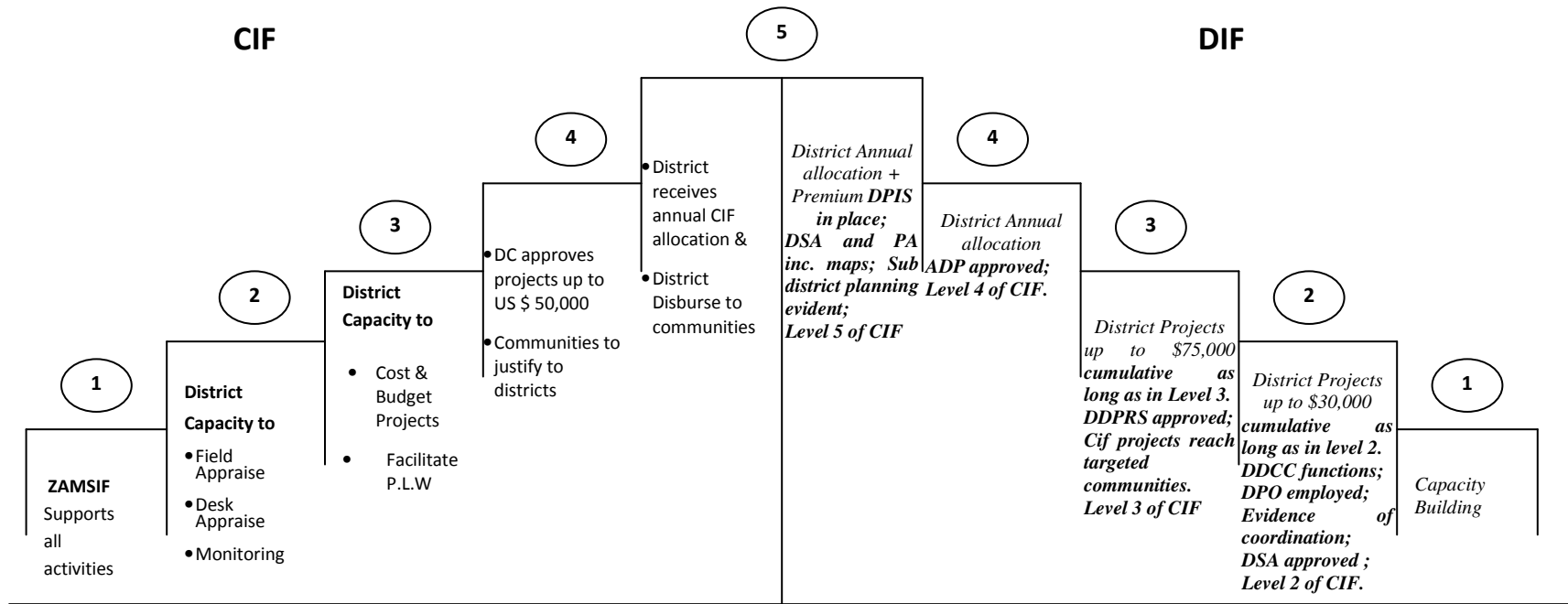
DPIS = District Planning Information System

DSA = District Situation Analysis

PA = District Poverty Assessment

DDPRS = District Development and Poverty Reduction Strategy

ADP = Annual Development Plan



Level 1	Level 2	Level 3	Level 4	Level 5
DISTRICT ROLE: <ul style="list-style-type: none"> • CIF desk appraisals 	DISTRICT ROLE <ul style="list-style-type: none"> • Field appraise • Monitor projects 	DISTRICT ROLE: <ul style="list-style-type: none"> • Appraise, cost & budget for CIF projects • Appraise, cost, budget & implement DIF projects 	DISTRICT ROLE: <ul style="list-style-type: none"> • Appraise, cost & budget for CIF projects and DIF projects • CIF Approvals • CIF justifications 	DISTRICT ROLE: <ul style="list-style-type: none"> • All activities for CIF management • All activities for DIF management
MINIMUM ACCESS CONDITIONS District signed MOU District signed financing agreement for capacity building funds DIF bank account open for capacity building funds	MINIMUM ACCESS CONDITIONS Technical capacity to appraise but not cost a CIF or DIF project. Facilitation capacity to facilitate field appraisal; Financial Capacity; Relevant Financing Agreements signed. Council/DDCC functioning DPO employed Adequate District Situation Analysis (DSA) & Poverty Assessment (PA) drafted, endorsed by DDCC & approved by Council	MINIMUM ACCESS CONDITIONS: Technical capacity to <u>appraise, cost and budget</u> CIF & DIF projects Proven capacity to implement DIF Continued Financial management capacity Outline Poverty Reduction Strategy (PRS) objectives drafted, endorsed by DDCC & approved by Council Strategic Development Plan & Poverty Reduction Strategy drafted, endorsed by DDCC & approved by Council Relevant Financing agreements signed	MINIMUM ACCESS CONDITIONS: <ul style="list-style-type: none"> • Capacity to <u>approve</u> CIF projects and account for funds • Capacity to manage & implement <u>annual allocation of DIF</u> • Annual Development Investment Plan (estimates) approved by Council • Relevant Financing agreement signed 	MINIMUM ACCESS CONDITIONS: <ul style="list-style-type: none"> • As previous tiers, plus • Capacity to <u>manage & allocate annual allocation of CIF</u> • Financing Agreement signed
PERFORMANCE CRITERIA to move or remain <ul style="list-style-type: none"> • Satisfactory desk & field appraisals 	PERFORMANCE CRITERIA to move or remain <ul style="list-style-type: none"> • As Level 1 plus: • At least quarterly 	PERFORMANCE CRITERIA: As Level 2 plus: <ul style="list-style-type: none"> • Evidence of sectoral co-ordination within DDCC 	PERFORMANCE CRITERIA: As Level 3, plus: <ul style="list-style-type: none"> • Desk appraisals report/prioritise against 	PERFORMANCE CRITERIA: As Level 4 , plus: <ul style="list-style-type: none"> • District Planning Information System & Poverty Monitoring

<ul style="list-style-type: none"> • District team¹ completing reports to DDCC & Council on desk & field appraisals • DTT² regular monitoring of CIF projects and reporting • 	<p>meetings of DDCC with senior officer attendance. Minutes reported to council</p> <ul style="list-style-type: none"> • PSC reporting to DDCC after each desk and field appraisal • Appraisal and monitoring reports submitted • Facilitation of community participation for CIF projects 	<p>(planning information, multi-sectoral projects)</p> <ul style="list-style-type: none"> • Desk appraisals report against PRS • Projects reaching poor & remote communities, and those targeted in PRS • DSA & PA reviewed & updated. Includes participatory assessment 	<p>Annual Development Plan & PRS</p> <ul style="list-style-type: none"> • Projects reaching targeted communities/sectors • DPU accommodation & equipment in operation • Participatory M&E of CIF & DIF shows public satisfaction 	<p>operational</p> <ul style="list-style-type: none"> • DSA + PA include mapped data <p>PREMIUM DEPENDENT ON:</p> <ul style="list-style-type: none"> • Innovations & good practice such as: <ul style="list-style-type: none"> • Sub-district planning & allocation formulated operational • Regular reviews of planning documents • Continued good facilitation of CIF
<p>CHECKLIST³:</p> <ul style="list-style-type: none"> • District reports (showing reference to ZAMSIF Operational requirements) • Signed MoU • DDCC minutes • Council minutes • CIF / DIF Project files 	<p>CHECKLIST:</p> <ul style="list-style-type: none"> • District reports • Minutes of DDCC & Council • DSA & PA documents • CIF / DIF Project files • Council accounts 	<p>CHECKLIST:</p> <ul style="list-style-type: none"> • District reports • Minutes of DDCC & Council • DSA & PA documents • PRS objectives • CIF / DIF Project files • Beneficiary assessment reports • DIF and Council accounts 	<p>CHECKLIST:</p> <ul style="list-style-type: none"> • District reports • Adequacy of Minutes & Documentation • SDP, PRS & Annual Development Plan documents • CIF / DIF Project files • M & E reports 	<p>CHECKLIST:</p> <ul style="list-style-type: none"> • As previous levels

¹ Where there is no functioning District Planning Sub Committee, the District team will perform this function.

² DTT = District Technical Team, inc. Director of Works, Building Officers, PWD who will report to Planning Sub Committee

³ Means of Verification

The minimum access conditions for a DIF project under ZAMSIF include capacity for some district planning especially for poverty reduction and coordination. Skill gaps exist for participatory and district planning including data collection, data analysis and policy development. There have been few district level attempts at poverty analysis although significant amount of data are collected and maintained in the district by sectors. The DIF provided the incentive for districts to improve their capacity for district planning as the targeting, identification, appraisal, and approval of projects will be on the basis of an increasingly comprehensive district planning process.

The process of district planning will include:

- 1 District Situation Analysis** which the district planning office should compile, DDCC endorse and district council approve, should be a simple document which brings together sector reports on district status and sector programmes, an area description, status and location of programmes preferably mapped.
- 2 Poverty Assessment** which should include sector-wise definitions and analysis of poor and district status. These will be combined to form a spatial description of above by geographical area, mapped if possible. ZAMSIF will also support participatory exercises at district and community level to facilitate localised definitions of poverty and poverty reduction strategies.
- 3 District Development & Poverty Reduction Strategy** will include combine the above and provide a broad statement of strategic development objectives based on problems identified in District Situation Analysis & Poverty Assessment. Target Groups/Areas for Poverty Reduction will be identified as well as sector and area objectives.
- 4 Annual Investment Plan** based on District Development Strategy, will plan projects according to available resources. It will take into account proposed and approved / ongoing projects by sector/ funding source/ cost / location. These will be mapped if possible.

ANNEX 5: KEY COMPLEMENTARY PROJECTS SUPPORTED BY DEVELOPMENT PARTNERS PROMOTING CLIMATE RESILIENCE IN ZAMBIA

Project Title	Organization	Brief Description	Project Duration	Budget (US\$)	
DONORS (MDBs, Bilateral ...)					
1	Adaptation to the effects of drought and climate change in Agro-ecological Regions I and II	UNDP	The project will focus on capacity and systems to anticipate assess and prepare for climate change risks development at community, regional and national levels. Adaptation learning generated from the pilot projects will be used to guide mainstreaming of adaptation in national fiscal, regulatory and development policies, to support adaptive practices on a wider scale. The project will seek to address the barriers that prevent the scaling up of successful interventions and the adoption of profitable activities by local entrepreneurs. Barriers that will be overcome by the project include: i) limited access to markets ii) limited climate risk information used in agricultural planning iii) limited institutional capacity to adequately address climate change; and iv) limited public awareness of climate change and the need to adapt. The following four outcomes will be delivered: 1. Climate change risks integrated into critical decision-making processes for agricultural management at the local, sub-national and national levels 2. Agricultural productivity in the pilot sites made resilient to the anticipated impacts of climate change 3. National fiscal, regulatory and development policy revised to promote adaptation responses in the agricultural sector 4. Knowledge and lessons learned to support implementation of adaptation measures compiled and disseminated	4	13,599,000
2	Humanitarian Coordination Committee	WFP	In general the HCC is supporting the Disaster Management and Mitigation Unit in strengthening coordination mandate. Support focuses on strengthening the capacity and coordination abilities of DMMU to effectively and timely respond to disasters by investing more disaster risk reduction. These includes; <ul style="list-style-type: none"> • Supporting decentralized coordination systems development • Development of information management systems • Building institutional capacities in the use of GIS for undertaking integrated early warning analysis and mapping • Reinforce logistical capacity for the transport unit for DMMU for 		

			<p>improved emergency preparedness Through this the ongoing project are:</p> <p>1. GIS Hazard Risk Map on natural- and human- induced disasters.</p> <ul style="list-style-type: none"> • Development of data collection tools and systems for data management including meta data profiles of the Spatial Data Infrastructure (SDI) • Establishment of a web-based emergency preparedness and response information management platform. • Establishment of a partnership for data generators and users in Agriculture, Environment, Infrastructure and Water sectors for validation and sharing of DRR GIS and Spatial data • Training provincial sector based DRR focal points and provision of manuals and tools for collection, management and utilisation of data and information in ZEPRES and DMMU National Information Management System <p>2. Skills of DMMU staff at national and provincial levels developed to use national disaster management and early warning systems</p> <p>3. Establish a partnership for provision and accessing data and information on remote sensing for the DMMU, National Remote Sensing Centre and learning institutions</p>	2011	405,833
				2011	85,833
3	Food aid programs	USAID	<p>The program through the US government in collaboration with GRZ, FEWSNET, Red Cross will be increasing its focus on food security. It sees food aid as contributing to building long term resilience: "Food aid programs aim to increase the resiliency of vulnerable households in areas often affected by uneven weather patterns and climatic shock." New activities proposed that have DRR and CCA relevance but are not "branded" as such as research into more drought tolerant crops (in the pipeline) promoting small-scale irrigation and agroforestry (id.)</p> <p>It is being mainstreamed in the Zambezi River Basin Initiative. With focus on the following areas of the country:</p> <ul style="list-style-type: none"> • FEWSNET covers the whole country. • Zambezi River Basin Initiative: Sesheke district (Western Province) and Kazungula district (Southern Province). 		
4	Zambezi River Basin Initiative	Red Cross	<p>The project has being developed to reduce vulnerability and build community resilience against hazards and threats in their environment. The goal of the project is to reduce the impact of challenges facing communities along the Zambezi river basin and improve the quality of their lives and livelihoods, through comprehensive and sustainable disaster management. The priority</p>	3	1,125,364.94

				<p>focus of the interventions linked to climate change induced activities to achieve this are:</p> <ul style="list-style-type: none"> • Disaster preparedness, response and risk reduction; • Food security; • Health; • Water and sanitation and; • Capacity building <p>The target community y in Zambia are Kazungual and Sesheke district with a population of about 22,000expected beneficiaries.</p>		
5	Integrating Sustainable Land Management into Climate Change Financing and Investment frameworks	UN Global Mechanism		<p>The objectives of this project are to: a) better inform the mainstreaming of Sustainable land management (SLM) into climate change financing and investment frameworks; b) enhance the synergistic implementation of current and/or emerging climate change adaptation and mitigation projects/programmes with other MEAs; c) identify innovative financing instruments that builds the nexus between land and climate change; and d) inform decision making processes that can engender increased investments into SLM as a way of addressing climate change.</p> <p>It has a two-pronged approach which is closely inter-linked and mutually re-enforcing. First, a national level assessment on the inter-linkages between climate change and SLM is currently ongoing. The assessment looks at SLM related sectors such as agriculture, energy, mining, tourism and natural resources, water, trade and how these sectors are linked to climate change and vice-versa, as well as how climate change investments, financing and programming could address the SLM aspects of these sectors in order to make these sectors viable and less vulnerable. The draft report from the assessment is now available.</p> <p>Second, the outcomes of the national assessment will be used to support the design and implementation of Zambia" climate change adaptation and mitigation efforts</p>	2011-2013	150,000
6	Greater National Economic Development	Kafue Park MCA		<p>The objective of the proposed project is to increase incomes derived through sustainable nature-based tourism by improving access to and within Kafue National Park (KNP or the Park); building the capacity for improved park and wildlife management; and increasing the benefits from tourism and diversified livelihood activities to communities adjacent to KNP. The proposed project offers a comprehensive approach by investing in infrastructure, park and wildlife management, and community development programs aimed at increasing incomes and taking the pressure off of the natural resource base. Proposed investments to infrastructure include key access roads to KNP and internal</p>	4	80,000,000

			roads, wildlife-viewing tracks, bridges, and “bush” airstrips within KNP.		
7	UN-REDD Programme – Zambia Quick Start Initiative	UN-REDD	<p>The aim of the project is to prepare Zambian institutions and stakeholders for effective nationwide implementation of the REDD+ mechanism. While its objectives are:</p> <ul style="list-style-type: none"> i) Build institutional and stakeholder capacity to implement REDD+ ii) Develop an enabling policy environment for REDD+ iii) Develop REDD+ benefit-sharing models iv) Develop Monitoring, Reporting and Verification (MRV) systems for REDD+ <p>The expected outcomes at the end are</p> <ul style="list-style-type: none"> • Capacity to manage REDD+ Readiness strengthened; • Broad-based stakeholder support for REDD+ established; • National governance framework and institutional capacities for the implementation of REDD+ strengthened; • National REDD+ strategies identified and; • MRV capacity to implement REDD+ strengthened. 	3	4,490,000
9	Awareness on Climate change	UNICEF	Works with Child Ambassadors to create awareness on climate change. And it's being implemented in a disaster and climate change vulnerability prone areas with active participation of DMMU / MoH	10	CFU-25,000,000
10	FISRI-Farmer... Significant Response Initiatives to Raising Prices of Agriculture Commodities	FAO/Norway	Promotion of conservation agriculture, originally in 12 districts and now expanded to 28 districts in close collaboration with MACO	2009-2011 2011-future	11,000,000 5,000,000
11	Conservation farming and SLM	NORAD	Supporting the CCFU through UNDP. Substantial support to conservation farming. Support to Terrafrica: sustainable land management in the context of climate change adaptation mostly in Southern and Central province in partnership with MACO / MTENR ,CFU / GART	2011	1,100,000
12	Food, Income and Markets Programme	Concern WorldWide	<p>The programme's main focus is facilitating diversified livelihood activities, increase food security, nutrition and household income for 45,000 poor and extremely poor households of Western and Central Zambia as well as strengthening community management of local natural resources. This is being implemented the two programmes:</p> <p><i>Local Natural Resources Management:</i></p> <ul style="list-style-type: none"> · Implement capacity building plans for District and Satellite Disaster Management Committees around early warning information dissemination and disaster risk mitigation planning · Support communities in implementation of canal clearing through a 'self- 	3 years from 2010-2012	155,086

- help' approach.
- Implementation of capacity building plans for the District and Village Natural Resources Committees around natural resource mapping and by-law implementation at community level
- Organize Natural Resources User Groups (NRUGs) and support them in developing their management technical, processing and marketing capacity
- Support innovative small projects by the NRUGs for promotion of alternative livelihood options with startup resources.
- Support community groups farmers in pond fish farming and wetland organic agriculture practices.

Diversified Livelihood Sources/Food Security: activities linked to addressing challenges of climate change and the impact it has on food production include the following:

- Facilitate take up of opportunities for self-financing activities and mobilization of local resources.
- Facilitate poverty and vulnerability analysis and development of strategies to increase participation of the poorest.
- Create a poll of skilled staff trained in Conservation Agriculture and other applicable techniques that would mitigate impact of climate change on crop production.

They are also running a conservation farming project, in the Western province: Mongu, Senanga, Kaoma and Kalabo districts. They are planning to start micro-finance programme targeting the most vulnerable households. The implementation is through SDMCs, DDMCs. Keepers Zambia Foundation. For CF: District Farmers Associations.

13	ZAMA Community Disaster Reduction	59 Led Risk	Oxfam Oxfam Kong, Germany Novib	GB, Hon Oxfam and
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Climate change is incorporated in the DRR project, with particular attention for vulnerability of women to climate change related hazards. Project implemented by Africa Now and HODI. The specific goal is so communities are able to predict, mitigate, cope with and recover from disaster in a multi-Hazard environment and mitigate the impact disasters through reduced poverty and adapting to climate change (including beneficial trends). The overall goal of the project is to mitigate the impact of floods and drought on 30-40 communities and its members (48,000) people in rural district of Sinazongwe and Kazungula Mongu, and Namwala. Collaboration w/ MACO extension staff. The areas

3years (in its
third year 878,154

OXFAM works through local partners only, and has concluded that one of the main challenges is to find strong partners. OXFAM staff is responsible for bringing lessons learnt from field projects to the national arena.

Support to Zambia Meteorological Department Capacity building for climate change cooperation	Denmark	Improving the existing station network. Upgrading the workshop at ZMD. Improving the data management at ZMD. Improving basic data analysis techniques. Introducing climate data gridding techniques. Producing regional climate projections for Zambia. Reviving and upgrading ZMD's web-site. Implementing a web-site at ZMD's regional office in the Southern Province.	3	951,311
Capacity development for effective Early Warning Services to support climate change adaptation in Zambia	UNDP	Developing a tailored system that guides operations, production and delivery of adequate early warning services to accommodate the Climate Change adaptation concerns. UNDP contribution will be towards the development of the capacity of the national institutions that play a key role in early warning for adaptation, strengthening of the cooperation among national institutions and involvement of cooperating partners. The programme has started with the formulation of the ZMD Strategic Plan 2009-2013. Implementation in collaboration with Meteorological department		Already dropped, confirmed from Amos Muchanga-UNDP
Lake Tanganyika integrated management programme	UNDP	The Zambian component of the regional Lake Tanganyika project focuses in controlling the sediment flows from the steep mountainous terrain surrounding the lake. Sustainable agriculture and forestry are promoted by strengthening institutions and supporting community participation. Over-fishing is also addressed with support from African Development Bank and FAO. Mpulungu and Kapula districts. To be delivered in partnership with MTENR, AfDB, FAO	5	2840000
Conservation of Miombo-Dry Forest in West Lunga	UNDP/Germany	(Extension of the Reclassification project) The Miombo Ecoregion (additional component of the Reclassification project) aims to set up the West Lunga National Park and surrounding new protected areas, protecting forest carbon reservoirs and conserving biodiversity. In collaboration with ZAWA	2	2500000
Poverty alleviation of Mongu District population through sustainable forest management and utilization	Italy	Implement activities for a local economy improvement included the construction of a saw-mill and oil expeller system for jatropha curcas; realization of a control system at every level aimed at couching for the correct management of the forest; implementation of a system to facilitate the reproduction of natural resources. Mongu district. Delivery is in collaboration with ZAWA the Diocese of Mongu Development Centre	2	861561
Groundwater Resources for Southern Province	Germany	Development of groundwater database and hydro-geological maps; development of a management programme for highly vulnerable groundwater resources Southern Province/Kafue Basin/Lusaka		
Strengthening of Meteorological services in SADC	Finland and Denmark in collaboration	AT inception Phase	2010-	

		with UNDP and COMESA			
Support to Zambia Climate change Civil Society Network	DFID		Climate change advocacy and implementation by civil society groups	5	244,821
Use of Crowd sourcing	Global Facility for Disaster Reduction and Recovery(GFDR R) and World Bank Institute		Promote the use of crowdsourcing in early warning systems	3	40,000
Support to RHOK and			Sponsor to the Random Hacks of Kindness (Zambia)		
Support to Climate change profile			Development of Zambia's Climate Profile		
Geospatial climate related information system in Zambia	Google ,NASA, European space Agency and Italian Government		Promoting the use of geospatial information systems in Zambia		
CGIAR Research program 1.3 "Harnessing the Development Potential of Aquatic Agricultural Systems for the Poor and Vulnerable"	World Fish Center		Resilience of fish, crop and livestock production in flood plains; Capacity for integrated food security programming and implementation; Participatory planning and impact assessment; Gender responsive investment strategies; The WorldFish Center, will be working with: <ul style="list-style-type: none"> • Ministry of Livestock and Fisheries Development; • Ministry of Agriculture and Cooperatives; • Golden Valley Agricultural Research Trust (GART); • Farmer Associations; • Seed and feed producers; • NGOs: Concern Worldwide; Catholic Relief Services; Land o' Lakes; • Zambia Agricultural Research Institute (ZARI) And it will be implemented in Upper Zambezi flood plains (Districts: Mongu, Senanga, Sesheke, Kalabo,);Kafue Floodplain (Districts: Namwala, Monze);Southern Province (Districts: Siavonga, Sinazongwe, Gwembe, Kazangula) Luapula Province (Districts: Samfya, Nchelenge)	2012-2016	8,957,000
CGIAR Research program 3.7 "More milk, meat and fish			Increase aquaculture productivity and production; Improve capacity of small and medium enterprises in fish and livestock value chains; Improve consumption of fish and livestock products among food insecure	2012-2016	1,475,000

for and by the poor”	<p>populationsThe WorldFish Center is working with:</p> <ul style="list-style-type: none"> • Ministry of Livestock and Fisheries Development; • Ministry of Agriculture and Cooperatives; • National Aquaculture Research and Development Center; • Golden Valley Agricultural Research Trust (GART); • Farmer Associations; • NGOs: Land o’ Lakes; CRS; <p>And will implement in Upper Zambezi flood plains (Districts: Mongu, Senanga, Sesheke, Kalabo,);Kafue Basin (Districts: Ndola, Kitwe, Solwezi, Kafue)Southern Province (Districts: Siavonga, Sinazongwe, Gwembe, Kazangula)</p>		
Fisheries-based economic growth on the Upper Zambezi	<p>Climate-responsive Fisheries Management Plan development and implementation for Barotse floodplain. Increase capacity of communities, private enterprise and public agencies to implement to collaborative and adaptive management Increase investment in fish value chain (post-harvest technologies, product development, market linkages).Savings-led micro-finance services for fishing communities to support their participation in value chains and the diversification of livelihoods. The WorldFish Center will be working with:</p> <ul style="list-style-type: none"> • Ministry of Livestock and Fisheries Development; • National Aquaculture Research and Development Center; • Ministry of Agriculture and Cooperatives; • Golden Valley Agricultural Research Trust (GART); • Zambia Agricultural Research Institute (ZARI); • Fisher Associations; • Barotse Royal Establishment; • NGOs: Concern Worldwide; CRS; <p>And will be implemented in Upper Zambezi floodplain: Mongu, Kalabo, Senanga Districts;</p>	2012-2016	3,000,000
Improved water productivity on the Upper Zambezi and Kafue Floodplains	<p>Private-sector driven development of aquaculture value chain (seed, feed and production chains). Promote integration of aquaculture, crop (rice) and small livestock production for climate resilient food systems. The WorldFish Center will be working with:</p> <ul style="list-style-type: none"> • Ministry of Livestock and Fisheries Development; • Ministry of Agriculture and Cooperatives; • Golden Valley Agricultural Research Trust (GART); • Zambia Agricultural Research Institute (ZARI); • Farmer Associations; • Barotse Royal Establishment; 	2012-2016	2,000,000

				<ul style="list-style-type: none"> NGOs: Concern Worldwide; CRS; And will be implement in Upper Zambezi floodplain: Mongu, Kalabo, Senanga Districts; Kafue floodplain: Namwala, Monze, Mazabuka Districts.		
	IUCN change and development	Climate and	Finland	Collecting site specific evidence on CC. Developing tools for communities, project/programme leaders, researchers and decision makers to assess vulnerability at the landscape/watershed level. Practical results from the project are shared and linked to international policy processes. Luapula, Western and Central Provinces	2007-2009	2700000
	ZNFU/CFU dealer programme	agro	Norway	MTENR; MACO; PLARD, CIFOR, SAFIRE projects; traditional leadership; local communities; District Councils Improved availability and timely distribution of inputs and equipment for Conservation Farmers Southern, Eastern, Western and Central Province Implementing partner CFU	2008-2009	405 000
	Terrafrica Leveraging Fund		Norway	To provide grants for various projects on climate change in the Sub Saharan African region. Sustainable Land Management processes in Sub Saharan Africa mainstreamed. World Bank	2008-2009	1 700 000
	COMESA change	Climate	Norway	Advocacy and policy dialogue through the establishment of an African political platform on climate change. Increased knowledge and management and enhanced capacity on climate change. Enhance civil society engagement in climate change. Establish an African climate change facility	2008-2009	2 200
NGOs						
14	Barotse Landscape	Cultural	National Heritage Center	The project seeks to support and maintain vulnerable, endangered, or critically endangered species or threatened ecological communities. Through this it aims to rehabilitate, maintain and support populations of plant, and/or animal	4	641509

			species important for maintaining the biological diversity of particular biogeographic region. This is necessary because it plays a critical stage in their life cycles, or provides a refuge during adverse conditions. Lastly the project will help to maintain an important source for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere depends.		
15		Keepers Zambia Foundation	Though not labelled as CCA but: Work on savings & loans schemes with IFAD funding. Promote indigenous vegetables and do marketing. Beekeeping. Member of ZCSCCN and works with CONCERN. Operational in: Kaoma, Lukululu, Mongu, Senanga, Kalabo (Western), Solwezi, Mwinilunga, Kabompo, Kasempa (North-western).Interested in expanding to other areas. Current strategic plans run until 2012. Includes explicit DRR but not explicit CCA work.		
16	Village Banking	Africa Now	Thou not labeled as such, but village banking contributes to building climate resilience. It is being implemented in Sinazongwe and Kazungula District with collaborative efforts with relevant district government departments (DACO, Forestry, Community Dev. etc.) They want to expand their village banking scheme.		
	Micro credit and micro-Insurance schemes	CETZAM	Micro-credit as part of building resilience. Also developing micro-insurance products. Exploring partnership with Cordaid partners to complement project work with micro-credit and development of full micro-insurance packages for crop losses.		
	Phase 2 Support to integrated water resources management in Zambezi Basin	DANIDA	Support integrated water resources management in the Zambezi River Basin (including Zambia)		
	Sustainable Agriculture	Pellum	The programme focus is on enhancing the livelihood of rural vulnerable and poor communities through sustainable agriculture activities. Amongst others, this also includes initiatives such as campaign, advocacy and networking to build the target community's capacity.	5	210655
	Kavango-Zambezi Transfrontier Conservation Area	Peace Park Foundation	Collaboration with Governments of Zambia, Angola, Botswana, Namibia and Zimbabwe to establish the Kavango-Zambezi Transfrontier Conservation Area (the world's largest planned conservation area). Completion of Integrated development plan for the Zambia portion		

Estimated Leveraged Financing through the SPCR

Kafue :

Government Constituency Fund	52,800,000 (3 years, 16 districts)
Infrastructure Co-financing :	29,100,000
MCA	80,000,000
DFID (est.)	4,200,000
FISRI-FAO/Norway	1,400,000(est)
NORAD Conservation Farming	1,100,000 (est)
ZAMA 59 (Oxfam) – Namwala	220,000 (est)
World Fish CGIAR 1.3	1,433,120 (est)
World Fish CGIAR 3.7	236,000 (est)
World Fish Improved Water Prod.	1,000,000 (est)
Norway/ZNFU/CFU	300,000 (est)
Pellum Sustainable Agriculture	50,000 (est)

Kafue	171,839,000
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Barotse :

Government Constituency Fund	26,400,000 (3 years, 16 districts)
Infrastructure co-financing (Gover)	9,700,000
Red Cross	1,125,364
UNDP (estimated LDCF)	5,099,000
Italy Poverty Alleviation (Mongu)	861,561
Concern	155,086
DFID (est) Social Protection Cash Transfers	16,700,000
UNDP Adaptation to Droughts (Shangombo)	3,150,000
FISRI - FAO/Norway	700,000 (est)
ZAMA 59 (Oxfam) – Kazungula, Mongu	440,000 (est)
World Fish CGIAR 1.3	3,672,000 (est)
World Fish CGIAR 3.7	604,000 (est)
World Fish Fisheries-Based Economic Growth	3,000,000 (est)
World Fish Improved Water Prod.	1,000,000 (est)
IUCN Climate change and development	900,000 (est)
Norway ZNFU/CFU	100,000 (est)
National Heritage Conservation Commission	641,509
Pellum Sustainable Agriculture	50,000 (est)

Barotse :	74,300,000
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National Components :

Institutional Support to Zambia's Climate Change Programme	
UNDP Adaptation to Droughts	ca. 1,000,000
UN Global Mechanism	150,000
UN-REDD	1,500,000

UNDP Support to CCFU	1,100,000
UNICEF Awareness on CC	25,000,000
DFID – Support to ZCSN	244,821
Norway-COMESA	ca. 220,000 (est)

Total	29,214,000
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Climate Information

WFP	405,833
	85,833
Denmark (support to Met Dep)	951,311
GFDRR DRM Labs (support to RhOK/crowdsourcing)	50,000 (est)

Total	1,491,000
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National	30,705,000
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Private Sector Support

1. Private Sector Engagement :

IFC	7,700,000
Private Investors	15,400,000

2. Climate Information :

IFC	1,500,000
Private Investors	3,000,000

3. Agriculture Weather Index Insurance

IFC	1,600,000
Private Investors	3,200,000

4. Microfinance Promotion

IFC	2,700,000
Private Investors	5,400,000

Total	40,500,000
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Estimated Leveraged Financing	317,300,000
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SPCR Estimated	110,000,000
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SUB-TOTAL	427,000,000
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+ Estimated Government Mainstreamed Programs : US\$32.8 million in 2011

Assuming this baseline level for 7 years : US\$230,000,000

ESTIMATED ZAMBIA CLIMATE CHANGE PROGRAMME FINANCING : US\$657,000,000

ANNEX 6: GOVERNMENT PROGRAMS MAINSTREAMED IN THE 2011-2015 SNDP

GROWTH SECTORS

CROPS: Objectives, Strategies and Programmes -

No.	Objectives	Strategies	Programmes
1	To diversify and attain national and household food security	<ul style="list-style-type: none"> a) Support the generation and dissemination of early warning data and agricultural statistics a) Promote high yielding seed materials b) Promote soil improvement practices c) Enhance control of crop pests and diseases d) Promote crop diversification e) Enhance the capacity of DRM in the sector 	Crop Production and Productivity Improvement Programme:
2	To promote soil management for sustainable agricultural production and growth	<ul style="list-style-type: none"> a) Mainstream climate change adaptation and develop mitigation action plan and measures including vulnerability assessment and risk management b) Promote appropriate conservation farming methods c) Promote and strengthen participatory land use planning and management d) Promote efficient water utilization for sustainable agricultural growth e) Promote water harvesting technologies such as dams and weirs 	Sustainable Land and Water Management Programme:

LIVESTOCK AND FISHERIES: Objectives, Strategies and Programmes - Livestock and Fisheries

No.	Objectives	Strategies	Programme
1		<ul style="list-style-type: none"> a) Mainstream climate change adaptation and mitigation measures b) Promote smallholder pasture irrigation schemes c) Promote appropriate grazing practices d) Promote in-situ rain water harvesting e) Develop mitigation action, vulnerability assessment and risk management plans 	Pasture Improvement and Grazing management sub-programme

No.	Objectives	Strategies	Programme
3	To promote sustainable exploitation of fisheries resources and increased fish production	a) Develop a Vulnerability Assessment and Risk Management Plan	Fisheries Development Programme:
4	To provide technical information required for sustainable exploitation and production of fish	a) Harmonise climate change with all fisheries activities through research b) Enhance surveillance and monitoring of fish health for effective disease control system	Fisheries research sub-programme

MINING: Objectives, Strategies and Programmes

No.	Objective	Strategies	Programmes
2	To promote sustainable exploitation and management of energy minerals	a) Mitigate environmental impact of mining	Exploitation of Energy Minerals
3	To include water variability considerations	a) Include possible water scarcity considerations in the designing of mining projects and tailing systems b) Include possible flooding conditions during design of tailing and effluent discharge systems.	Adaptation to Climate Change

TOURISM: Objectives, Strategies and programmes

No.	Objectives	Strategies	Programmes
1	To integrate climate change concerns in the development of the tourism industry	a) Develop response plan for water supply and flood management in tourist destinations b) Sinking of bores and damming of watercourses to increase volume of available water to animals c) Construct/improve tracks to act as firebreaks in parks	Adaptation to climate change

CROSS CUTTING

ENVIRONMENT: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1.	To strengthen environmental protection and management	<ul style="list-style-type: none"> a) Promote sustainable land management and facilitate rehabilitation of degraded lands in open areas b) Improved environmental emergency response capacity a) Facilitate environmental Research and Development 	Environmental Protection and Pollution Control
	To promote effective management of the environment and natural resources in key sectors	<ul style="list-style-type: none"> a) Facilitate the development and implementation of sector and provincial specific environmental integration and climate change adaptation and mitigation guidelines and programmes b) Develop and implement a sector wide environmental education, public awareness and advocacy campaign on key environmental issues 	Environment and Climate Change Mainstreaming
2	To strengthen policy and legal framework for effective environmental management	<ul style="list-style-type: none"> a) Develop long term environment and climate change mainstreaming and response strategies respectively for implementation at national, sector and sub national levels 	Environmental Protection and Pollution Control
3	To promote effective management of the environment and natural resources in key sectors	<ul style="list-style-type: none"> a) Facilitate the development and implementation of sector and provincial specific environmental integration and climate change adaptation and mitigation guidelines and programmes b) Develop and implement a sector wide environmental education, public awareness and advocacy campaign on key environmental issues 	Environment and Climate Change Mainstreaming

DISASTER RISK MANAGEMENT: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To mainstream disaster risk management in priority sectors	<ul style="list-style-type: none"> a) Develop early warning information system and information dissemination b) Establishment of district based vulnerability and risk profiles c) Formulate and update district and provincial disaster management plans d) Participate in the formulation of land use plans e) Mainstreaming disaster risk management in infrastructure development, Agriculture, Health and Local Government and Housing, Energy and Education f) To enhance coordination 	Disaster management mainstreaming

2	To build capacity for disaster management	a) Disaster prevention	Capacity building
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GENDER: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To enhance capacity of women to participate in national development	a)Devise appropriate poverty reduction programmes and projects for women	Empowerment of Women
2	To strengthen institutional capacities for effective Gender mainstreaming	a)Facilitate monitoring of Gender and development programmes and activities	Coordination for Gender Mainstreaming

NUTRITION: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To improve the nutritional status of the Zambian population through the provision of quality nutrition services and increased availability, access and utilization of quality and safe foods	a) Expand proven high impact and cost effective food and nutrition interventions focusing on under-served areas and vulnerable population groups; b) Advocate for the promotion of nutritious diet through crop diversification, adequate food processing, storage and utilization;	Food and Nutrition Coordination and Management

HIV and AIDS: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To provide improved social support services for orphans and vulnerable children, people living with HIV and their caregivers and families	a) Scaling-p support services for Orphans and Vulnerable Children Promoting Programmes of food; and b) Security and income/livelihood generation for PLHA and their caregivers and families.	Mitigation

SUPPORT SECTORS

INFORMATION AND COMMUNICATIONS TECHNOLOGY: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To develop and maintain ICT and Meteorology infrastructure	<ul style="list-style-type: none"> a) expand hydro meteorological network b) Establish ICT and climate change research centres c) Roll-out ICT incubation centres to all MFEZ areas 	Infrastructure Development with Climate Change consideration

NATURAL RESOURCES: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To reduce the rate of wildlife depletion through sustainable management of wildlife and habitat in protected wildlife and forest areas	<ul style="list-style-type: none"> a) Develop Management Plans, including Land Use Plans, for protected wildlife areas b) Implement the relevant sections of the National Climate Change Response Strategy 	Protected Wildlife Area Management
2	To promote sustainable Forest and land management practices	<ul style="list-style-type: none"> a) Expand options for effective forest management by enhancing community and private sector participation in forest management, including plantations. through various forms of partnerships such as PPPs b) Develop mechanism for, and establish, sustainable natural forest industries 	Forestry Management
		<ul style="list-style-type: none"> a) Establish and expand exotic and indigenous plantations b) Promote village and school nurseries and establish woodlots 	Reforestation and Afforestation
		<ul style="list-style-type: none"> a) Promote sustainable land management practices including erosion control, water management, soil fertility management 	Sustainable Land Management
3	To promote conservation and sustainable utilization of wetlands resources	<ul style="list-style-type: none"> a) Improve regional and international collaboration on wetlands management b) Strengthen institutional coordination of wetlands management c) Increase awareness on wetland values and functions d) Promote community participation on wetlands management 	Wetlands Management

LOCAL GOVERNMENT AND DECENTRALIZATION: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
1	To ensure climate change, risk management, mitigation and adaptation issues are integrated in district plans	<ul style="list-style-type: none"> a) Assess risks and vulnerability in the districts b) Develop risk management and mitigation and adaptation plans 	Climate Change Adaptation and Mitigation

INFRASTRUCTURE

TRANSPORT: Objectives, Strategies and Programmes; Roads

No.	Objectives	Strategies	Programmes
1	To coordinate and strengthen transport infrastructure development	a) Enhance the capacity of DRM in the sector	Public Road Transport Infrastructure Development and Management
2	To maintain and rehabilitate road transport infrastructure	<ul style="list-style-type: none"> a) Strengthen human capacity development for local contractors; b) Promote Public Private Partnerships c) Enforce standards 	Development of design standards and codes of practice for infrastructure adapted to climate change resilience

Objectives, Strategies and Programmes - Maritime and Inland Waterways

No.	Objectives	Strategies	Programmes
1	To bring the core canal network to navigable condition in order to Improved water transport facilities	a) Develop a rehabilitate and maintenance plan for Canals	Canals and Waterways Rehabilitation and Maintenance in all provinces

ENERGY: Objectives, Strategies and Programmes

No.	Objectives	Strategies	Programmes
Renewable Energy, Alternative Energy And Biomass			
1	To expand the use of renewable and alternative energy in the country's energy mix.	<ul style="list-style-type: none"> a) Promote the development and use of solar technology systems b) Introduce an appropriate cost-effective renewable energy feed-in tariff c) Promote the production of electricity from geothermal energy d) Promote the use of biogas for cooking, lighting and electricity generation e) Promote the use of radioactive energy minerals for long term energy production 	Renewable and Alternative Energy Development
3	To develop a rational and implementable approach to improve sustainability of bio mass energy supply and raise end-user efficiencies	<ul style="list-style-type: none"> a) Develop a Bio mass Energy Strategy b) Promote biomass gasification electricity generation and co-generation 	Bio mass Management
Energy Efficiency And Management			
1	To reduce greenhouse gas emissions from the energy sector and strengthen adaptation and resilience to climate change related stresses	<ul style="list-style-type: none"> a) Develop Incentive Framework for investing in environmentally friendly technologies for electricity, lighting heating and agriculture b) Develop Energy Sector Vulnerability Assessments and Risk Management Plan and Mitigation Action Plan 	Climate Change Adaptation and Mitigation

HUMAN DEVELOPMENT SECTORS

WATER SUPPLY AND SANITATION: Objectives, Strategies and Programmes - Water Resources Management and Development

No.	Objectives	Strategies	Programmes
1	To strengthen capacity for disaster risk management, mitigation and adaptation to effects of climate change.	<ul style="list-style-type: none"> a) Develop pilot projects for improvement of water conservation infrastructure against climatic variability including reduction of flooding. b) Implement climate change adaptation projects countrywide c) Enhance the capacity of DRM in the sector 	Climate Change Adaptation and Mitigation
2	To develop innovative approaches and appropriate technologies for the effective management of the nation's water resources	<ul style="list-style-type: none"> a) Conduct applied research in water management and development to enhance socio-economic advancement b) Strengthen the national hydrological network for water resource survey and institutional capacity for hydro-meteorological and groundwater monitoring. c) Conduct applied research in water resources management and development to climate change adaptation and the enhancement of socio-economic development 	Research and Development
3	To ensure effective water resources management at catchment, regional and national levels	<ul style="list-style-type: none"> a) Provide and implement an appropriate policy, legal and institutional framework for integrated water resources management b) Develop skills at river catchment, basin, regional and national levels 	Integrated Water Resources Management

ANNEX 7. SUMMARY REPORT ON IMPLEMENTATION OF PHASE 1

1. Background

The Government of the Republic of Zambia signed a grant Agreement on 14th June 2011 for the implementation of priority components under Phase I of the Pilot Programme for Climate Resilience (PPCR). The priority components include mainstreaming of climate resilience into the Sixth National Development Plan (SNDP), Strengthening of Institutional Coordination, Targeted Awareness and Communication, Improved Information for Decision Makers and the Preparation for Phase II.

2. Mainstreaming of Climate Resilience into National Development Planning

This component aimed to incorporate climate change consideration and in particular adaptation to climate change into development planning process and strategic plans. The expected outcomes include:

- a. Climate change adaptation issues incorporated into the final plans and strategies of the most vulnerable sectors of the Sixth National Development Plan.
- 6.
- b. For most vulnerable sectors, proportion of budgetary allocation to climate adaptation activities increased by 20-30% in 2011 National Budget.

The Ministry of Finance and National Planning, in collaboration with the Ministry of Tourism, Environment and Natural Resources engaged a panel of experts to mainstream climate change resilience into priority sectors of the SNDP. The mainstreaming process marked the transformational shift from business as usual to a smart growth strategy; helping the country reach SNDP and long-term development goals while coping with climate change.

The mainstreaming of risks and opportunities into the SNDP strengthened the appreciation of the importance of climate change among planners. Various stakeholders this exercise as a model for mainstreaming other cross cutting issues into the planning. Specifically, climate change risks and opportunities were systematically imbedded into policies and reform strategies of sectors such as Transport infrastructure including housing, Energy, Water and Sanitation, Health, Education and Skills Development, Agriculture, Livestock and Fisheries, Mining, Tourism, Manufacturing, Information and Communication Technology, Commerce and Trade, Science, Technology and Innovation, Natural Resources, Local Government and Decentralization and Gender.

During the implementation of Phase I and II of the PPCR, climate change will be mainstreamed into sectoral plans and strategies including Local Area Development Plans (LADP). In addition, the task to ensure that expenditures are aligned with the mainstreaming process, a mechanism to budget and track associated expenditures will be instituted to ensure results associated with transformation change are traceable.

Under the mainstreamed SNDP, the Government of Zambia projected to a 20 to 30% in budgetary allocation towards adaptation activities in the 2011 budget. The target was made under the

assumption that the SNDP would be completed prior to the budget process. In addition, the target was set based on a study done by the Zambia Climate Change Network (ZCCN) concluded that an average of 25% of the budget was needed for climate resilience to be effective across priority sectors. Whilst this indicator is currently being refined the Government of the Republic of Zambia is committed to ensuring that each budgetary allocation towards mainstreamed sectors reaches 25% by 2020.

3. Strengthening Institutional Coordination

This component was designed to strengthen inter-sectoral coordination amongst national stakeholders responsible for climate change including the Ministry of Finance and National Planning, Ministry of Tourism, Environment and Natural Resources, the Disaster Management and Mitigation Unit, Zambia Meteorological Department, Cabinet Office and other relevant Sectoral Ministries, Civil Society and Private Sector.

The Strengthening Institutional Coordination was necessitated by the need for a long term structure through policy and legal reform instruments and interim measures to implement activities at project levels. The Government of Zambia has commenced the process to establish the Secretariat to serve under the Committee of Permanent Secretaries chaired by the Secretary to the Treasury, and the Committee of Ministers chaired by the Minister of Finance and National Planning. In addition to ensuring policy and legal reforms alongside project level implementation, this process also marks the involvement of Government officials at the very high level. It also enables the country achieve the targeted awareness of climate risks and opportunities among Permanent Secretaries and Ministers.

The Long Term Institutional arrangement will include the establishment of an autonomous structure which will also be located at a central location accessible to various stakeholders. This process is earmarked for completion within the period of 18 months before December 2012.

4. Information for Decision Makers

This information aimed to strengthen the awareness of policy makers, legislators and key development partners on climate change issues thus enabling them to make more informed decisions on development processes. Ultimately, this component would ensure strengthened flow of information available to decision makers and the general public on climate change trends and impacts.

One of the major steps taken to achieve enhanced flow of information on climate change is the establishment of a stakeholder Platform on Climate Information. This Platform is headed by professionals in meteorology and disaster risk management who are also representatives from key Government institutions dealing with ex arte generation and dissemination and post disaster scenarios. In addition, the platform combines the participation of government, private sector and civil society actors. This platform will further explore and design strategies that will ensure the attainment of the expected outcomes as envisioned including deriving the Multi-model downscaled climate scenarios, undertake the sectoral impact analysis, economic analysis, strengthening the quality of climate information.

The Platform will also leverage the interest of potential partners which includes Google, NASA, the Italian Government, World Bank, Global Facility for Disaster Reduction, DRM labs, AfDB/CLIMDEV, IFC/ESOKO, Zambezi River Authority, UN, Red Cross and Random Acts of Kindness (RhOK) and ESA. Through the network of practitioners in climate information experts from various local institutions and international centers of excellence will be linked.

5. Targeted Awareness and Communication

This component supports the creation of strong linkages between information generation and awareness and communication from the policy level to the affected communities. Through the dissemination of the SNDP (mainstreaming process), awareness among policy makers, development planners, provincial planners, and district administrators on climate change risks and opportunities is also being achieved.

During the preparation for Phase II, a team of stakeholders which included Government and Civil Society Organizations held various round table discussions with leaders at the district and community levels. Districts covered included Livingstone, Kazungula, Sesheke, Senanga and Mongu. Representation on these round table discussions cut across sectors and included health, education, agriculture, police, revenue authorities, district administration, works and supply (buildings) provincial administration and civil society actors in local areas. This level of awareness is less technical but creates platforms for implementing more technical aspects of climate change in Zambia during the implementation of the SPCR.

6. Preparation for Phase II (see page 38 of the SPCR)

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REPUBLIC OF ZAMBIA

In reply please quote

No.:.....

MINISTRY OF FINANCE AND NATIONAL PLANNING

CHIMANGA ROAD
P.O. BOX 50062
LUSAKA

10th June, 2011

MFAL/102/12/918

Ms. Patricia Bliss-Guest
Program Manager
CIF Administrative Unit
Washington DC, USA

**RE: SUBMISSION OF THE STRATEGIC PROGRAMME FOR CLIMATE
RESILIENCE (SPCR)**

Reference is made to the above indicated subject.

On behalf of the Government of the Republic of Zambia, I am pleased to submit Zambia's Strategic Programme for Climate Resilience (SPCR) for consideration by the Climate Investment Funds (CIF) Administration Unit and for approval by the Sub-Committee of the Pilot Programme for Climate Resilience (PPCR). The SPCR design is aligned to the objectives of the Sixth National Development Plan (SNDP) and seeks to enhance investments in human and infrastructure development with emphasis on job creation and poverty reduction among the rural communities of Zambia. Through the implementation of various participatory adaptation activities in the Barotse and Kafue sub-basins, investments under the SPCR will enable Government scale-up ongoing efforts to reduce poverty in Zambia in order to increase coping capacities to impacts of climate change and variability.

In this regard, Zambia has adopted three cross-sector components that will guide investments in agriculture, rural transport, tourism infrastructure, canal infrastructure, microfinance, weather index insurance and early warning systems. These strategic components include Participatory Adaptation, Resilient Infrastructure and the Strategic Programme Support.

In addition, you may wish to note that during the preparation of the SPCR, public, private and various civil society organizations were consulted. This consultative

process continues within the framework of resilient agriculture, resilient infrastructure and climate information platforms. These platforms will continue to discuss and to formulate best methods to implement projects in the priority districts of the sub-basins.

In view of the above, I wish to express the Government of Zambia's interest to acquire a grant of United States Dollars Fifty Million (US\$50,000,000) and the concessional financing of United State Dollars Sixty Million (US\$60,000,000). The SPCR is designed to utilise a total of United States Dollars One Hundred and Ten Million (US\$110,000,000). We believe that the availability of these funds will enable the Government of Zambia reduce the financing gap in the SNDP and support our country's aspiration of becoming a middle income country by 2030. Therefore, I am pleased to submit the SCPR with the accompanying annexes for your further consideration. Details of the submission and the accompanying annexes are attached to this letter and will be forwarded by email on Monday 13th June, 2011.



E. Ngulube

Acting Secretary to the Treasury

MINISTRY OF FINANCE AND NATIONAL PLANNING