

Final Aide Memoire

ZAMBIA

**Joint Mission for the Preparation of a Strategic Program for Climate Resilience (SPCR)
November 15-30, 2010**

INTRODUCTION

1. The Pilot Program for Climate Resilience (PPCR) is designed to pilot and demonstrate ways to integrate climate risk and resilience into developing countries' core development policies, plans and programmes. It is one of the five programmes in the new global Climate Investment Funds.¹ In Zambia, the PPCR is led by the Government and is expected to be financed through Government budget, Multilateral Development Banks (MDBs), and leverage ongoing activities funded by other Cooperating Partners (including the UN), private sector and civil society.

2. The PPCR is structured in two Phases. Phase 1 supports the **preparation** of a Strategic Programme for Climate Resilience (SPCR), by integrating climate resilience into priority development plans, budgets and investments. Phase 2 focuses on **implementation** of the SPCR – specifically programmatic support, investments in priority sectors and support to on-the-ground adaptation activities selected during Phase 1. In Zambia, the PPCR/SPCR is not considered a new programme, but rather an intrinsic part of the Government's broader Climate Change Programme and its financing framework.

3. The Phase I Proposal was approved by the PPCR Sub-Committee in March 2010. Zambia became the first country worldwide to process Phase 1 of the PPCR. Phase 1 of the PPCR - funded through a grant of US\$1.5 million – became effective on June 14, 2010, and is executed by the Ministry of Finance and National Planning (MoFNP). Phase 2 is expected to be ready around March 2011, for formal submission to the next Sub-Committee meeting in June 2011.

4. 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.*

¹ See Climate Investment Funds website for further information, www.climateinvestmentfunds.org

5. 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 readiness²; and (i) the introduction of crowdsourcing as a way to further involve civil society partners in program collaboration.

6. 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

7. Each platform was headed by a recognized national expert(s) in the field, and consisted of interested partners from Government, Cooperating Partners (CPs), civil society, private sector, and the Multilateral Development Banks. The platforms met several times during the course of two weeks. Key conclusions from each of the platforms are attached as Annex A and summarized on Table 1 of this Aide memoire.

8. On November 11-13, 2010, the mission visited Western Province and held discussions with the Disaster Management and Mitigation Committees at the Provincial, District (Mongu) and satellite levels. On November 27-28, 2010, the mission participated on a crowdsourcing training workshop for 40 participants from interested Government agencies, civil society and Cooperating Partners. The mission also met with Cooperating Partners from Decentralization, and will continue to brief relevant Cooperating Partner groups as they hold their monthly meetings. Finally, on December 4-5, 2010, selected mission members participated in the “Random Hacks of Kindness” conference organized by Zabuntu and the Zambia Youth Climate Change Network to foster closer linkages between Information and Communications technology, climate change and disaster risk management in Zambia.

9. The mission is grateful to all the participating partners for their contributions, to the platform participants for their enriching discussions, and to its youth climate change volunteers for their contribution to the Secretariat. The mission Terms of Reference and schedule are included as Annex B.

² UN-REDD : United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

KEY MISSION FINDINGS

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

10. 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:

11. Resilience to climate change has been comprehensively mainstreamed into Zambia's Sixth National Development Plan (2011-2015). Under the guidance of the Ministry of Finance and National Planning (MoFNP), climate change adaptation, mitigation and disaster risk management principles are now mainstreamed into priority programs in Crops, Livestock, Fisheries, Natural Resources, Transport, Energy, Information and Communications Technology, Housing, Water Supply and Sanitation, Mining, Tourism, and Local Government and Decentralization. They also appear preeminently on the Environment and Disaster Risk Management cross-cutting themes. This provides a critical mandate for Government Ministries to allocate staff and budgetary resources to climate resilient programs.

12. Zambia's recently drafted National Climate Change Response Strategy provides a good basis for a Climate Change Programme. The draft Strategy was developed by the Ministry of Tourism, Environment and Natural Resources (MTENR) [which established the Climate Change Facilitation Unit (CCFU)] following a thorough process of stakeholder consultation. It defines a national Goal, Vision, Objectives, and Pillars. It also updates the status of knowledge on climate change trends in Zambia, and its impacts on key major sectors. It identifies clear priorities for adaptation, mitigation and activities in cross-cutting themes, and proposes a new institutional and governance structure for managing climate change issues in Zambia – the National Climate Change and Development Council. It concludes with a comprehensive Investment Framework, estimated to cost US\$6.6 billion. As the Strategy is finalized, the Government of Zambia should now ensure that it produces a summary on strategic action points, that it includes monitorable indicators, that the financing framework is clearly linked with the Sixth National Development Plan, and that a Policy Brief for policy makers is produced. With these few refinements, the mission believes that the Climate Change Strategy provides a solid strategic basis for Zambia's climate change programme.

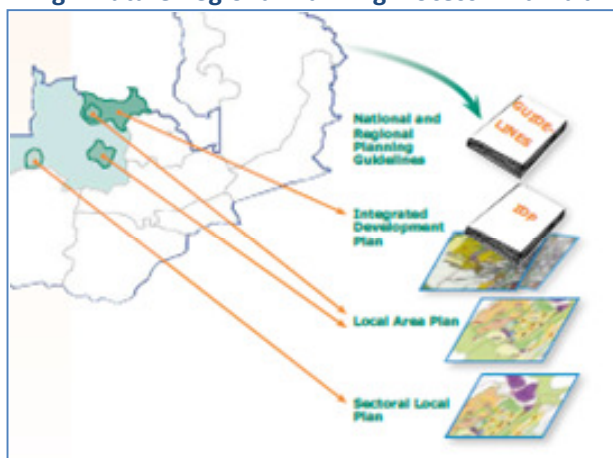
13. Zambia has also adopted a Disaster Management Act which will help address current climate-related disasters and make development more climate resilient from the local to the national level. The Disaster Management Act No. 13 (April 13, 2010), provides the Disaster Management and Mitigation Unit (DMMU) and its National, 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. Although the Act itself

is recent, the Mission noted that the regional disaster management committees in the Western Province appear to be well inserted in the provincial and district structures, being headed, respectively, by the Permanent Secretary and the District Commissioner. Satellite committees appear to be considerably weaker and in need for reinforcement. The Act's facilitation of regional and local platforms will make the work funded under the PPCR more effective.

14. **Zambia's future Urban and Regional Planning Bill should provide an important way to incorporate climate resilience into planning concerns.**

Most climate change adaptation and mitigation measures are expected to be implemented at the regional level – it is therefore critical to consider integrating climate change and disaster risk management concerns into regional planning. Although Zambia has not yet adopted decentralized structures, it is actively preparing a new Urban and Regional Planning Bill that will provide local authorities (District, Municipal and City Councils) with the main responsibilities for urban and regional planning. Emphasis is placed on local authorities in both planning and implementation, with guidance from National, Regional and Sectoral Plans. The goal will be to create an integrated development plan (or IDP) that incorporates spatial, financial, and implementation components. IDPs would, in turn, allow for the preparation of Local Area Plans prepared at the community, sub-district, or ward area. Local Area Plans are intended to take into account the policies, objectives and proposals of the IDP, but reflect the need of specific communities in terms of protection of their environment, enhancement of climate resilience and/or disaster risk management, and upgrading of specific settlements (see Figure 1, above).

Fig. 1 Future Regional Planning Process in Zambia



Although Zambia has not yet adopted decentralized structures, it is actively preparing a new Urban and Regional Planning Bill that will provide local authorities (District, Municipal and City Councils) with the main responsibilities for urban and regional planning. Emphasis is placed on local authorities in both planning and implementation, with guidance from National, Regional and Sectoral Plans. The goal will be to create an integrated development plan (or IDP) that incorporates spatial, financial, and implementation components. IDPs would, in turn, allow for the preparation of Local Area Plans prepared at the community, sub-district, or ward area. Local Area Plans are intended to take into account the policies, objectives and proposals of the IDP, but reflect the need of specific communities in terms of protection of their environment, enhancement of climate resilience and/or disaster risk management, and upgrading of specific settlements (see Figure 1, above).

15. **On the analytical side, the Climate Change Facilitation Unit has completed an Economic Assessment of the Impacts of Climate Change which has key relevance to the PPCR.** This draft report concludes the following:

- First, that *appropriate policies* are critically important for climate resilience – as important or more so than public investments. Examples include shifting towards a broader agriculture-water management rather than a more confined irrigation policy; promotion of natural resource management and conservation agriculture; revision of building codes and infrastructure assessment and safety standards in high risk areas; having in place a climate sensitive early warning system for communicable diseases; encouraging energy diversification to minimize risks; and strengthening the scenario planning at national and regional levels.

- Second, that **agriculture, energy and water** (and health to a lesser extent) appeared to be particularly sensitive sectors in terms of potential impact on GDP, although impacts on infrastructure were not quantified.
- Third, that a **high development scenario will tend to be accompanied by better resilience** in a world of continued climate variability, showing the importance of targeted investment on livelihoods, human capacity, food security and sustainable agricultural strategies for poverty reduction. Conversely, climate change impacts will tend to be systemic and regressive, imposing higher costs on the poor. These findings are also consistent with recent global studies on adaptation.³
- Fourth, **Natural resources degradation** presents a particularly challenge in achieving low carbon and climate resilient development, as it is typically not accounted for in Gross Domestic Product (GDP) calculations. Hence, the extent of the losses associated with forest degradation may not be evident until the ecosystem collapses and ceases to yield economic revenues (e.g. for tourism, mining or agriculture, carbon storage). By then, however, the resilience of the system against climate extremes may have been compromised. Thus, the risk of chronic losses and disasters is expected to increase as climate change progresses, natural habitats are degraded, and human settlements increasingly concentrated. This trend is already being observed in Zambia. Partially due to this omission in national accounting, the Economic Study found that the estimated funding requirements to achieve climate resilience in natural resources sectors were 20 times more than those allocated currently by the Government of Zambia – the highest shortfall for all sectors.

16. Further analytical work is being completed. Two on-going reviews will considerably strengthen the analytical framework for climate change in Zambia: a review of internationally available standard climate change data (which is expected to be completed by January 2010) and a climate risk assessment study commissioned by IFC for the Kafue Gorge (expected to be released in February 2010). A third study, just released – “The Zambezi River: A Multi-Sector Investment Opportunity Analysis” makes the case for stronger regional cooperation in hydropower, cooperative flood management and irrigation development, particularly at the sub-basin level.

17. New climate projections are being developed as part of the Intergovernmental Panel on Climate Change (IPCC) process. The analytical focus in Zambia should now be on sectoral impact models to take advantage of these new projections. Work leading to the next IPCC Assessment Report, and to be made available within the next 1-2 years, will provide more comprehensive and richer downscaling results. For this reason, the main focus of analytical efforts in Zambia should now be to develop sectoral competencies in interpretation of these results and sectoral impact models that will be ready to take advantage of this new information. Key priorities should be on agriculture, forestry,

³ See, for example, *Economics of Adaptation to Climate Change* (2010) – Synthesis Report, and *The Social Dimensions of Climate Change in Mozambique* (2010), as well as *Area Based Development and Climate Change* (draft report, 2010), World Bank.

Table 1. Summary Conclusions of National Platforms (November-December 2010)

Vision 2030	<i>"A prosperous Middle Income Nation by 2030"</i>		
Sixth National Development Plan Objectives (2011-2015)	To promote rural investment and accelerate poverty reduction	To accelerate infrastructure development, economic growth and diversification	To enhance human development
Climate Change Response Strategy Goal	To mainstream Climate Change into the most economically important and vulnerable sectors of the economy		
SPCR Platforms ¹	Climate Resilient Agriculture	Climate Resilient Infrastructure	Climate Information
SPCR Transformative Objectives	To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities in the Barotse and Kafue sub-basins to climate change and variability	To strengthen climate resilient infrastructure policies and ensure 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 and adaptation
Key Challenges	<p>Increased intensity of floods and droughts, coupled with changing patterns of land use and resource over-exploitation (e.g. forestry, fisheries) have weakened communities ability to cope with climate change. In addition:</p> <ul style="list-style-type: none"> • Low access to sustainable technologies • Low access to information on climate change • Inadequate ecosystem management • Inadequate and poorly tailored financing, marketing and infrastructure services • Inadequate mainstreaming of climate change in agriculture and natural resource policies • Limited adaptation capacity 	<ul style="list-style-type: none"> • Limited safety standards and lack of standards' harmonization at SADC level • Inadequate enforcement • Weak contract preparation and management • Weak penalties and enforcement for non-compliance • Ineffective infrastructure maintenance • Limited capacity in modelling climate risk for infrastructure • Resistance to change • Inadequate finances 	<ul style="list-style-type: none"> • Available climate information which is not user driven (and therefore not widely used) • Sources of hydro-met and land data very weak and uncoordinated • Highly sensitive parameters missing (e.g. evaporation, sunshine) • Role of ZMD/DWA/Land as primary source of climate change information not recognized and far from decision makers • Lack of geo-referenced hydro-met information • Lack of common data standard format • Inadequate capacity for interpret hydro-met information, climate predictions and sectoral models
Proposed Priority Activities for Phase 1	Review, Coordinate and Harmonize Programs and Existing Information on Barotse and Kafue Sub-Basins Design Investment Framework for Phase II (all platforms)		
	Mainstream climate change into upcoming revised policies and strategies (Agriculture, Livestock, Fisheries) in collaboration with ongoing climate change initiatives	Assessment of social and economic vulnerability of infrastructure due to climate change	Undertake an inventory of existing hydro-met and climate information network to identify gaps and coordination needs

Table 1. Summary Conclusions of National Platforms (November-December 2010)

SPCR Platforms ¹	Climate Resilient Agriculture	Climate Resilient Infrastructure	Climate Information
Proposed Focal Priority Strategies and Polices	<p>Mainstream climate change into priority policies and strategies in key “soft” sectors (e.g. agriculture, water, natural resources management)– Cont’d</p> <p>Develop and implement a Fisheries Management Plan and vulnerability risk assessment for Barotse Floodplain</p> <p>Develop an Integrated Water Resources Management Plan for Kafue sub-basin and promote sustainable land management practices</p>	<p>Develop design standards and codes of practice for infrastructure adapted to climate change resilience (Transport)</p> <p>Optimize procurement methods and incentives to promote climate resilient infrastructure</p> <p>Develop capacity in hydrological modelling (at river catchment and basin levels)</p> <p>Develop a rehabilitation and maintenance plan for canals</p> <p>Mainstream vulnerability and risk management plans in key “infrastructure” and social sectors (energy, Transport, mining, health, education)</p>	<p>Adopt common climate information data standards and structures (Geospatial data infrastructure and information sharing platform)</p> <p>Revise institutional roles of ZMD, DWA and Department of Lands on collection, analysis and dissemination of climate information</p> <p>Develop capacity in analysis and interpretation of hydro-met information</p> <p>Develop an integrated early warning system which combines traditional knowledge and scientific information and encourages local participation and preparedness</p> <p>Integrate CCA and DRM into Local Area and Integrated Development Plans</p> <p>Develop skills and coordination with line agencies and Universities on impact modelling</p>
Proposed Priority Programs (for Sub-Basins)	<p>Promote appropriate and sustainable adaptation technologies - in ecosystem management, conservation farming, sustainable land management, pasture management, integrated water resources management, and livelihood diversification to support stronger adaptive capacity and sustainable growth, while integrating gender issues</p> <p>Develop supporting infrastructure to promote investment in climate resilience</p> <p>Develop and enhance financing mechanisms (including index-weather insurance)</p>	<p>Kafue: climate proofing of: Kafue-Chanyanya Road Kalomo-Dundumwezi Road Shazengo-Namwala Road (and related infrastructure)</p> <p>Barotse: Iluso-Imusho Road Selected transport-irrigation canals</p>	<p>Develop climate information dissemination platforms (ESOKO, ZEPRIIS and crowdsourcing)</p> <p>Strengthen network of meteorological stations</p>

¹ Note: The financing platform has not yet developed its objectives in relation to the SNDP. The table above summarizes only the outcomes of the three platforms that have met on the subject – as the program evolves, other platforms may be formed according to strategic climate change program needs.

20. **The above priorities are a good initial prioritization for the SPCR design– they now need to be finalized by the respective platforms.** The Platforms’ priorities are complementary, but slightly different, than those derived by the National Climate Change Strategy, the Economic Assessment Study and the upcoming IFC Kafue Gorge climate risk assessment study. In turn, these studies priorities need to be aligned with specific strategies and programs in the Sixth National Development Plan. The mission therefore recommends that the Platforms review the results of the other studies with a view of harmonizing priorities, while keeping them consistent with the SNDP. The mission noted, moreover, that the SNDP itself contains several overlapping programs which address similar aspects of mainstreaming: for example mainstreaming climate change and disaster risk management into planning appears in the Environment, Disaster Risk Management and Local Government and Decentralization sections; sustainable land management is addressed under both Environment and Crops; and Early Warning appears under both Crops and Disaster Risk Management. The Platforms should play a key role in rationalizing these programs so that they focus on the same deliveries, and participating agencies can collaborate in optimizing their respective roles.

21. **Even though their focus was topic specific, all platforms prioritized the importance of coordinating existing programs, policy and strategy reforms, and integration of climate resilience into sectoral and spatial planning.** These conclusions are also in line with international best practices and with an upcoming review of Area-Based Development and Climate Change in Western Africa⁴, which recommends: support to policy, legal and regulatory reforms favourable to climate resilience; building institutional capacity and strengthening the flow of information at the local level; building on local indigenous knowledge on adaptation; strengthening synergies between partners programs; scaling up proven practices, particularly in sustainable land and water management; and promoting access to credit to encourage livelihood diversification and higher adaptive capacity.

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

22. **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.

⁴ World Bank 2010. *Area Based Development and Climate Change (ABDCC)*. West Africa (Burkina Faso, Niger and Senegal) Synthesis Report. Social Development Department, Washington DC.

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

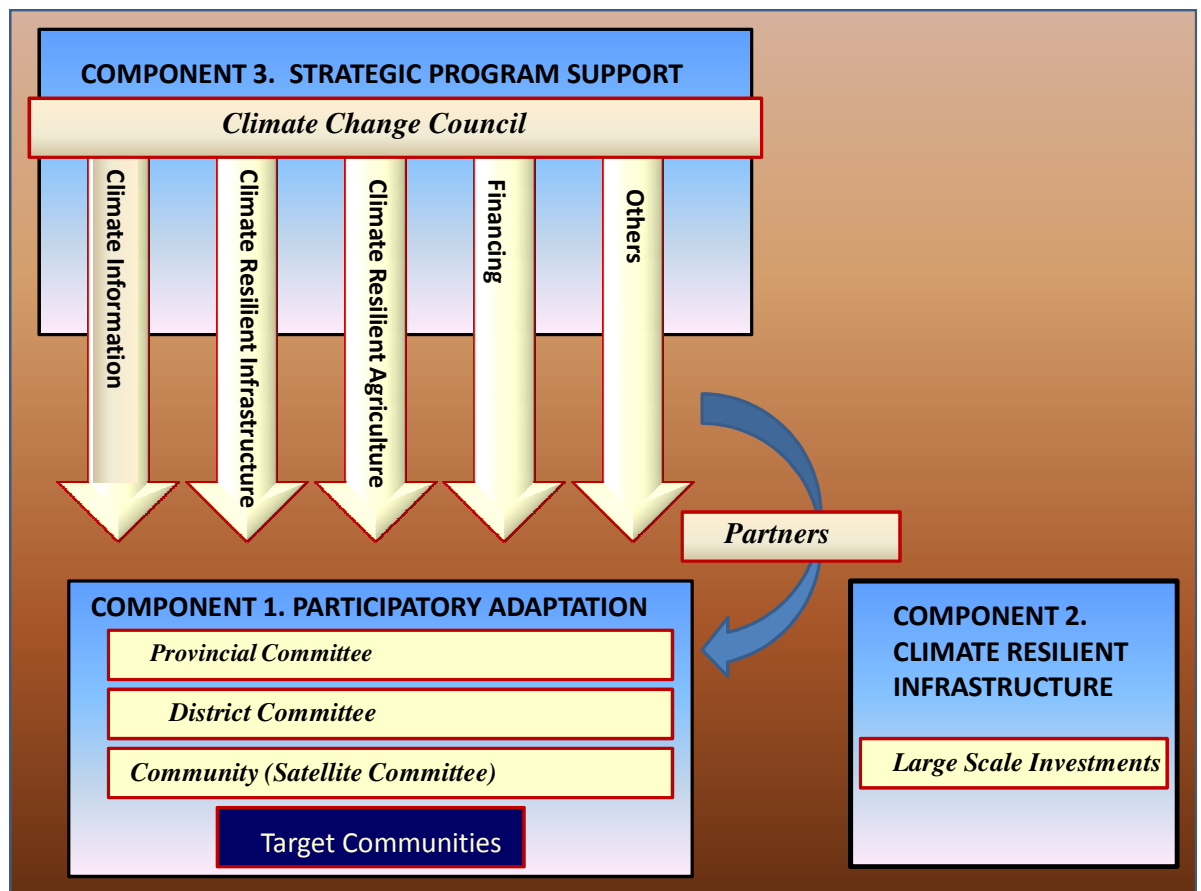
- To strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate variability and change
- To strengthen climate resilient infrastructure policies and pilot their effective implementation
- To strengthen the coordination of early warning and climate information 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.

24. SPCR support would consist of three major investment components, with the platforms serving as informational and supporting structures, as illustrated below on Figure 3:

Fig. 4. Proposed Components of the Strategic Programme for Climate Resilience



Programmatic Investment Component 1. Participatory Adaptation.

(Estimated costs: US\$35 million)

25. This component would aim to strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate variability and change. It would support targeted community-based adaptation and livelihood diversification on priority areas of the Barotse and Kafue sub-basins (8 and 14 districts, respectively). Funding for this component would be allocated based on climate-resilient Local Area Plans, prepared by communities and/or districts and examined by the Provincial Committees and National Platforms, against eligibility criteria defined in an Operational Manual. Local partners (e.g. NGOs) would be closely involved in facilitating this component at the field level, and in helping build local capacity. The component would follow operational procedures already developed successfully in the Western and Southern Provinces under past social funds (e.g. ZAMCIF). Each pilot district would be entitled to a maximum fund established in conformity with existing programs in order to ensure sustainability.

26. The component would seek to promote climate-smart local activities such as conservation farming, strengthened ecosystem and natural resource management, pasture management, integrated water resources management, livelihood diversification, and small-scale infrastructure management (e.g. irrigation, water supply, and climate-resilient social infrastructure) based on participatory land-use planning principles. The intention would be to stimulate indigenous adaptation initiatives, while at the same time providing communities with the necessary technical guidance (through the platforms' review of the local plans). The proposed Institutional Capacity Assessment (para. 47) would help determine which local institution(s) should be the recipient of the funds, and how partners would best be involved.

27. Local program partners, working in close collaboration with the district and provincial committees, would provide institutional and technical assistance to the target communities – particularly to reinforce local preparedness and contingency plans for climate extremes (droughts and floods), help them establish two-way communication links with provincial and national platforms, help them formulate local area plans, and strengthen their fiduciary capacity. At this level, the most important step is the creation of a trust system with the local population, as well as a two-way communication system with local communities and intermediary partners, local government institutions and local authorities. The best Information and Communication Technologies (ICTs) for this purpose would be mobile phones. Mobile phones have the advantage of low price, being widely used and thus be readily available. The tool suggested for this section of crowd sourcing is FrontlineSMS, which allows for the exchange of simple and real time messages between the community representatives, district and provincial platforms and a geospatial climate risk management database managed centrally by DMMU, ZMD, DWA and Department of Lands. At this level of communication flow, the most urgent requests and real time questions could be easily answered and forwarded to the most appropriate responders (including, if needed, technical Ministries).

28. Disbursement of actual adaptation investments would start once the communities/districts reached a pre-determined level of institutional maturity and local mainstreamed plans were approved. At the same time, a careful scrutiny of the plans by the Provincial and National Platforms would ensure that: (a) they targeted the poorest and the most vulnerable; (b) they addressed the sectors most at risk from climate change; (c) they did not create incentives for increased climate vulnerability; and, to the extent possible (d) that they promoted climate resilient technologies. A screening criteria similar to a Strategic Environmental Assessment – but with focus on climate resilience – is proposed to review the plans.

29. The component would also finance priority sector management plans for the two Sub-Basins. Amongst those that have been identified are a Fisheries Resources Management and Risk Management Plan for Barotse Floodplain, and an Integrated Water Resources Management Plan for the Kafue sub-basin.

30. The ultimate intention of this component would be to institutionalize climate resilience into development planning. As Local Participatory and Integrated Development Plans are expected to become the basis for future deconcentrated/decentralized budgeting, this strategy would also build upon lessons learned showing that livelihood diversification and investment in human capital, particularly amongst the poorest, is one of the most effective means of adaptation.

Programmatic Investment Component 2. Climate Resilient Infrastructure

(Estimated costs: US\$50 million)

31. This component would pilot climate resilient infrastructure in strategic investments in the two sub-basins. The ultimate objective would be to apply and demonstrate how improved standards and codes of practice, hydrological modelling, and strengthened procurement and oversight could lead to better climate resilient infrastructure which is both highly visible and of strategic and transformative impact to the local economy. The scale of the investments would be larger than that which could be supported through the community driven development approach under Component 1.

32. In the **Kafue sub-basin**, potential candidates include climate-proofing the access road to and from Kafue National Park (Kalomo-Dundumwezi, and Ithezi-Thezi to M9) to facilitate all-year round road access from Victoria Falls to Kafue, and from Kafue to Lusaka, in partnership with the Millennium Challenge Account (MCA). The access roads to and from the park are currently cut off regularly during the rainy season, and MCA is in the process of carrying out feasibility and baseline studies. If agreed, SPCR financing would be used to introduce climate proof standards for year-round access. This would allow year round tourism and thus associated income that would help local and regional development. Another option in the sub-basin would be to diversify sources of energy for ZESCO, to mitigate the potential effects of population growth and climate variability on the demand for hydro-power from the basin and reduce forest degradation.

33. In the **Barotse Sub-Basin**, the proposed investments would focus on strengthened management of priority canals. Canals in the Barotse floodplain have multiple uses (transportation, cultural events/ceremonies, flood control, irrigation, fisheries) but their maintenance has considerably deteriorated in recent times due to changes in socio-economic patterns. Their increased siltation has affected their role in flood drainage resulting in decreased food production and food security (by preventing the planting of second season crops). At the same time, any intervention in canal management would require careful environmental and economic studies to ensure sustainability of maintenance arrangements, and compatibility with the proposed submission of Barotse as a World Heritage Site. Thus, the SPCR would work closely with the Barotse Royal Establishment, local authorities, the Maritime Agency, the National Heritage Foundation, the Peace Parks Foundation, the Africa Parks, and other key local and national stakeholders to ensure that any canal management would be preceded by a carefully designed study, to preserve its Heritage status.

34. Another potential intervention in Barotse is floodproofing of the Iluso-Imusho Road, near the Caprivi strip, which is critical to permit population access to clinics and schools in the wet season. This is a challenging area to develop infrastructure and thus it will include a learning by doing especially with changing climatic extremes.

35. The component would fund feasibility studies, supervision, and implementation of the works, using the improved climate resilient standards and codes of practice developed under Component 3. To the extent possible, it would also apply strengthened procurement and contract supervision practices designed to promote better maintenance (such as asset management and performance-based contracts).

Programmatic Investment Component 3. Strategic Program Support

(Estimated costs: US\$25 million)

36. This component would provide strategic and institutional support to Zambia's Climate Change Program. It is expected to consist of the following sub-program components:

37. Institutional Support to Zambia's Climate Change Program (Estimated Cost: US\$5 million) This sub-component would support the Zambian future Climate Change Council and its inter-sectoral platforms (including provincial and district platforms) by fostering close collaboration between climate change adaptation, mitigation and disaster risk management. In particular, it would fund services, equipment, training and workshops, and incremental operating costs to enable the Platforms to:

- (a) Mainstream Climate Resilience into key Policies, Regulations, Strategies and Sectoral Plans (continuing the process initiated during Phase I).
- (b) Carry out Priority Applied Studies, with direct application to climate resilience (as approved by the Steering Committee). In infrastructure, this would include developing improved

- standards and codes of practice for infrastructure adapted to climate resilience, harmonized with those of SADC, and the use of improved procurement and contract supervision practices to promote better maintenance (for example, the use of asset management and performance-based contracts).
- (c) Knowledge Management, including an internship program for youth and civil society members to participate in various components of Zambia's SPCR; training and mentorship for national climate change champions in 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 similar adaptation programs.
 - (d) Management of External Resources and Climate Risk Financing, including technical assistance and training for the potential establishment of national climate and disaster risk funds. This would be an essential preparation for the Government of Zambia to potentially receive and harmonize its various sources of climate funds, distribute them efficiently amongst its programmatic needs, coordinate the activities of field partners with the required fiduciary oversight, and potentially manage contingency funds to allow it to prepare more proactively for climatic shocks.
 - (e) Program Management, including financial management, procurement, monitoring and evaluation and audits.

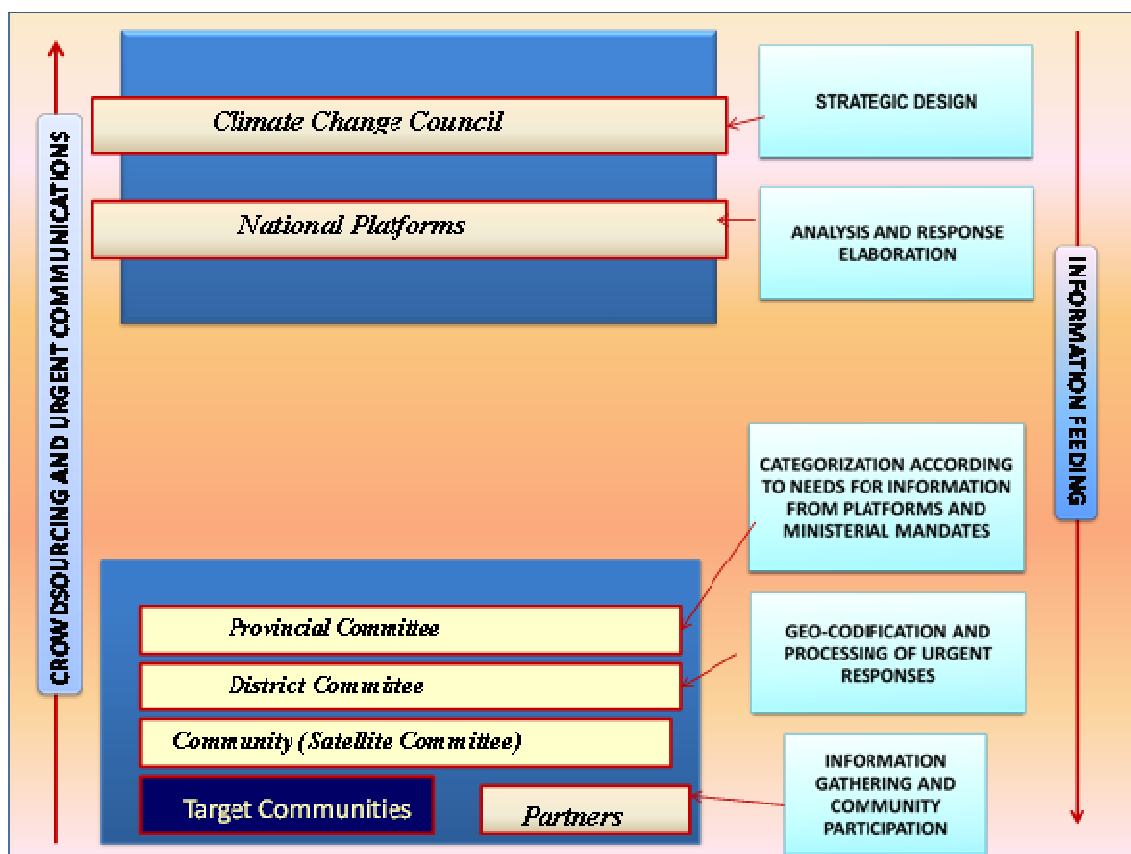
38. Strengthened Climate Information (Estimated Cost: US\$5 million) This sub-component would focus on strengthening the coordination of early warning and climate information systems, to ensure availability of reliable and user friendly climate information for an effective climate risk planning. Specifically, it would provide technical assistance, equipment, training, and incremental operating costs in support of:

- (a) A strengthened Climate Information System, with improved coordination between the existing hydro-meteorological network, geospatial information, and newly installed automated weather stations in key strategic points in the two sub-basins (funded under the SPCR); the development of a common geospatial data and information sharing platform optimizing climate information sharing between international, national and local sources; and applied training in interpretation and dissemination of user friendly climate-information.
- (b) An effective Early Warning System for climate shocks (floods, droughts, and climate-induced diseases) combining elements of traditional and scientific information.
- (c) Improved capacity for climate change assessments
- (d) Targeted Awareness and Education campaigns, with particular focus on engagement of civil society.

39. The Climate Information sub-component should link closely with the Community preparedness, crowdsourcing and Local Area Plans developed under the Participatory Adaptation component above. At this level of the structure, the flow of information coming from the field (Participatory Adaptation and Climate Resilience Infrastructure components) must already be well structured, to allow the Platform Groups to carry out a deeper analysis of the content and elaboration appropriate responses to problems emerging from the field. The

recommended ICT tool to be used here is the web-based Ushahidi platform, linked (below) to Frontline SMS, and (above) to the DMMU ZEPRIIS geo-information system, which allows for the geo-location and categorization of the information received from the field. This level is also where information feeding back to the field needs to be translated into simple, user-friendly messages, allowing the platforms to actively respond to the needs and requests from the communities. Thus, the information coming from crowdsourcing activities can be divided into different platforms. At the top of the pyramid would be the National Council Steering Committee which would use the information received for strategic and policy decisions. The crowdsourcing tools should be carefully piloted, tested and evaluated, with the methodology modified after the first test to adjust to the needs of the users (see Figure 4, below).

Fig. 4. Proposed SPCR Structure and Crowdsourcing System



40. Private Sector Participation (Estimated Cost: US\$15 million). This sub-component would support three key areas of private sector involvement in the SPCR program (see Annex E for further information):

- (a) **Strengthened Climate Information and Dissemination Networks through Mobile Phone Technology** – introduction of the ESOKO (www.esoko.com) platform to provide market, technical and weather information to farmers. This low-cost platform, already in use in Ghana, Benin, Burkina Faso, Cameroon, Ivory Coast, Madagascar, Mali, Togo and Sudan, allows farmers and small and medium enterprises to track product

inventories, obtain latest market prices, use SMS to advertise buyers, track production, inventories, and reinforce extension and training messages via SMS, audio and video. This activity would be carried out in partnership with IFC/Esoko.

- (b) **Agricultural Weather Index Based Insurance Assessment** – this activity would first study the feasibility and thereafter design and implement a commercially sustainable index-based product for flood and drought micro-insurance in Zambia, in partnership with financial and banking institutions. This activity would be carried out in partnership with IFC/GIIF.
- (c) **Microfinance Promotion** – this activity would promote micro-finance services and a line of credit in support of livelihood diversification in areas covered by the Participatory Adaptation component. Weak access to micro-finance to expand livelihood opportunities (particularly for the youth and women’s groups) is seen as one of the most important strategies to break the cycle of poverty in these communities, which in turn is positively correlated with climate resilience. This activity would be carried out in partnership with IFC/Access Holdings Microfinance Institutions Project.

C. Proposed Role of the Multilateral Development Banks and Other Development Partners

41. 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.

D. The Institutional Framework for Climate Change Management in Zambia

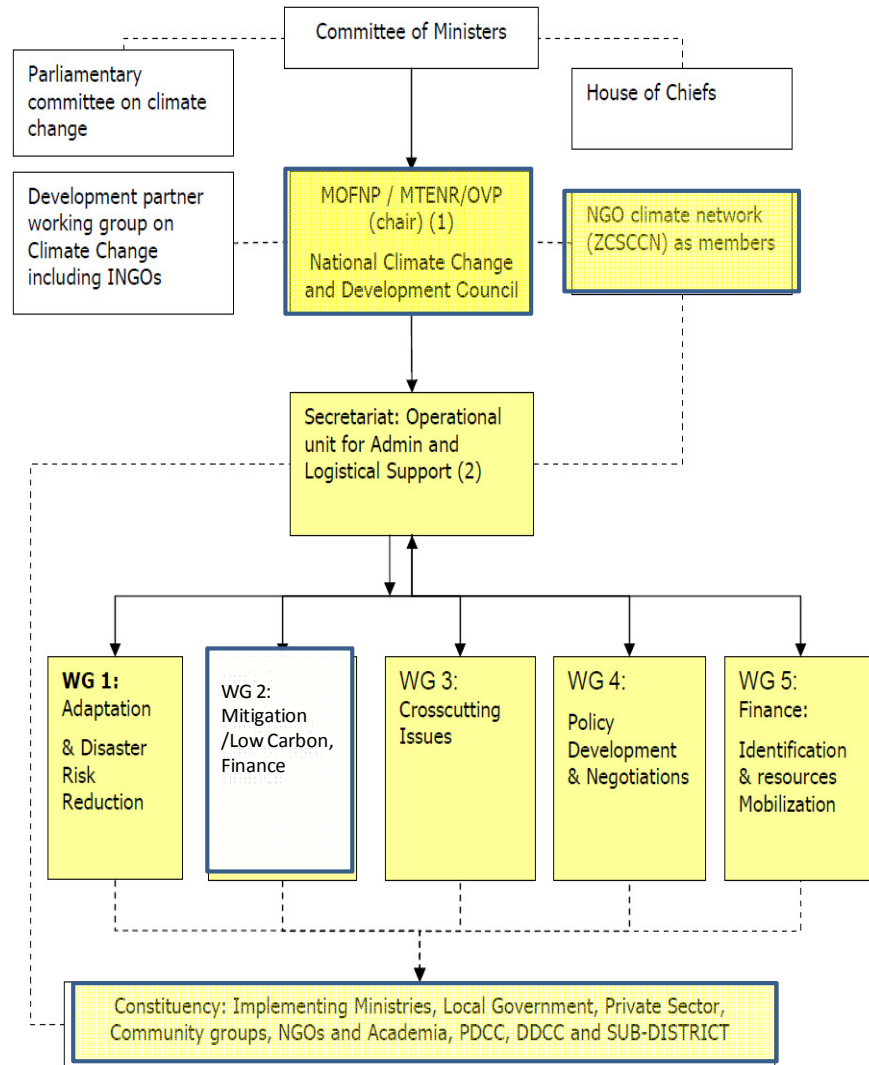
42. **Stakeholders have reached a broad consensus that climate change needs a high level coordination structure.** Although Zambia has not yet finalized its future institutional arrangements for climate change management, there is now growing consensus through the Climate Change Response Strategy discussions that climate change requires a **National Climate Change and Development Council** (or its equivalent), composed of an inter-sectoral **Steering**

Committee, with members drawn from key Ministries and private sector institutions, civil society and NGOs. The Council would consist of several **Working Groups/Platforms**, supported by a **Secretariat** responsible for administrative and logistical support. Ownership and strategic coordination of the program would remain with the agencies that composed the Steering Committee and the Platforms – with the Secretariat providing primarily an administrative and logistical supporting role. To facilitate implementation, however, the Council would have semi-autonomous status, with its CEO, Chief Financing Officer and Procurement Officer empowered to make administrative decisions, subject to normal Government fiduciary auditing rules. Figure 5 below shows the proposed institutional chart included in the latest draft of the Climate Change Response Strategy and, in yellow, the parts which are proposed to be supported under the SPCR.

43. **The final arrangements need a decision by Cabinet, with agreement amongst the three leading Ministries (MoFNP, MTENR and OVP).** To reach a final decision, stakeholders have recommended that given their recognized leading role on critical aspects of climate change, the Permanent Secretaries of Finance, Tourism, Environment and Natural Resources, and DMMU now meet to discuss these arrangements, in consultation with Cabinet. The mission strongly endorses this recommendation.

44. **Arrangements at the regional level would be progressively aligned with the decentralization trends.** For the moment, climate risk issues are addressed most actively by the Disaster Management sub-committees at the provincial and district levels (chaired by, respectively the Permanent Secretariat and the District Commissioner), although there may be a need to consider a broader representation of the regional development institutions, and/or to progressively align them with decentralization arrangements. Partners such as Concern, Red Cross Zambia and private sector must be actively considered in this structure, as they often form the key link with field implementers.

Fig. 5. Proposed Institutional Framework for Climate Change in Zambia



Source: Draft Climate Change Response Strategy (MTENR, December 2010)

MISSION RECOMMENDATIONS

45. **Interim arrangements need to be adopted urgently to build on the existing momentum and prepare the future program.** Given the high level of stakeholder expectations and the ongoing momentum, the mission recommends that MoFNP, in consultation with MTENR and other leading institutions, urgently activate the following interim arrangements by end-January 2011:

- a. Assign a neutral space centrally located in Lusaka for the operation of the Secretariat, where stakeholders and Platforms can continue to meet and operate
- b. Establish a joint PPCR/CCFU Secretariat in this space
- c. Mobilize urgently key positions and equipment envisaged under Phase I
- d. Officialize the platform leaders and their members
- e. Assist the Platforms to operate by reviewing and approving 6-months work plans against eligible activities under PPCR Phase I
- f. Convene a high level meeting between the Permanent Secretaries of Finance, MTENR, and OVP, moderated by Cabinet, to agree on the long-term institutional arrangements for climate change in Zambia

46. **The mission further recommends that MoFNP convene a workshop of all relevant stakeholders, in end January 2011, to refine and finalize the Strategic Program for Climate Resilience Submission.** Inputs received during the current mission – including updates to the analytical framework – will continue to be assembled into a draft Submission. Annex E presents the outline for the Submission, and the proposed role of various stakeholders in its input. The target completion date for the Zambia submission is March 2011.

47. **An institutional capacity assessment and strategic environmental assessment should now follow.** In order to determine how the Participatory Adaptation component would be disbursed, the mission further recommends that an experienced team – composed of experts in institutions, procurement and financial management from both MoFNP and MDBs – visit Western Province in end-January 2011, to carry out an institutional capacity assessment based on previous criteria developed under ZAMSIF.

Annexes:

Annex A: Key Conclusions from Platform Discussions and Participants Contacts

Annex B: Proposed Role for Private Sector

Annex C: Terms of Reference for Mission and Schedule

Annex D: Potential Program Partners

Annex E: Proposed Outline of Zambia SPCR Submission

Annex F: Draft Zambia Country Profile – Climate Change (separate attachment)



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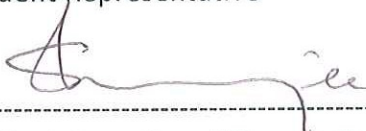
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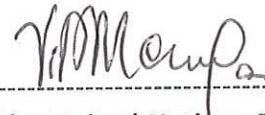
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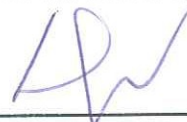
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Annex A: Key Conclusions from Platform Discussions and Participants Contacts

CLIMATE RESILIENT INFRASTRUCTURE

1. OBJECTIVE

The transformative objective of climate resilient infrastructure is to strengthen policies to address climate change in infrastructure and ensure effective implementation.

2. CURRENT BARRIERS AND CHALLENGES

- a) Limited and /or non-existent Zambian standards
- b) Non-harmonization of standards at regional level
- c) Inadequate enforcement
- d) Inadequate resources to monitor projects
- e) Weak contract management (inadequate contract preparation and management)
- f) Weak penalties and/or lack of enforcement of penalties for non-compliance
- g) Ineffective and inadequate maintenance of infrastructure
- h) Limited capacity in modeling climate risk infrastructure
- i) Resistance to change

3. OVERCOMING BARRIERS AND CHALLENGES

The main barriers and challenges to be overcome can be placed under four (4) main clusters

i) Standards / Policies

Revise, develop and harmonize infrastructure standards and codes of practice to take into account climate change

ii) Contract Management

Ensure adequate contract preparation and management, which involves resources to carry out contract planning, administration and enforcement.

iii) Maintenance

Behavioral change which encompasses policies, culture, resources and incentives

iv) Capacity Building / Training

- Develop capacity in risk modeling of climate change effect on infrastructure
- Create awareness, advocacy and carry out training in the industry

4. **KEY PRIORITY ACTIVITIES** to address the barriers and challenges which are aligned to the SNDP priorities

4.1 Infrastructure Projects

- Kalomo-Dundumwezi Road
- Shazengo-Namwala Road
- Iluso-Imusho Road
- Selected canals in Western Province
- Kafue-Chanyanya Road

4.2 Infrastructure Activities, Equipment and Facilities

4.2.1 Activities to support Infrastructure Platform

Possible Studies

- Social and economic vulnerability of infrastructure due to Climate Change
- Economic evaluation of infrastructure damage due to climate change in Zambia
- Optimization study on networks to address climate change
- Participatory land use planning and Climate resilient infrastructure development
- Viability of PPP to support Climate Resilient Infrastructure development
- Optimization of procurement for Climate Resilient Infrastructure

Seminars and Workshops

- Policies, standards and codes of practice on climate resilient infrastructure
- Harmonization of standards and codes of practice
- Early warning systems in Climate Resilient infrastructure (behavior/performance of dams, roads, bridges, buildings, etc.)
- Advocacy on climate change

Training on Climate Change

- Hydrological modeling of climate change
- Risk and vulnerability assessment techniques to climate change
- Post-disaster assessment

4.2.2 Equipment and facilities

- Laptop Computers and Printers
- Software (modeling, etc.)
- Projectors
- Internet Connection (e.g. VSAT shared by the various Platforms)
- Digital Cameras
- GPS
- Mobile Phones

CLIMATE RESILIENT AGRICULTURE

1. **Key development challenges:** Increase in intensity and magnitude of floods in the Barotse Floodplain in Western Province, coupled with changing patterns in land-use and management specifically in forestry and fisheries sub-sectors are increasing pressure on natural- and agro- ecosystems that support livelihoods of communities living in the floodplain. Climate change is exacerbating such environmental degradation and the accompanying loss of ecosystem services which have weakened the resilience of communities to cope with increasing climate variability and eventual climate change.

2. The canal system in the Barotse floodplain is key infrastructure in the area that supports movement of people and goods, as well as irrigation of arable land and drainage during the flood/wet season. However, poor maintenance of the canals is exacerbating flooding.

Clear Transformative Objective for Climate Resilient Agriculture

- Suggestion 2 – To strengthen the adaptive capacity of livelihoods based on agriculture, and natural resources in the face of climate variability and change in the most affected areas of the Zambezi River Basin to support sustainable growth of agricultural production and productivity.

B. What are the current barriers and challenges to achieve the objective? (What are the barriers to adaptation?)

Key barriers and challenges

1. Low access to sustainable agriculture technologies (appropriate conservation agriculture tillage equipment, short duration and drought escaping crop varieties, acid tolerant crop varieties)
2. Low access to information related to climate variability and change, associated vulnerability and impacts and response strategies
3. Inadequate ecosystem management to support sustainable development
4. Inadequate access and poorly tailored services in the area of financing, marketing and infrastructure
5. Inadequate coverage of climate change in the agriculture policy implementation

C. How would you overcome the barriers and challenges?

Barrier 1: Low access to sustainable agriculture technologies

Recommendations:

1. Impact oriented technologies
2. Provide and promote research into country specific/appropriate technologies
3. Promote and enhance access to information on the availability of technologies
4. Develop financial capacity and depth to support and enhance access to sustainable agricultural technologies
5. Ensure policy encompasses development and access to sustainable technologies

Barrier 2: Low access to information related to climate variability and change, associated vulnerability and impacts and response strategies

Recommendations:

1. Generate country specific data on climate variability and change
2. Develop methods and tools to assess impact of climate change on livelihoods based on agriculture and natural resources
3. Develop an agricultural response unit within the broader climate change response institution which is responsible for data collection, analysis, strategy formulation and information dissemination

Barrier 3: Climate Change not addresses in the agricultural policy and policy implementation

Recommendations:

1. Gap analysis and mainstreaming of climate change into policy and policy implementation programmes
2. Develop best practice models which demonstrate climate change mainstreaming within prioritized sub-sectors through various incentivized mechanisms
3. Improve capacity and methodologies for implementation of policy affecting all stakeholders of the various sub-sectors and enhance the entire value chain
4. Develop policy review and monitoring mechanisms which involved all stakeholders
5. Harmonization of regional and international policies and conventions on agriculture and climate change

Barrier 4: Inadequate ecosystem management to support sustainable agriculture development

Recommendations:

1. Harmonize sector policies and legislation to ensure effective and integrated ecosystem management

2. Coordination of programmes across sectors which include monitoring of impacts and linkages to reduce on duplication and inefficiencies
3. Review of best practices of management techniques and customization and implementation of such models at both macro and micro levels including at an institutional management level
4. Strengthen the Agriculture Consultative Forum to enhance information sharing, work plans and activities to ensure integration of programmes and processes (e.g. use of crowd sourcing)

Barrier 5: Inadequate access to and poorly tailored services in the areas of financing, marketing and infrastructure

Recommendations:

1. Develop various types of agriculture specific financing mechanisms, and enhancing existing mechanisms (e.g. specific Funds, Agriculture Bank, Warehouse receipts, Weather-Indexed Insurance, Carbon Finance, etc)
2. Develop capacity and depth in the financial sector to address the needs of the agriculture sector
3. Develop and promote markets, and absorption capacity of markets for the increased production
4. Promote the development of agricultural infrastructure and ensure investment into climate resilience
5. Improve research to target production nationally and regionally in light of climate change
6. Review and develop policy which support agricultural services

D. What are the key priority activities that address the barriers and challenges and are aligned to SNDP priorities (which have already considered climate change)

BARRIERS/CHALLENGES	Crops	Livestock	Fisheries	Natural Resources	Others
Barrier 3 Climate change not addressed in the Agricultural Policy and policy implementation					
Responses	ACTIVITIES PER SUBSECTOR				
1: Gap analysis, and mainstreaming of climate change into policy and policy implementation programmes	3.1 Inclusion of climate change issues into policy - Provide TA to government -	Policy being in the formative stage, include climate change mainstreaming	3.1 Include climate change mainstreaming in the development of the National Fisheries Policy currently under way;		
2: Develop best practice models which demonstrate climate change mainstreaming within prioritised sub sectors through various incentivised mechanisms	3.2 Develop financial incentive model - Creation of credit enhancement and microfinancing schemes - Develop technology innovation fund - Develop carbon finance models and markets		3.2 Develop and implement a Fisheries Management Plan for the Barotse Floodplain fishery as envisaged in the Fisheries (Amendment) Act of 2007;		
3: Improve capacity and methodologies for implementation of policy affecting all stakeholders of the various subsectors and enhance the entire value chain			3.3 Strengthen capacity of communities, private sector and other stakeholders to fully participate in the implementation of the Fisheries Management Plan as outlined in the Fisheries Act;		
4: Develop policy review, monitoring and evaluation mechanisms which involves all stakeholders					
5: Harmonization of regional and international policies and conventions on agriculture and climate change					

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BARRIERS/CHALLENGES	Crops	Livestock	Fisheries	Natural Resources	Others
Barrier 4: Inadequate ecosystem management to support sustainable agriculture development					
Responses	ACTIVITIES PER SUBSECTOR				
1: Harmonise sector policies and legislation to ensure effective and integrated ecosystem management					
2: Coordination of programmes across sectors, which include monitoring of impacts and linkages to reduce on duplication and inefficiencies	[Note: this is a cross cutting barrier] 4.1 Strengthen the joint environmental management and mainstreaming programme to include sustainable agriculture - TA to develop the agricultural framework within the larger programme				
3: Review of best practices of management techniques, and customization and implementation of such models at both macro and micro levels including at an institutional management level	4.2. Link with CGIAR research program on “Aquatic and Agriculture Systems” for assessment of performance and impacts, exchanges of lessons, and development of good practice guidelines		4.1 Link with CGIAR research program on “Aquatic Agricultural Systems” for assessments of performance and impacts, exchanges of lessons. and development of good practice guidelines		
4: Build capacity for sharing of information, workplans and activities to ensure integration of programmes and processes (e.g use of crowdsourcing)	4.3 Strengthen the Agricultural Consultative Forum to facilitate unified monitoring framework - TA - Resource mobilisation - Linkage to technology and climate information group				

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BARRIERS/CHALLENGES	Crops	Livestockh	Fisheries	Natural Resources	Others
Barrier 5: Inadequate access to and poorly tailored services in the areas of financing, marketing and infrastructure					
Responses	ACTIVITIES PER SUBSECTOR				
1: Develop various types of agriculture-specific financing mechanisms, and enhancing existing mechanisms through linkages (e.g. specific Funds, Agriculture Bank, Warehouse receipts, Weather-Indexed Insurance, Carbon Finance, Credit Enhancement, etc)	5.1 Low carbon/green fund that the private and farming communities can access. 5.2 Develop revolving grant mechanism for early stage carbon project development 5.3 Develop weather-indexed insurance 5.4 support a matching Grants approach to enhance capacity building. 5.5 Provision of TA and resources are required for implementation of above products		5.1 Develop and implement financial products and services for the capture fisheries sector to harness high cash flows and build capacity for diversification of livelihoods beyond fishing (as CC is expected to narrow fish-based livelihood opportunities in future)		
2: Develop capacity and depth in the financial sector to address the needs of the agriculture sector					
3: Develop and promote markets, and absorption capacity of markets for the increased production					
4: Promote the development agricultural infrastructure and ensure investment into climate resilience			5.2 Support private sector to increase climate resilient investments in fish landing sites and market infrastructure as a means to reduce post-harvest losses, increase predictability and diversity of income opportunities, and build local entrepreneurial skills for future diversification of livelihoods;		
5:Improve research to target production nationally and regionally in light of climate change					
6:Review and develop policy which support agricultural services					

IMPROVED CLIMATE INFORMATION

Context and Transformative Objective

To strengthen the coordination amongst climate stakeholder institutions in undertaking an inventory of existing systems; and ensure availability of reliable and user-friendly climate information for an effective climate risk planning.

Specific activities

- Building capacity of the communities in early warning system
- Increase or to have more meteorological stations in order for us to have reliable sources of information – revitalize data collection points
- Need to combine traditional knowledge and scientific information in early warning system
- Have automatic weather stations – maybe housed in secondary schools
- Have an inventory of all data collection points
- Develop improved data gathering points maps
- develop a system which will bring all data points to a central point
- Develop a map which has a large set of hydro-met parameters (attribute data)
- Ensure that the planning processes includes issues of climate change information including budgeting for it
- There is need for the adoption of common data standards and structures
- Need to build on the existing disaster information system along with the capturing all existing public and private owned data capturing points.

Current Barriers and Challenges

Several barriers and challenges have been identified and have since been grouped under broader categories as follows:

1. INFRASTRUCTURE

- Inadequate data infrastructure for the collection of hydro-meteorological data/ information and land use- land cover change (LULC) in the country which result results into missed when planning;
- Lack of geo-referenced data for the regular and voluntary hydro-met stations.

2. INSTITUTION/LEGAL FRAMEWORK

- Role of Zambia Meteorological Department (ZMD), Department of Water Affairs (DWA) and Department of Lands as primary sources of information on climate change is not very prominent and far from decision makers;
- ZMD not recognized by an Act of Parliament and not restructured hence cannot function effectively as the focus is skewed towards aviation.

3. TRAINING/SKILLS(HUMAN RESOURCES & CAPACITY BUILDING)

- Inadequate capacity to analyse and interpret hydro-meteorological information
- Lack of skilled man power to man regular and voluntary hydromet stations

4. DATA AND INFORMATION

- Serious inadequacies in the range of climatic parameters being collected. These include those that are very sensitive such as evaporation, radiation (including UV) sunshine hours are which are usually not collected from non regular hydromet station network.
- Under utilization of the climate information due to data formats being used. This is further exacerbated by lack of common data standards which should facilitate easy sharing of the much needed climate Information.

MODELING CAPACITY

- Inadequate capacity for sector-based modeling

How to overcome barriers and challenges

- Involvement of private sector partners for the development of information dissemination platforms such as ESOKO (www.esoko.com);
- Need for the development of weather-based indices(as is the case in Malawi, Kenya and Ethiopia)
- Adoption of common data standards and structures through the development of the Geospatial Data Infrastructure and Information sharing platforms such ZEPRIIS Establishment of the hydromet additional data collection infrastructure to be collecting periodical climate and land use/cover data in the country
- Undertaking a country wide mapping and referencing of all the regular and voluntary hydro-met stations.
- Roles of the Zambia Meteorological Department (ZMD), Department of Water Affairs (DWA) and Department of Lands revised with the focus widened to cover collection, analysis

and dissemination as primary sources of information on climate change is not very prominent and far from decision makers

- Train staff from the Department of Meteorology and Department of Water Affairs on the analysis and interpretation of hydro meteorological information.

Priority areas in line with the SNDP

The priority areas for the climate information nexus in line with the SNDP are as follows;

Sector Name	Programme Name	Programme Strategies
Climate Information	Capacity building in Disaster Risk Management	Disaster Preparedness, Prevention and Mitigation
	Disaster management mainstreaming	development of early warning systems and information dissemination
Local Government and Decentralization	Climate change adaptation and mitigation	Assess risks and vulnerability in the districts
Information and Communications Technology	Infrastructure development with climate change consideration	Expand hydro meteorological network
Water supply and Sanitation	Research and Development	Strengthen the national hydrological network for resource survey and institutional capacity for hydro meteorological and ground water monitoring
Agriculture	Sustainable Land and Water Management Programme	Mainstream climate change adaptation and develop mitigation action plan and measures including vulnerability assessment and risk management
	Crop Production and Productivity Improvement Programme	Support the generation and dissemination of early warning and agriculture data/statistics Enhance the capacity in Disaster Risk Management
Livestock and Fisheries	Pasture Improvement and Grazing Management	Mainstream climate change adaptation and mitigation measures
		Develop mitigation action, vulnerability assessment and risk management plans

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MONGU-WESTERN PROVINCE

STAKEHOLDERS MEETING

19TH NOVEMBER 2010

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Annex B: Proposed Role for Private Sector

PRIVATE SECTOR PARTICIPATION IN THE ZAMBIA PPCR PROGRAM

Background

Private sector is the foundation of a country's economic growth and stability. In order to effectively contribute to climate resilience, private sector companies need to have the knowledge, capacity and financial incentives necessary to undertake appropriate and timely climate change interventions to maintain country's economic and social prosperity.

Through existent regional IFC efforts and in partnership with the Zambia PPCR program, the IFC is working with key private sector stakeholders like Finance and Insurance companies, ICT companies, Agriculture & Industry of Zambia to design and implement private sector relevant climate resilience projects in line with the Zambia SNDP and considered under the Zambia SPCR.

Two potential projects targeting the involvement of the private sector have been identified by IFC and the PPCR teams based on robust consultations with key stakeholders from the public, private sector, international organizations, civil society and are described below:

1. *Improving Climate Information and Dissemination Networks (Weather, technical and market information to farmers):*

Access to information in many areas is limited, meaning farmers are often left uninformed and at the mercy of erratic weather, disease and pest outbreaks. Even in good growing conditions, farmers may not have access to price information that could help them negotiate with buyers or decide which markets to bring their products still if their crop is in short supply at a particular place.

A reliable and well paying market keeps farmers producing and guarantees a cycle of food production. A productive community engaged in sustainable food production is likely to protect the environment that sustains its livelihood and ensures that it can continue to provide for itself and for the market that depends on it.

Mobile phone technology is being used as a strong platform to provide information to farmers about weather condition and prevailing market information. IFC has invested in one such company, ESOKO (www.esoko.com) that is providing 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.

Currently ESOKO offers the following solutions:

1. For Small, Medium and Large Business
 - Manage suppliers & customers with mobiles & SMS
 - Track product, crop, inventory & activities in the field

- Set up direct SMS marketing to sell or procure goods
 - Market your goods & services on the World Wide Web
 - Get the latest market data on prices, news & offers
2. For Associations and Groups
- Empower members with SMS market alerts
 - Reinforce extension & training messages via SMS
 - Use SMS & web to advertise for buyers
 - Set up SMS polling to monitor field activities
 - Store & distribute digital documents, audio & video
 - Build profiles & histories of members to access credit
3. For Government and Research
- Re-energize extension officers & services
 - Collect market data affordably & in real-time
 - Distribute policy & marketing documents online
 - Track inventory, volumes & forecast trends
 - Compare historical data across markets
 - Deliver regional market data to the public
 - Standardize & harmonize all MIS services in country

ESOKO is considering including weather information to the service as it would be of great value to users. In that perspective, IFC have invited ESOKO to visit Zambia to investigate in coordination with the Zambia PPCR team, more specifically the “Climate Information Group/Nexus” the Zambian existent conditions and the requirements to start including weather information to the services targeting Zambia farmers and communities.

The ESOKO team will visit Zambia during the first week of December. The results of this mission will indicate the needs in terms of activities and the respective resources to be considered in the Zambia SPCR.

2. *Promote the creation of agricultural weather index based insurance products*

Although 80% of the Zambia population depends on agriculture for their livelihoods, agricultural insurance is limited in the country, resulting in inadequate risk management measures and macroeconomic vulnerability to catastrophic weather risks. Developing a functional market for index-based weather risk products is critical for building resiliency in the face of catastrophes and thereby protecting low-income populations.

The objective of the IFC/GIIF in partnership with the Zambia PPCR team is to provide beneficiaries with a comprehensive and commercially sustainable index-based insurance product for flood and drought risks in Zambia. The project intend to provide a complete and comprehensive capacity building for index-based micro-insurance in Zambia, this includes

developing all operational, distribution and technical aspects of an affordable and sustainable index insurance product for flood and drought risks.

The four key project development objectives are:

1. Create a working model:

Developing a technical understanding of the catastrophic risks to be protected against will enable the creation of effective risk modeling and contribute to the viability and commercial feasibility of the Project. Once key hazards are identified and historical data gathered and validated, mathematical analyses will be conducted to structure the risk model.

2. Design a valid product:

Eligible risk transfer clients at the micro, meso and macro levels will have to be identified to ensure the product is salable, demand-driven and meets fundamental societal needs for livelihoods protection.

3. Align all necessary stakeholders:

Facilitate the creation of a full stakeholder value chain by making the necessary connections and investing in intellectual capital. This includes compiling risk transfer submissions, conducting reinsurance marketing, seeking local issuing carrier support, locating local distribution sources, seeking local third-party administrative support and conducting governmental policy work.

4. Implement risk transfer product:

The final Project phase includes finalizing and issuing the necessary risk transfer documentation and overseeing the issuance of the index insurance products. This entails marketing the products to low-income farmers and developing technical capacity to streamline product sales and develop sufficient product volume.

In this perspective the IFC/GIIF team will conduct a scoping mission in January 2011 to in coordination with the PPCR team evaluate the current Zambia situation for the development of the project. The findings of the mission in terms of requirements of resources and activities will be incorporated in the Zambia SPCR.

Annex C: Terms of Reference for Mission and Schedule

Zambia PPCR Mission Outline Notification

Second Joint Programming Mission to Support Zambia
Preparation Towards Developing the Pilot Program for Climate Resilience
Strategic Program for Climate Resilience (SPCR)
November 15-26, 2010

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Alternate Government Contact: Mr. David Kaluba
Principal Economist
Economic and Technical Cooperation
Ministry of Finance and National Planning
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Mission Dates: It is proposed that the mission take place from **November 15 to 26, 2010** under the leadership of the Government of Zambia.

Mission Objectives: To assist the Government of Zambia in developing a draft Strategic Programme for Climate Resilience, integrated with the priorities of the Sixth National Development Plan and other climate change and sustainable development programs, through broad-based consultation with potentially interested partners.
As a secondary objective, the Mission would assist the Government to review the institutional, analytical and strategic progress in establishing an agreed national framework for climate change in Zambia.

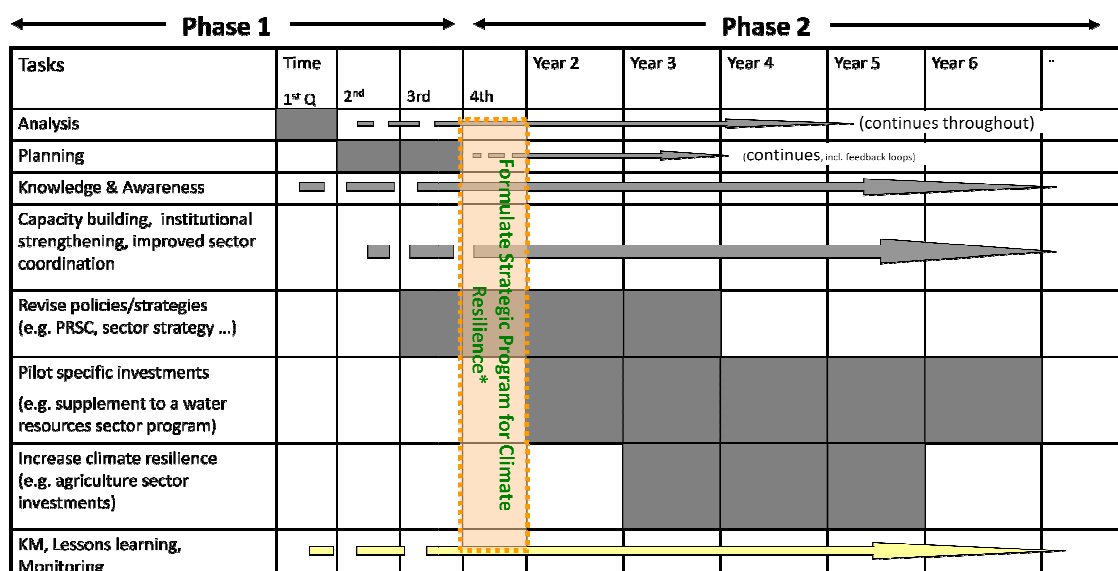
To optimize the mission time, the following documents would be provided in electronic form to interested mission participants:

1. Aide Memoire of last oversight mission for PPCR (August 2010)
2. The three nexus of PPCR (Power point presentation)
3. Operational Manual for Phase I of PPCR
4. Draft Sixth National Development Plan
5. Draft Climate Change Strategy
6. Crowdsourcing training Powerpoint presentation
7. Draft results of ongoing climate change economic study
8. Powerpoint by Lloyds Financials on Proposed Potential Structure of a Climate Resilience Fund

Background

Zambia has been selected as one of three African countries for the implementation of the Pilot Program on Climate Resilience (the other two African countries are Mozambique and Niger). The Pilot Program for Climate Resilience (PPCR) is the first Program under the Strategic Climate Fund (SCF) of the Climate Investment Funds (CIF). The objective of the PPCR is to provide incentives for scaled-up action and transformational change through pilot projects that demonstrate how to integrate climate risk and resilience into core development planning, while complementing other ongoing development activities in a given country. PPCR programs are country-led, and intended to enable pilot countries to transform country-specific plans and investment programs to address climate risks and vulnerabilities, building on National Adaptation Programs of Action (NAPAs) and other relevant country studies and strategies.

The PPCR is to be implemented in two phases: Phase I for the Formulation of Strategic Program for Climate Resilience and Phase II to integrate Climate Resilience into Core Development Plans, Budgets and Investments. The two phases could potentially overlap.



Phase I is currently ongoing – The Government of Zambia has received US\$1.5 million in Technical Assistance funds from CIF in June 2010 to mainstream climate resilience into the Sixth National Development Plan and related strategic planning, fill out analytical gaps, strengthen institutional coordination, promote awareness amongst key decision makers, and prepare a Strategic Programme for Climate Resilience.

Even though funding disbursement has been slow, there has been good momentum in climate change mainstreaming and strategic and institutional development, through the combined efforts of PPCR, CCFU, DMMU and other collaborating partners. Climate change has been successfully mainstreamed into the Sixth National Development Plan (SNDP); the Ministry of Tourism, Environment and Natural Resources, through the CCFU, has helped prepare a new Climate Change strategy with broad stakeholder consultation; an economic analysis of climate change impacts is ongoing; Zambia has adopted a new Disaster Management Law, and under these reinforced institutional coordination mechanisms, DMMU has been convening regular meetings of climate information institutions to develop a broader information and vulnerability system; crowdsourcing has made it possible to involve a variety

of new partners; and, through the efforts of Ministries of Finance, Tourism, Cabinet, DMMU and many others, a growing consensus is emerging over the future institutional coordination mechanisms for climate change and disaster risk management in Zambia.

It is clearly desirable that the PPCR be integrated into a broader climate change program in Zambia, to allow the Government to optimize and leverage financing opportunities from various sources (including private sector and civil society) in a way that best meets its strategic and programmatic needs.

The purpose of the current joint mission would for the various partners to assist the Government in mapping out their respective interest and potential alignment around the proposed strategic programmatic nexus of the PPCR, as prioritized by the SNDP. Specifically, these focus around three thematic areas: (1) Strengthened Climate Information; (2) Climate Resilient Infrastructure; and (3) Climate Resilient Agriculture (including natural resource management). A fourth, managerial group would be formed to discuss cross-cutting issues, such as institutional coordination and the potential establishment of adaptation/DRM funds.

Mission Scope of Work

Mission participants would be divided amongst four distinct thematic discussion groups:

1. Improved **Climate Information**
2. **Climate Resilient Agriculture**
3. **Climate Resilient Infrastructure**
4. **Management and Financing**

1. Strengthened Climate Information

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

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

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.

2. Climate Resilient Infrastructure

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

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

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?

Finally, the group should estimate the potential commitments from various partners (including private sector leveraged funds) and match them against priority infrastructure resilient investments, with a geographical focus on highly vulnerable areas of the Zambezi River Basin.

3. Climate Resilient 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
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.

4. 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.

[The list of key stakeholders in the PPCR/Climate Resilient Process is included as Annex A.](#)

Mission Outcomes

The mission outcomes will be:

- (a) a brief Aide Memoire summarizing the conclusions of the four groups and process followed during the Joint Mission;
- (b) a draft Financing Framework summarizing the interest and potential commitments of partners to the climate resilient program.

Mission Schedule

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

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TABLE A. MISSION CALENDAR							
	Monday 15	Tuesday 16	Wednesday 17	Thursday 18	Friday 19	Saturday 20	Sunday 21
AM	Mission Internal Briefing Meeting with PS of Finance	8.00 AM meeting with PS finance for Mission member Team Leaders Group 1: Climate Information Group 2: Infrastructure Group 3: Agriculture	09:00 Group 1 Group 2 Group 3 (Cont'd)	Field Trip Zambezi Basin	Field Trip Zambezi Basin	Field Trip Zambezi Basin	Free
PM	Participation of Management and Financing Team on CC Strategy Stakeholder Consultations	14:00 Group 1 Information, followed by Plan for field visit 14:30 Group 3. Agriculture	14:30 Management and Financing Team Group 2 Infrastructure (cont'd)				
	Monday 22	Tuesday 23	Wednesday 24	Thursday 25	Friday 26	Saturday 27	Sunday 28
AM	CROWDSOURCING TRAINING WORKSHOP DAY 1	CROWDSOURCING TRAINING WORKSHOP DAY 2 14:30 Group 2. Infrastructure (cont'd) Group 3. Agriculture (cont'd)	9:00 -Meeting – Climate Information group	Debriefing With govt. Write Up	Debriefing with Government 10:00 Meeting with Decentralization CPs Write Up	Aide memoire	

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PM			<p>13:00- Management meeting (lunch)</p> <p>14:30</p> <p>Meeting of management and heads of sub-groups (agreement on overall design of PPCR phase 2)</p> <p>Management and Financing Team Write-up</p>	<p>Mgt Team</p> <p>Write Up</p>	<p>14:30-</p> <p>Infrastructure Discussions</p> <p>(con't)</p> <p>Informal wrap-up with MoFNP</p>		

	Monday 29	Tuesday 30
AM		
PM	Finalize Aide Memoire	Signature Aide Memoire

Table B. Mission Members and Description of Individual Duties

Agency	Name	Expertise	Contributions to mission outputs
Key Mission Members – Zambia			
MoFNP	Ms Monde Sitwala	Acting Director Economic Management Department	Jointly coordinate and lead mission activities. Strategic and institutional directions to mission
MoFNP	Mr. Edward Kapwepwe	Deputy Director, Economic Management Department	Provide strategic guidance on GRZ's SNDP aspirations on the agriculture nexus
MoFNP	David Kaluba	Co-Mission Leader (Government) Principal Economist	Principal mission coordinator on behalf of GRZ. Provide strategic guidance and review all strategic inputs to mission documents.
MoFNP	Paul Lupunga	Chief Economist	Support coordination and mission leadership. Strategic and Institutional directions to mission. Review Financing framework and provide guidance to mission.
MoFPN	Francis Mpampi	Principal Planner	Review mainstreamed sectors of the SNDP and guide mission on strategic design needs.
MTENR/CCFU	Mr. Shitima Mwepya	CCFU	Review proposed management arrangements for consistency with CC Strategy
ZMD	Dr. Joseph Kanyanga	Chief Meteorologist (Representing Global Mechanism)	Lead Climate Information Nexus (jointly with DMMU)
DMMU	Mr. Anderson Banda	Head, Information Management Systems	Lead Climate Information Nexus (jointly with ZMD); ensure proposed management and crowdsourcing arrangements are harmonized and complementary with national vulnerability and climate information system
CEEEZ	Prof. F. D. Yamba	Climate Change Specialist	Complementarity in issues of climate change and vulnerability; Advise on Climate Resilient Infrastructure
MTENR/CCFU	Prof. Jain	Climate Change Specialist	Ensure complementarity with CCFU activities
RDA	Dr. Michael Mulenga	Transport/Infrastructure Specialist	Lead Climate Resilient Infrastructure Nexus
MACO	Mr. Martin N. Sishekanu	Agronomist, Land and Water Management Specialist	Lead Resilient Agriculture Nexus
Lloyds Financials	Prof. Lloyd Chingambo	CEO	Lead discussions on financing options
UNZA	Prof. Munyinda	Prof. of Agriculture	Advise on discussions of agriculture nexus
UNZA	Mrs. Suman Jain	Prof. of Applied Mathematics	Participate in discussions on analytical gaps, climate information needs (UNZA contribution)
Copperbelt University	Prof. Mitulo Silengo	Director, Disaster Management Training Center	Participate in discussion on climate information crowdsourcing (Copperbelt U. contribution)
Zambia CC Civil Society Network	David Ngwenyama	Director	Civil Society Network contribution to Awareness, Climate Information and Agriculture Nexus
Green-Enviro Watch	Abel Musumali	Director	Youth Network contribution to climate information nexus
Green Enviro-	Maarten Effers	Information Advisor	Advise on Climate Information discussions

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Watch			
Green Enviro-Watch	Boniface Mumba Kennedy Sishinga Ezekiel Zulu	Volunteers	Secretariat Volunteers
Africa Carbon Credit Exchange	Sabera Khan	Acting CEO	Climate Information Nexus and Potential index-weather Insurance (Agriculture nexus discussions)
IBRD			
	Sofia Bettencourt	Co-Mission Leader (World Bank) Adaptation and DRM Expert	Jointly coordinate and lead mission activities. Participate in Management/Financing and key meetings of other nexus. Consolidate inputs into Financing Framework (with Kisa).
	Habiba Gitay	Lead Adaptation Specialist	He will be accompanying Ian Noble during the mission. Habibe will be looking at the civil society/youth engagement, and working closely with Anahi on crowdsourcing and capacity building initiatives.
	Ian Noble	Lead Adaptation Specialist	Discuss analytical gaps with CCFU, UNZA, and other key experts. Discuss harmonized financing prospects with MoFNP
	Anahi Iacucci	Crowdsourcing Specialist	Provide Specialized training and advice in Crowdsourcing. Help organize the RHoK
	Hellen Mungaila	Team Assistant	Assist mission in logistical backup, mission preparation, documentation and field mission preparation
	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 the agriculture nexus discussions
	Marcus Wishart	Water Resources Specialist	Review issues in the climate information nexus
	Jean-Michel Pavy	Senior Environmental Specialist	Development partners and sectoral background
African Development Bank			
	Kisa Ilava Mfalila	Environmental Specialist	Consolidate the financing framework for SPCR (with Sofia). Participate in key meetings of the Climate Information Nexus.
	Lewis Bangwe	Agriculture Specialist	Help lead discussions on the Agriculture Resilient Nexus.

International Finance Corporation			
	Chabir Hassam	Climate Change Specialist	Participate in Management/Financing and private-sector related discussions of three nexus, with particular focus on SMS-Esoko transmission (Climate Information), PPPs (Infrastructure) and Index Weather Insurance (Agriculture nexus)
	Siobhan Franklin		Participate in discussions with private sector on Agriculture nexus
UNDP			
	Georgina Fekete	Co-Mission Leader (UNDP) Deputy Country Director	Coordination of UNDP Team (part-time)
	Winnie Musonda	Assistant Resident Representative and Environmental Advisor	Participate in Management/Financing and Agriculture nexus discussions. Ensure close coordination with CCFU and CC program priorities. Help consolidate inputs into financing framework (with Kisa and Sofia).
	Katri Kallio Koski	Programme Officer	Participate in key discussions, ensuring close coordination with CC Strategy and CCFU priorities
DFID			
	Kelley Toole	Vulnerability and Social Protection	Participate in key meetings of Crowdsharing platform discussions (Climate Information and Agriculture) to ensure sound potential involvement of program partners in participatory vulnerability mapping
	Andy Hinsley - Economist - DFID Zambia		Participate in key meetings of Crowdsharing platform discussions (Climate Information and Agriculture) to ensure sound potential involvement of program partners in participatory vulnerability mapping
WFP			
	Pablo Recalde	Representative and Country Director	Participate in Management/Financing and Climate Information nexus discussions to ensure consistency with UNDAF Climate Change Strategy and WFP's assistance to DDMU Information Platform.
	Allan Mulando	Information Specialist	Participate actively in Climate Information platform and crowdsourcing discussions
UN Global Mechanism			
	Elsie Attafuah	Director	Participate in Management/Financing and Agriculture Nexus discussions to ensure consistency with Global Mechanism's Integrated Financing Strategy for Land Management in Zambia

Red Cross			
	Charles Mushitu	Director, Zambia Red Cross Society	Participate in key discussions on Climate Information and Agriculture nexus to coordinate PPCR activities with Zambezi River Basin Initiative. Organize crowdsourcing training on demand for Red Cross field staff
WorldFish			
	Simon Heck	Country Manager	Participate in key discussions on climate information and agriculture nexus to coordinate activities with potential WorldFish/Peace Corps activities in the Zambezi Basin. Organize crowdsourcing training on demand for Peace Corps and field volunteers
Norway			
	Trond Lovdal	First Secretary (Environment)	Participate in key discussions on Management and Financing
	Jan Erik Studsrod	Agriculture Expert	Participate in key discussions on Agriculture Nexus
Others (CCFU-Government Invitee)			
	Christopher Fulton	Economist	Share expertise from Economics of Climate Change Study

Appendix 1. List of Potential Interested Stakeholders on Climate Resilience Financing in Zambia

Government of Zambia:

Ministry of Finance and National Planning
Ministry of Tourism, Environment and Natural Resources:
Climate Change Facilitation Unit
Environment Department
Forestry Department
Environment Council of Zambia
Zambia Wildlife Authority
Office of the Vice President (Disaster Management and Mitigation Unit)
Policy Analysis and Coordination Division (Cabinet Office)
Ministry of Agriculture and Cooperatives
Department of Agriculture (including Irrigation, Land Husbandry, Crop Development, Farm Power, and Mechanization, Food and Nutrition)
Department of Policy and Planning
Ministry of Livestock and Fisheries Development
Department of Veterinary Services and Livestock Development
Department of Fisheries
Ministry of Energy and Water Development
Department of Water
Department of Energy
Department of Planning
Ministry of Health
Ministry of Commerce, Trade and Industry
Private Sector Development Programme
Zambia Development Agency
National Food and Nutrition Commission
Ministry of Local Government/Decentralization Secretariat
Ministry of Science, Technology and Vocational Training – Department of Science and Technology
Ministry of Communication and Transport
Zambia Meteorological Department
Ministry of Works and Supply
Buildings Department
Road Development Agency
National Council for Construction
Zambia Bureau of Standards (ZABS)
Ministry of Mines and Minerals Development
Ministry of Community Development and Social Services
Ministry of Education
Zambezi River Authority
University of Zambia
Copperbelt University

Private Sector:

Lloyds Financials
Profit Zambia

African Carbon Credit Exchange
NEPAD
Chamber of Commerce and Industry
Zambia Federation of Employees
Association of Consulting Engineers
Economics Association of Zambia
PricewaterhouseCoopers
Chamber of Mines
Green Knowledge Institute
Google
NASA

Civil Society:

Zambia Civil Society Climate Change Network
Zambia Youth Climate Change Network
Zambia Red Cross Society
Green Environmental Watch
Zabuntu
MachaWorks
Panos Institute Southern Africa
Pelum Participatory and Ecological Land Use Management
Zambia Land Alliance
Munda Wanga Environmental Park
Green Living Movement
Zambia Ornithological Society
Jesuit Center for Theological Reflection
Energy and Environment Concerns of Zambia
Peace Parks Foundation
Africa Parks
MDG Campaign


Development Partners

Cooperating Partner Group on Environment
World Bank/GFDRR
African Development Bank
International Finance Corporation
United Nations Development Programme
UK Department for International Development
World Food Program
UN Global Mechanism
Millenium Challenge Account – Zambia
COMESA
World Fish Center
IUCN
Norway
Finland
Wageningen University and Research
Random Hacks of Kindness (RHoK)

Annex D: Potential Program Partners

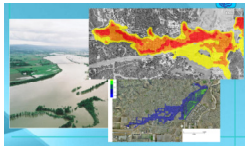


Potential Partners for Improved Climate Information Potential Partners

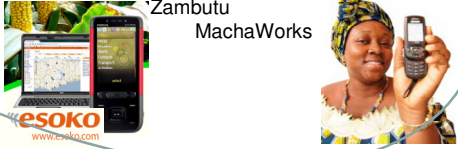


World Bank
Global Facility for Disaster Reduction/
DRM Labs
AfDB/CLIMDEV
IFC/ESOKO
Zambezi River Authority
UN
Red Cross
Random Hacks of Kindness (RhOK)

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)



MCA
World Bank
AfDB
IFC

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





**Third Nexus: Sustainable Agriculture
Potential Partners**

MACO
MLFD
MTENR
MLGH
DMMU
MOH
CEEEZ
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.



Annex E: Proposed Outline of Zambia SPCR Submission

Pilot Program for Climate Resilience Strategic Investment Framework for Climate Resilience: Zambia

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