



THE GAMBIA STRATEGIC PROGRAMME FOR CLIMATE RESILIENCE: PHASE 1

Strategic Programme for Climate Resilience (SPCR) Volume II: Concept Notes and Regional Consultations *Draft for Review and Validation, 24th April 2017.*

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Concept Note 1: Developing the enabling environment for climate resilience

1. Title and brief summary of the investment

This Concept Note is for an integrated programme entitled “**Developing the enabling environment for climate resilience in The Gambia**”. The integrated programme includes policy review and legislative development; further development of institutional coordination mechanisms at different levels; putting in place mechanisms to promote mobilisation of climate finance, including through the operationalization of the Gambia Climate Change Fund; support to a coherent programme on climate change capacity development and communication; furthering climate services investments; and developing the monitoring, evaluation and reporting (M, E&R) systems for climate resilience.

2. Background and justification

Part 1 of the SPCR identified the need for many actions that would be part of further developing the enabling environment, nationally and sub-nationally, for climate resilient development. This process has recently developed some momentum, with the formulation of the draft National Climate Change Policy (NCCP) in 2016, the strengthening of the key institution concerned with coordination of climate change responses in the country, the MoECCNAR, and the enhanced coverage by the draft PAGE II of climate change, DRR and sustainable development issues. The Ministry of Finance has recently been approved as the National Designated Authority (NDA) for the Green Climate Fund (GCF) in the country, a GCF Readiness grant has been received, and The Gambia’s first GCF project initiated, through the implementation entity of UNEP.

These are all extremely positive developments. However, numerous critical aspects with respect to coordination, review and harmonisation of the policy and legislative framework, systematic capacity development and research for low carbon and climate resilient development, as well as enhancement of climate observations and services, remain to be dealt with.

A number of recently developed laws, policies and strategies that do integrate climate change considerations and aim to actively promote, coordinate and facilitate implementation of climate resilient development remain in draft form. There are many areas in which enforcement of existing Acts and policies is required. And there remains the urgent need to communicate the realities of climate change to Gambians. One of the most striking impacts that will become a reality in the next couple of decades will be the loss of most of the city of Banjul to sea level rise and associated effects. Yet many stakeholders participating in the SPCR process were unaware of this, and shocked to hear it; as one participant remarked, “Why has no one told us that the city will soon be under water? Do our policy makers know of this?” A comprehensive and ongoing communication programme to make all Gambians aware of the issues, as well as their role in addressing them, is needed.

The Gambia's climate change priority action plan for 2012–2015 and the National Climate Change Policy (2016) will cost almost US\$14.2 million, and the government will need to find an estimated US\$1.35 billion in climate financing by 2030. Most existing financing in the country supplemented by donors and through agencies such as IFAD and UNDP targets adaptation and climate resilient development. Mitigation, while not currently pronounced due to low emissions, will need more financial resources in the medium- to long-term period. The government will need to continue drawing down public resources, making public investments work better and initiating innovative financing mechanisms to leverage private sector investment into climate change mitigation projects. Climate change financing, an essential component of the enabling environment, will be further catalysed by policymakers and practitioners designing components of the financial architecture to support The Gambia's transition to climate resilient and low-emissions sustainable development.

The government will need to allocate a larger part of the national budget to climate change financing. The budget allocation will be coordinated, managed and administered through the Gambia Climate Change Fund (GCCF), as stipulated in the NCCP (2016). The GCCF would serve as the conduit for international aid financing, while enhanced and tracked public financing would leverage, complement and supplement the funds from multilateral and bilateral agencies, which are currently the main intermediaries mobilising and disbursing climate finance in The Gambia.

Regarding climate observations, synoptic, hydrological and marine observations systems within The Gambia are inadequate from the perspectives of distribution, quality and reliability. The issues are well recognised within the country, and steps have been taken, with further planned, under the EWS II Project. Equally it is recognised that even once planned improvements under EWS II are implemented, the network will still require further development to bring it up to the full standards of GCOS, GUAN and WHYCOS, plus additional marine requirements, to provide essential background for monitoring of climate variability and change and to provide input to services and research. Even denser networks would be beneficial, including locating observations platforms at research sites. An appropriate climate database is required as a central storage facility.

In parallel with climate observations there is a need to obtain observations in a number of climate-sensitive sectors, again for monitoring and for providing input to research and services. A necessary preliminary to this activity will be a review of sectoral observations and databases currently in place, such as in health and in agriculture.

3. Project development objective

The project development objective is to put in place an enhanced enabling environment for achieving low emissions, climate resilient development in The Gambia, through review and development of key policies, legislation, and institutions; and initiating and/or developing coherent systems and strategies for climate finance, capacity development and research, climate services, and a national system for M, E&R of climate resilience.

4. Link to national adaptation and /or mitigation objectives

The programme contributes directly to the achievement of the following policy objectives in the draft 2016 National Climate Change Policy (2016):

- Advance the understanding, capacity and social empowerment of all Gambians so that they can adequately respond to climate change.
- Ensure adequate climate change research for informed decision making, and promote timely access to climate information and early warning of climate risks.
- Effectively integrate climate change into all sectors and across all scales, through mainstreaming climate risks and opportunities into national and sectoral frameworks, and through effective policy coordination and implementation.
- Coordinate national and international financial resource mobilization to address climate change by mainstreaming climate finance readiness and identifying, developing and promoting innovative financing mechanisms.

The programme objective and activities are additionally aligned with the relevant provisions on mainstreaming climate change and environmental sustainability in the draft PAGE II, and would contribute to the realisation of the priorities identified in the National Adaptation Programme of Action (NAPA) and the Intended Nationally Determined Contribution (INDC), which in themselves are reflected in the policy provisions of the NCCP.

5. Project components and activities

The programme includes five inter-linked components, with associated activities, as detailed below.

Component 1: Policy, legislative and institutional review and development

Critical policy and legislative steps identified are the following:

- Promulgate the draft NCCP and develop a Climate Change Act, to further develop the enabling environment for planning, coordinating, implementing and enforcing the cross-sectoral climate change functions/issues;
- Comprehensively integrate climate change into National Development Plans – while the draft PAGE II does include many provisions in this regard, the Ministry of Finance and Economic Affairs has indicated willingness that this be taken further;
- Develop a comprehensive framework for integrating climate risks and resilience into key policies, legislation, regulations and strategies, and to ensure harmonisation within the policy and legislative framework as regards environmental sustainability, climate change and disaster risk reduction; and ensure that national planning legislation makes it mandatory for other sector planning legislation to include the integration of these elements into sector policies and plans; this would entail identifying short-, medium- and long-term priorities for review;

- Revise selected key policies, legislation, regulations and strategies to mainstream climate change, DRR and environmental sustainability within the context of sustainable development (short- and medium-term priorities); immediate sector priorities identified during the SPCR planning phase include Health, ANR, Education, the Biomass strategy; regarding over-arching policy, review of the NEMA is required, while review of the critical land use planning framework is covered as a priority in Concept Note 2;
- Review and approve the (Draft) National Strategic Environmental Assessment Policy and its Guidelines and Procedures as part of an amendment of NEMA; and subsequently to strengthen capacity of both government institutions and the private sector to carry out SEAs and to integrate SEA into policies, plans and programmes.

A priority area, as identified in numerous studies, for mainstreaming climate change is within the health sector. The SPCR team, together with the Department of Planning in the Ministry of Health and Social Welfare, identified the need for a comprehensive analytical study to understand climate change impacts on health, using the Health Management Information System (HMIS) and climate data. This would feed into the ongoing Health policy and legislative review, towards ensuring that climate risks and resilience requirements are fully integrated into the sector's policy and legislative framework.

Important cross cutting focus areas for all of the above are gender, youth, health, tourism and DRR. Further development of the policy and legislative framework should ensure that livelihood planning is also a cross cutting task across all zones / regions.

Regarding regional/transboundary issues, the policy review and development process will include a consideration of the regional element of OMVG with respect to energy and water resources. The infrastructure works on the Gambia River (the Sambangalo Dam in Senegal and the Kaleta hydroelectric facility in Guinea) will impact both on The Gambia's dependence on fossil fuels for power generation (through inter-connection with the WAPP as part of the Sambangalo project) and on the management of water resources, ecosystems and control of water levels in the river basin (with potential impact on flood control and irrigation, and recession of the saline front through control of the hydraulic balance, etc.). Management of the resource by the OMVG may well involve the updating of the Gambia River treaties, and the revision of OMVG protocols so that trans-boundary management of the Gambia River Basin aligns with the management of agriculture and natural resources, coastal zone, tourism and other sectors impacted on by the control of the water levels in the river basin.

A further critical transboundary issue concerns biomass: to this end, the feasibility of a transboundary sustainable charcoal production and utilisation policy will be explored. This may require aligning forestry policies of The Gambia and neighbouring states. In parallel, interventions that focus on more efficient use of biomass to support sustainable usage of biomass both within The Gambia and neighbouring states will be pursued (this is included in Concept Note 4).

Regarding the *institutional environment*, the NCCP contained a number of provisions for institutional reform and development, building on other studies as well as the independent

institutional review carried out in order to develop the Policy. Since development of the draft NCCP, a number of steps have been taken in this regard – for example, the establishment of the Project Coordination Unit and the Climate Change Secretariat within the MoECCNAR, with some enhancement of capacity. This programme of the SPCR will further develop the national multi-level climate change institutional framework, in line with provisions of the NCCP and to respond to the changed political situation.

Activities will include:

- Advocacy to ensure the UNFCCC Focal Point is located within the Climate Change Secretariat, for optimal effectiveness;
- Constituting the National Climate Change Council (NCCC), with an executive sub-committee to manage the GCCF;
- Setting up the Inter-ministerial Climate Committee (IMC), as the technical body tasked with assisting the NCCC to perform its functions, *inter alia*;
- Further developing the decentralised institutional mechanisms for effective and streamlined climate change and DRR responses; and
- Resolve overlapping mandates with respect to renewable energy, especially biomass and cook stoves, and the biomass value chain – this will support related activities covered under Concept Note 4.

Regarding the latter point, as the biomass value chain includes and overlaps with the responsibility of several ministerial portfolios, as well as involving private and non-government actors, interventions in the value chain need to be coordinated. The most appropriate and inclusive approach will be to initiate a scoping exercise under the NEA, which brings together the various elements in the value chain, in parallel with the development of a Biomass Strategy, as mandated by the Renewable Energy Act. Besides sustainable use of biomass in The Gambia and across the border, the value chain incorporates numerous other elements, such as: indoor air pollution (health); production and marketing of improved cook-stoves (private-sector incentives for local production, including tax-holidays, VAT-exemptions, etc.; youth skills training, etc.); sustainable management of forests and mangroves (agriculture and natural resources; decentralised local government); research in renewable energy and alternative energy sources (particularly for urban areas). The complexity of the value chain means that it is not something that can be approached by silo-like interventions but is something that needs to be seen as a whole.

The issue of enforcement of the legislative environment with respect to environmental sustainability and climate resilience was raised repeatedly by numerous stakeholders during the SPCR consultations, and requires investigation into best available options across the board. One of the priorities identified was to tackle the widespread problems with contractors on agricultural, climate change, and other related projects delivering substandard /incomplete / late infrastructure, through systems for better supervision, standards and design, and tendering and

payment procedures. Such systems would need to apply across project and government infrastructure. Key activities include developing climate-resilient standards in key areas, e.g. infrastructure; and reviewing building standards regulations, combined with advocacy for enforcement of these.

Enforcement also relates to EIAs which are not carried out or simply disregarded, as a practice has developed where most sectors have been flouting the NEMA with impunity; this includes lack of enforcement of an industrial registration and discharge permitting system (polluter pays principle), mining activities (for example sand mining), amongst others.

Component 2: Enhanced mobilisation of climate finance

The capital flows of climate change programmes and projects or activities appear to have been assumed to be a function of development partners' contributions. This assumption has resulted into harsh realities on the ground where in recent years, communities have invaded wetlands, riparian reserves and protected areas including dumping sites for survival, and government has limited resources to protect, manage, govern and conserve the natural resources and the environment. The Gambian government has managed to attract only a small amount of capital flows for climate change, further constrained by reduced donor funding due to political risk. This is likely to change resulting in more donor funding following up to recent political change and more democratic government. The previous government overlooked the potential for private sector capital flows by not providing incentives such as tax relief, tax holidays, tax breaks, and tax rebates or low tariffs. Both tariff and non-tariff incentives would attract direct private sector investments into the development, protection and management of the environment and into developing climate resilience.

In addition, the Gambia needs to consider supporting new emerging innovative financial mechanisms such as polluter pays, carbon tax, carbon credits, and green labels to enhance the flow of non-government revenue based sources. This approach supports creative and financial innovation to increase diversity and reduce financial risks to the Government. The increase in private capital flows will ensure restoration of the environment for sustainable economic growth and climate resilient development, and help to fill the long-term financial resource gaps. Some of the private capital flows should be sourced from innovative markets - this can be tailored around carbon-offset initiatives. The capital flows are similar to PES, carbon tax, carbon credits, and green labels, but specific to carbon sequestration, since The Gambia has very little emissions to justify large-scale mitigation programmes and or projects.

Global economic realities and financing mechanism suggest that a wise strategy for The Gambia would be to intensify efforts and rely more on domestic mobilization of resources and private sector instruments. In order to do this effectively and efficiently, the country needs to identify the underlying causes behind the poor performance in mobilizing local resources through fiscal regimes (measures), domestic financial and capital markets, and Public Private Partnerships (PPPs).

The country should set priorities to include: improving management coordination, governance of the environment, accountability and transparency in all areas at National and Regional levels, the corporate, private sector and community levels. The development of a Budget Coding Registry System can be a flagship project to motivate public and private institutions to participate in low carbon and climate resilient development. Attracting carbon funds would capitalize and leverage conservation in natural environment and poverty alleviation. Ecosystem valuation also provides an entry point to PPPs - for example, valuation done for the forest and fisheries sectors provides economic justification for considering climate resilient development as a fundamental component of the economic pillar.

A comprehensive inward approach to resource mobilization for environmental conservation and sustainable climate resilient development should be viewed in totality. This should include both external and internal sources of capital. A funding proposal to develop a national budget coding and registry to track climate financing of environmental services and products would be appropriate. The Gambia would need to adopt a more selective approach than in the past, and one that is consistent with its development mandate as stipulated by Vision 2020 and the National Climate Change Policy (2016), amongst other strategic directions. Government support and development of sound policies that reduce costs, support local community livelihoods and private sector investment in climate resilient development programmes, projects and activities would enhance potential to leverage financial resources, both from internal and external sources. Enhancing resource mobilization would ensure sufficient flow of capital and provide space for micro finance designed to be flexible, affordable and accessible by farmer organizations, cooperatives, individual farmers and local communities.

Key steps and activities include the following:

- Operationalise the Gambia Climate Change Fund
- Commission an impact assessment / feasibility study, to launch innovative climate financing mechanisms e.g. polluter pays, carbon tax, carbon credits, green labels
- Develop the climate change budget coding and tracking registry
- Government to introduce policies and incentives to leverage private sector investment in low carbon and climate resilient development initiatives
- Develop micro finance products and provide support to local government, farmer organisations and cooperatives, other user groups and entrepreneurs to access and use climate finance at local levels
- Support the piloting of Local Climate Change Action Plans (LCCAPs) to assist with developing the procedures for channelling of and access to the funds from the GCCF, as well as the process through which national and local governments will ensure that the content of the plans is reflected in policies and plans at other levels

Operationalization of the GCCF would require adoption of the draft NCCP by Cabinet, after which actions would be taken to set in place the institutional environment envisaged in the Policy. A

related activity would be to develop a system for needs assessment of climate change projects, disaggregated according to levels and scales. At the local level, such a system could be developed through activities to develop the Local Climate Change Action Plans. An iterative approach to climate change needs assessment would provide an important mechanism to underpin transparency of decision making on the part of the GCCF.

Component 3: Climate change research, capacity development and communication

In order to enable coherent and focused research for climate resilient policy and practice, the first step will be to establish and resource the Gambia National Research Framework on Climate Change (GNRF-CC), which is a provision in the NCCP. This will be initiated through discussions with the University of The Gambia and relevant public and private institutions, including the National Agricultural Research Institute (NARI), the Renewable Energy Association of The Gambia (REAGAM), the Gambia Chamber of Commerce and Industry (GCCCI), the Ministry of Higher Education, Research, Science and Technology (MoHERST), amongst others. The National Climate Committee will be encouraged to include R&D in its discussions and proposals for support.

With respect to climate change sensitisation, education and capacity development, a critical step will be to expand and systematise the National Climate Change Communication Strategy and Awareness Campaign (NCCCS&AR), which exists within the MoECCNAR. This will require a dedicated budget line to MoECCNAR for this, for reliable and consistent resourcing.

The NCCCS&AR will be developed in a systematic fashion, with a 5-year work plan, which will include a comprehensive civic education programme on climate change, including promoting individual actions and those of institutions such as NGOs, CBOs and the private sector.

As an input to the process to develop both the NCCCS&AR and the GNRF-CC, a sequence of Climate Change Sectoral Forums (CCSF) could be considered, to include civil society and the private sector, which would be a parallel concept to that of the Regional Climate Outlook Forums held regularly in West Africa since 1998. However, it should be noted that CCSFs should be a prelude to a multi-sectoral forum or series of forums to be held to develop the GNRF-CC and the NCCCS&AR, to facilitate the necessary process of cross-sectoral policy development and planning, as well as enhanced coordination, that is required – and strongly recognised in The Gambia, including within the provisions of the NCCP. Given limited resources and the need to move away from sectoral siloes as well as the isolated project-based approaches of the past, it is essential that both the awareness raising and communication components, as well as the research strategy, are developed in a coherent and holistic fashion. Research on complex problems like climate change is increasingly required to adopt a multi- or inter-disciplinary approach, while still valuing and supporting the development of single discipline skills.

A Long-term Climate Change Capacity Development Strategy (LT-CCCDs) will be formulated. As set out in the NCCP, this is an important part of the process to develop the National Climate Change Response Strategy and Action Plan, which this SPCR will contribute to. The LT-CCCDs will spell out the desired focus of climate change education, as part of education for sustainable development (ESD) at different levels (primary, secondary, tertiary), and propose effective ways

to build on and extend the current efforts to mainstream climate change into educational curricula. Phased and concrete steps to integrate climate change into Lower Basic, Basic and Higher education curricula for government and madrasah institutions, as well as into tertiary education curricula, will be developed; as well as an institutionalised climate change training programme across the sectors, to include conflict management training and dialogues to address conflictual issues.

The Long-term Climate Change Capacity Development Strategy will use as a basis the capacity requirements identified through a range of studies, including the National Capacity Self Assessment, the Gap Analyses carried out in the preparation of the NCCP, the Technology Needs Assessment, and the identification in the Second National Communication (2012) of capacity constraints and opportunities for integrated capacity building, disaggregated at the three capacity building levels of individual, institutional and systematic capacities. Incentives for retention of climate change capacity will be considered, and an active system of mentoring will be implemented in order to retain and build on the existing human resources capacity in The Gambia. Experienced professionals and practitioners in the fields of climate change policymaking, planning, implementation, monitoring, and fundraising will be identified as part of this mentoring system at the national and sub-national levels, to systematically build the capacity of promising young professionals and practitioners.

A further activity of the LT-CCCDS will be a dedicated component for capacity development and sensitisation for the Ministry of Tourism, the Gambia Tourism Board (GTB) and other tourism stakeholders, as requested by the GTB, to enable better engagement in the hospitality industry with climate resilience challenges.

Component 4: Furthering climate services investments and systems

This component covers development of climate observations databases, all observations systems, data management, and acquisition of related hardware and software required for climate resilience in The Gambia. Communications and processing systems necessary for the development, production and dissemination of climate services in the interests of climate resilience are included. The scope covers data for all pertinent Departments and Agencies of the GoTG, plus any other essential non-governmental organisations where justified following a review.

Aims of activities under this component would be:

- To develop all observations systems, climatic and sectoral, automated as far as possible, and full maintained, to the levels required for climate services and research within The Gambia and to satisfy international requirements;
- To provide real time information dissemination through appropriate communications systems to central databases for at least the climate observations;
- To provide equipment for climate and, where necessary, sectoral databases;

- To provide internet in all GoTG agencies involved with the production, dissemination, or receipt of climate services; and
- To provide all computer and software facilities required to manage data receipt, storage, access, visualisation, climate service creation and dissemination.

Specific activities and outputs, in all cases below covering meteorological, hydrological and marine systems, and to be coordinated with the EWS II Project, would be the following:

1. Determine, alongside the EWS II Project, the outstanding observations platforms needed to satisfy GCOS, GUAN, WHYCOS and marine observations and required for research in the interests of climate resilience
2. Consider the case for installation of a rainfall-measuring radar installation, together with all essential support facilities, and proceed on the outcome
3. Undertake a gap analysis of sectoral observations required for monitoring and research in climate resilience
4. Upgrade to need facilities for instrument calibration and repair for observations systems
5. Upgrade as necessary observations real-time delivery systems
6. Provide resilient database equipment for all observations sets, climate and sectoral, including quality control, input and output facilities, and visualisation software, to develop long-term on-line digitised records
7. Support completion of DARE activities in DWR and provide support for sectoral DARE, in all cases producing digitised records in the databases
8. Implementation of a full internet service at DWR
9. Implementation of full internet services at other GoTG Agencies and research facilities involved with climate resilience
10. Provision of up-to-date computer facilities and software necessary for all work under climate resilience at DWR and at all pertinent GoTG Agencies

All aspects of climate services, collation of information, research, and product development and creation plus delivery, require efficacious communications systems; currently communications in all areas are restricted by the lack of communications facilities, not least internet, necessary for information transfer and visualisation. The immediate objective here is to provide communications facilities, likely mainly internet, including necessary computer hardware and software for accessing and analysing information, within DWR and all other GoTG Agencies involved in research and/or product creation/delivery/receipt within the scope of climate resilience. A later stage might be to assess options for improved communications in organisations other than GoTG Agencies. Work under this component would need to be developed in discussion with the MoI given current GoTG regulations regarding placing information on the Internet.

Component 5: Developing the climate resilience monitoring, evaluation and reporting system

The main focus of this component would be to develop a multi-level M, E & R system for climate resilience, linked to the National M, E & R System, in line with the PAGE II systems. PAGE II envisages a legal and regulatory framework guiding planning and M&E activities, senior-level commitment and the means to engage all sectors within government. The SPCR M&E would fit into this system developing both a results framework, as well as an M&E reporting system supporting the SPCR and the mainstreaming climate resilient development. In addition, specific government budget lines where climate change interventions are identified would allow for budget tracking, tagging and coding.

As a principle, monitoring would be disaggregated by gender and with respect to youth, recognizing the specific challenges faced by women (disproportionality high responsibility for farming activities in rural areas; responsibilities for family health and welfare; problems of access to land and to credit; etc.) and those challenges faced by youth (lack of skills, lack of job opportunities, rural-urban migration, etc.).

Priority research areas would provide baselines as well as linking to data already available (such as meteorological and hydrological data, which has been gathered over a long period). The development and implementation of the Biomass Strategy would provide the opportunity to build or update a monitoring and reporting system both on biomass use (by households and other users), as well as provide the basis for monitoring the impacts on forest and mangrove resources of various types of biomass utilisation (not only for cooking but also for construction, as well as for livestock grazing and land encroachment for agriculture).

6. Implementation arrangements

As with all investment programmes developed under the SPCR, high-level oversight in the interim will be provided through the Technical Team set up to oversee the SPCR preparatory process. The GoTG would as a priority need to formalise the draft NCCP, in order to have the basis for initiating the institutional arrangements envisaged in the NCCP for enhanced coordination of climate change planning and responses, as set out in the main volume of the SPCR. It would be most appropriate for those institutional mechanisms to provide final direction on optimal oversight of the SPCR. An initial step would be for the MoECCNAR to develop and submit a Cabinet Paper to motivate for consideration and approval of the draft NCCP.

Additional details on project-level oversight of the SPCR investment programmes would be developed once the NCCP was formalised and the key institutions – the National Climate Change Council and the Inter-Ministerial Committee on Climate Change – were in place.

7. Estimated cost and provisional financing plan

The estimated cost of this investment programme is **US\$ 28,850,000**.

Sr. Nr.	Components	Cost in US\$
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1	Policy, legislative and institutional review and development	35,000
2	Enhanced mobilisation of climate finance	25,000
3	Climate change research, capacity development and communication	2,235,000
4	Furthering climate services investments and systems	10,000,000
5	Developing the climate resilience monitoring, evaluation and reporting system	16,555,000
TOTAL Cost		US\$ 28,850,000

An overall provisional financing plan for the entire SPCR is contained in section 2.4 of the Volume I report. The GoTG will develop the more specific provisional financing plan for this Concept Note at a later stage, after validation of the SPCR Phase 1.

8. Logical framework

Results-based Logical Framework for Concept Note 1

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
<p>GOAL Put in place an enhanced enabling environment for achieving climate resilience in The Gambia, through review and development of key policies, legislation, and institutions; and initiating and/or developing coherent systems and strategies for climate finance, capacity development and research, climate services, and a national system for M, E&R of climate resilience</p>	<p>IMPACT Improved policies, legislation, and institutions; and developed coherent systems and strategies for climate finance, capacity development and research, climate services</p> <p>Effective mechanisms for regular Monitoring, Evaluation and Reporting on “Meeting the targets and goals of the climate resilience</p>	<p>All population in The Gambia</p>	<p><u>Indicator</u> Developed policies, legislations, strategies and established institutions</p> <p><u>Sources:</u> National and international statistics and reports</p>		<p>Policies, legislations, strategies will be developed and institutions established (this will be alleviated by project support)</p> <p>Impacts of climate change do not outpace project Resilience/adaptation responses (this will be alleviated by the project’s interventions targeted to build resilience)</p>
<p><u>Project purpose:</u> <i>To establish country-led enabling environment for achieving climate resilience in The Gambia</i></p>	<p><u>Outcomes:</u> 1. Better understanding and knowledge of the state of climate resilience governance and management systems, current gaps and developments</p>	<p><u>Beneficiaries:</u> 1. Technical Teams and Sector Ministries and Climate Resilience governance and population</p>	<p><u>Outcome indicators:</u> National Government and regional annually report on the status of climate resilience management and economic sector</p>	<p><u>Progress anticipated in the medium term:</u> Annual National and Regional reports on climate resilience management and economic sector</p>	<p><u>Assumption statement:</u> Acceptance of the report content in relation to adequacy and accuracy</p>
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS

The Gambia Strategic Programme on Climate Resilience Phase 1 (SPCR)

Component 1: Policy, legislative and institutional review and development	Improved policy, legislative and institutional capabilities and abilities	National Government, Sector Ministries and M&E Units	Policy, legislative and institutions adopted by National and regional governments <u>Sources:</u> Project reporting and Evaluation Number of regional governments monitoring, assessing, and reporting to National Climate Change Authority on climate resilience measures. <u>Sources:</u> Project Reporting and Evaluation	National Policy indicators, governance and monitoring compatible with global monitoring systems.	Capacity of National level stakeholders will match project activity demands (this will be alleviated by a project capacity building strategy)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
1.1 Promulgate the draft NCCP and develop a Climate Change Act;	1.1 Climate Change Act prepared	National Government, Regional governments, States Sector Agencies, Policy and Decision-makers, local communities	Functional and adequate Regional and National Task Forces set up in place	Official set up of The Gambia National Climate Change Fund, Set up of National Climate Change Commission	Restrictions in dissemination of the Climate Change Act as a government document
1.2 Comprehensively integrate climate change into National Development Plans	1.2 National Development Plans prepared	National Government, Regional governments, States Sector Agencies, Policy and Decision-makers, local communities	Functional and adequate Regional and National Task Forces set up in place		Limited circulation of Development plans create information gaps
1.3 Revise key legislation and their related regulations and strategies to mainstream climate change	1.3 Revised legislations, regulations and strategies	Regional governments, States Sector Agencies, Policy and Decision-makers, local communities	Functional and adequate Regional and National Task Forces set up in place		Limited circulation creates information gaps

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<p>1.4 Develop a comprehensive framework for integrating climate risks and resilience into key other and sectoral policies and regulatory standards</p>	<p>1.4 Developed framework for integrating climate risks and resilience sectoral policies and regulatory standards</p>	<p>Regional governments, States Sector Agencies, Policy and Decision-makers, local communities</p>	<p>Functional and adequate Regional and National Task Forces set up in place</p>		<p>Limited circulation creates information gaps</p>
<p>1.5 Review and approve the (Draft) National Strategic Environmental Assessment Policy and its Guidelines and Procedures</p>	<p>1.5 Approved National Strategic Environmental Assessment Policy and its Guidelines and Procedures</p>	<p>Regional governments, States Sector Agencies, Policy and Decision-makers, local communities</p>	<p>Functional and adequate Regional and National Task Forces set up in place</p>		<p>Limited circulation creates information gaps</p>
<p>Component 2: Enhanced mobilisation of climate finance</p>	<p>National Climate Change Fund Established</p> <p>Capacities established for climate change resilience/adaptation assessment and monitoring in the country.</p> <p>Financial management techniques for improving climate change resilience through budget coding, registry systems</p> <p>Impact assessment / feasibility study, to launch innovative climate financing mechanisms e.g. polluter pays, carbon tax, carbon credits, Green labels</p> <p>Developed CC budget coding and tracking</p>	<p>National and Regional Governments, Sector Ministries, Farm Organizations, private sector and consultants,</p>	<p>Number of Regional governments accessing climate finance and implementing climate resilience programs <u>Sources:</u> Project reporting and evaluation Monitoring by national and local authorities and project stakeholders</p> <p>Number of private sectors participating in implementing climate resilience projects <u>Sources:</u> Monitoring by national and local authorities and project stakeholders strategies and plans Project reporting and evaluation</p> <p>Number of farm organizations and cooperatives accessing financing from SMEs <u>Sources:</u> National annual reports National census-</p>	<p>Climate Fund Governance and M&E systems assessment reports validated at county and national levels by end month 7 and regional level by end months 8</p>	<p>National and Regional level stakeholders will match project activity demands (this will be eradicated by a project capacity building strategy, including national/local mentoring program)</p> <p>Proposed interventions are able to deliver climate resilience results (this will be eradicated by strategic and participatory planning.)</p>

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	<p>Government introduced policies to leverage private sector investment</p> <p>Micro-finance supported farmer organisations and cooperatives</p> <p>Supported the piloting of Local Climate Change Action Plans (LCCAPs) and assisted development of procedures for channelling and access to the funds from the GCCF, and supported the process through which national and local governments ensured the content of the plans reflected in policies and plans at all levels</p>		based poverty map Project reporting and evaluation		
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
2.1 Operationalise the Gambia Climate Change Fund;	2.1 Established Climate Change Fund	National Government Sector Ministries Agencies. NGOs. Private Sector, Farm Organizations, Research Institutes	Functional and adequate Regional and National Task Forces set up in place		National Government willing to provide financing and budget allocation to the National Climate Change Fund
2.2 Commission an impact assessment / feasibility study, to launch innovative climate financing mechanisms e.g. polluter pays, carbon tax, carbon credits, green labels	2.2 Completed studies on innovative climate financing mechanisms e.g. polluter pays, carbon tax, carbon credits, green labels	National Government Sector Ministries Agencies. NGOs. Private Sector, Farm Organizations, Research Institutes	Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time		National Government willing to allocate funds for consultancy

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2.3 Develop the climate change budget coding and tracking registry	2.3 Developed Climate Change Code and tracking Registry System	National Government, Sector Ministries	Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time		National Government willing to allocate funds for consultancy
2.4 Introduce policies and incentives to leverage private sector investment in low carbon and climate resilient development initiatives	2.4 Developed New Policies and incentives to leverage private sector investment in low carbon and climate resilient development initiatives	National Government, Sector Ministries	Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time		National Government willing to allocate funds for consultancy
2.5 Develop micro finance products and provide support to local government, farmer organisations and cooperatives, other user groups and entrepreneurs to access and use climate finance at local levels	2.5 Developed micro finance products	Farm Organizations, Local Communities, Youth and Women, Entrepreneurs	Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time		National Government willing to allocate funds for consultancy
Component 3: Climate change research, capacity development and communication	concept paper on capacity development and communication prepared	National and Regional Coordination Teams	Number of government decision-makers with increased knowledge of climate change resilience <u>Sources:</u> Project reporting and Evaluation	National and Regional gaps in climate resilience governance and M&E compiled and prioritized	National, provincial and district level stakeholders are receptive to project's Climate resilience knowledge building approach (this will be eradicated by with project support for the design of formal information development and communication strategies)

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<p>Component 4: Furthering climate services investments and systems</p>	<p>Climate Service Systems and Investments established</p>	<p>National and Regional Coordination Teams</p>	<p>Number of government decision-makers with increased knowledge of climate change resilience</p> <p><u>Sources:</u> Project reporting and Evaluation</p>	<p>National and Regional gaps in climate resilience governance and M&E compiled and prioritized</p>	<p>National, provincial and district level stakeholders are receptive to project's Climate resilience knowledge building approach (this will be eradicated by project support for the design of formal information development and investment strategies)</p>
<p><u>Inputs and activities:</u></p>	<p><u>Outputs:</u></p>	<p><u>Beneficiaries:</u></p>	<p><u>Output indicator:</u></p>	<p><u>Progress /Timeframe:</u></p>	<p><u>Assumption statement:</u></p>
<p>4.1 Develop all observations systems, climatic and sectoral, automated as far as possible, and full maintained, to the levels required for climate services and research within The Gambia and to satisfy international requirements;</p>	<p>4.1 Developed automated observation systems</p>	<p>National Government, Sector Ministries, Agencies, Farm Organizations</p>	<p>Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time</p>		<p>National Government willing to allocate funds for observation systems and climate change services</p>
<p>4.2 Provide real time information dissemination through appropriate communications systems to central databases for at least the climate observations;</p>	<p>4.2 Provided Real time based information</p>	<p>National Government, Sector Ministries, Agencies, Farm Organizations</p>	<p>Functional and adequate Regional and National Task Forces set up in place and consultants engaged in time</p>		<p>National Government willing to allocate funds for information dissemination through appropriate communications systems to central databases for at least the climate observations</p>
<p>4.3 Provide equipment for climate and, where necessary, sectoral databases;</p>	<p>Provided Equipment</p>	<p>National Government, Sector Ministries</p>	<p>Functional and adequate Regional and National Task Forces set up in place</p>		<p>National Government willing to allocate funds for equipment</p>
<p>4.4 Provide internet in all GoTG agencies involved with the production, dissemination, or receipt of climate services;</p>	<p>Provided internet</p>	<p>National Government, Sector Ministries, Agencies</p>	<p>Functional and adequate Regional and National Task Forces set up in place</p>		<p>National Government willing to allocate funds for internet</p>

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4.5 Provide all computer and software facilities required to manage data receipt, storage, access, visualisation, climate service creation and dissemination	Provided Computers and software facilities	National Government, Sector Ministries, Agencies	Functional and adequate Regional and National Task Forces set up in place		National Government willing to allocate funds for computers and software facilities
Component 5: Developing the climate resilience monitoring, evaluation and reporting system	Climate resilience monitoring, evaluation and reporting system developed	National and Regional Coordination Teams	Number of government decision-makers with increased knowledge of climate change resilience, monitoring, evaluation and reporting system <u>Sources:</u> Project reporting and Evaluation	National and Regional gaps in climate resilience governance and M&E compiled and prioritized	National, provincial and district level stakeholders are receptive to project's Climate resilience knowledge building approach (this will be eradicated by project support for the design of formal information development and monitoring, evaluation and reporting)
<p>Resources:</p> <p>SPCR Fund Grant: US\$28,850,000 and The Gambia Government in kind contribution: US\$</p>					

Concept Note 2: Climate-resilient land use mapping, planning and information systems

1. Title and brief summary of the investment

Climate-resilient land use mapping, planning and information systems

The national Land Use Plan for The Gambia has not been reviewed or updated since 1989. In addition to being outdated, it does not integrate any climate change projections, of which sea level rise is arguably the most important given The Gambia's vulnerability. Investment is required in:

- Establishing and populating a centrally managed information base, through extensive gathering and collation of relevant data combined with upgrading and expanding the national GIS capability to manage, analyse and present relevant information;
- Preparation and publication of national land use, cadastral and thematic maps at a range of appropriate scales based on the existing situation;
- Cross-sectoral updating, development and publication of relevant Policies and Acts, specifically including the National Land Policy and an overarching Act, taking account of climate resilience in addition to other national development objectives;
- Preparation and publication of a national land use plan (maps and policy);
- Definition and legal recognition of implementation, monitoring and enforcement procedures and creation of capacity to enact; and
- Ongoing review and updating of the policies, plans and maps to respond to future changes in social, economic and environmental conditions and to ensure climate resilience.

This would be a significant national initiative with parallel investment in human resources, equipment, technology, institutional structures and policy / procedure development to achieve a legacy of climate resilient land use planning self-sufficiency, but with short term support from international experts, training centres and contractors. The project activities could begin concurrently and immediately, and would run over a period of at least five years initially with ongoing review and updating on a continuous rolling programme.

2. Background and justification

The Gambia, like most nations, has undergone substantial and accelerating social, economic and environmental change. Rural-urban migration, population growth, commercial development, tourism, vehicle use and habitat degradation have radically altered the fabric of the country. Unfortunately, the government has not kept pace with the changes, resulting in uncontrolled urban sprawl into valuable agricultural land, severe problems of waste management, inadequate infrastructure, uncontrolled depletion of limited natural resources, loss of public open space, strains on water resources and loss of natural habitat. Effective policy guidelines for future development and the administrative machinery to implement them are imperative for national development; the need for resilience to the impacts of climate change adds a level of urgency given The Gambia's position as the 10th most at-risk nation and the expectation that the capital city, Banjul, will be effectively lost to erosion and flooding due to sea level rise within a generation.

These issues, apart from sea level rise, were recognized in the 1980s, and resulted in the Physical Planning Act of 1984 and an urban Land Use Plan (for the Greater Banjul Area, Brikama, Basse and Farafenni) produced in 1985 with the technical assistance of GTZ (German Agency for Technical Cooperation). It was intended that the Plan and the associated maps should be extended and updated on a rolling five year programme, with substantial revision every fifteen years. The Plan was reviewed in 1989 following a period of public consultation. No further reviews were undertaken, and the Plan is now completely out of date and effectively obsolete despite a revision of the Act to become the Physical Planning and Development Control Act of 1990.

The urgent need for climate-integrated Land Use Planning is highlighted in the National Development Plan (PAGE II, 2016 Draft) and the National Climate Change Policy (2016 Draft), as well as in sectoral policies such as Agriculture and Natural Resources (2009), Tourism Development Master Plan (2007), Fisheries Strategic Action Plan (2012), Forest Policy (2010), Biodiversity and Wildlife Act (2003), Disaster Risk Reduction Strategic National Action Plan (2013) and others.

3. Project development objective

The objective is to put in place the necessary steps to develop, implement and enforce a national Land Use Plan that recognises the need for climate resilience and balances the cross-sectoral aspirations of all relevant stakeholders. The Land Use Plan would provide an environment to achieve rational, efficient, economical and equitable use of resources in The Gambia, considering future growth and development. The Plan would specifically address the relocation of the government functions currently within Banjul.

4. Link to national adaptation and /or mitigation objectives

The programme contributes directly to the achievement of the following policy objectives in the draft 2016 National Climate Change Policy:

- Advance the understanding, capacity and social empowerment of all Gambians so that they can adequately respond to climate change;
- Effectively integrate climate change into all sectors and across all scales, through mainstreaming climate risks and opportunities into national and sectoral frameworks, and through effective policy coordination and implementation;
- Put in place sound and equitable adaptation and mitigation measures that promote effective management of ecosystems and biodiversity, reduce vulnerability to climate change impacts, and reduce greenhouse gas emissions, to achieve sustainable low-carbon socio-economic development;
- Build the resilience of communities and ensure health and welfare through participatory, equitable and pro-poor approaches to climate change that emphasise the meaningful inclusion of women and vulnerable groups; and
- Integrate community-based adaptation with ecosystem-based approaches to strengthen people's adaptive capacities and develop more climate-resilient livelihoods, by investing in sustainable natural resource management initiatives.

The programme objective and activities are additionally aligned with the relevant provisions on mainstreaming climate change and environmental sustainability into the relevant sectors as set out in

the draft PAGE II, and would contribute to the realisation of the priorities identified in the National Adaptation Programme of Action (NAPA) and the Intended Nationally Determined Contribution (INDC), which in themselves are reflected in the policy provisions of the NCCP.

5. Project components and activities

The programme includes eight inter-linked components, with associated activities, as detailed below. Each component could run concurrently, with immediate commencement of some sectoral data gathering activities on receipt of funding and commencement of other activities on agreement of a management framework to coordinate activities.

Component 1: Data gathering to inform climate resilient land use planning

There is a lack of sufficient data from most, if not all, sectors to inform planning. Data that have been gathered are of variable quality, inconsistent temporally and spatially and poorly managed making analysis difficult or impossible. Existing and new data should be gathered and collated with appropriate protocols and metadata to define method of measurement, dates, responsible body, quality, repetition interval, security, etc.

Land use planning covers all areas of the country and most sectors of government; for convenience, this project categorizes the data requirements into coastal, urban, rural and cross-sectoral. The boundaries between these categories are not fixed and overlaps are expected. The list of required data is not considered exhaustive but is too extensive to include specific details; details and additions would need to be developed elsewhere.

Much of the required data could be gathered and collated using national capacity, although significant investment in human resources, technology and logistics would be necessary. Some support from international contractors would be required, particularly for the coastal element.

Coastal:

- Topography of all low lying coastal and river basin areas building on the Japanese (JICA) survey of 2001, to determine areas at risk from flooding due to sea level rise, specifically including Banjul;
- Bathymetry of the full coast to a depth of at least 10 m plus tidal reaches of the River Gambia, combined with analysis of historic data to determine areas of change and to support hydrodynamic and sediment transport modelling that will determine coastal risk areas;
- Beach surveys from low water to the established backshore, at least seasonally using miniature drone technology, combined with analysis of coastal erosion and accretion rates referencing historic aerial photography, remote sensing and ground surveys to determine areas at risk;
- Tidal monitoring for a continuous period of one year at Port of Banjul, combined with analysis of tidal components to redefine present day mean sea level and predicted tidal range; also, reanalysis of historic records (where available) to determine frequency and extent of surges;
- Nearshore wave monitoring for a continuous period of one year at a depth of about 10 m off the open coast combined with simultaneous wind monitoring at an appropriate coastal location, with analysis to support wave prediction and sediment transport modelling;

- Drogue tracking and point measurement of currents in the approaches to the River Gambia, combined with numerical modelling to determine sediment transport regime in support of possible navigation dredging for the port, commercial dredging for building sand and future coast protection;
- Flow and water quality monitoring at a number of points up the River Gambia to the Senegal boundary;
- Sea / river bed, foreshore and backshore characterization including surface sediment distribution, depth to underlying rock layer, benthic ecology, presence of near shore cables / pipelines / wrecks and backshore vegetation / habitat distribution;
- Definition of coastal and river areas set aside for fish landing sites (including surveys of facilities and condition, number of active vessels, vehicle parking, etc.), oyster farming / aquaculture, turtle nesting, protected / significant habitats, public access tracks to the beach or fish landing sites not defined as roads, cultural sites and resort development including eco-resorts;
- Definition of coastal areas suitable for sand mining and location of control points to prevent illegal mining and transport;
- Structure survey of all coast defences, jetties, ferry landings, roads, irrigation facilities, houses, tourism assets and other structures on the beach and the backshore zone subject to present or future flood or erosion damage on the open coast and river, including location, description, geo-referenced / dated photographs, date of construction and condition assessment, together with a record of legal planning approval, ownership/responsibility and estimated value (based on contribution of specific at risk assets to tax returns for the property as a whole);
- River water abstraction points (pumped and gravity fed), including annual abstraction rates and distribution network; and
- Location and condition of natural and artificial drainage channels, pipes, etc. discharging to the foreshore or river, including ownership / responsibility.

In general, data gathering within the coastal zone, including the river, is the responsibility of the National Environment Agency with support from the Coastal and Marine Environment Working Group (CMEWG). Much of the work defined above and appropriate climate resilient coastal management actions were set out in a 2015 GCCA report titled *Coastal Adaptation Scenarios: Vulnerable Site Options*, with a management framework for the coastal zone set out in the companion 2016 GCCA report *Management Plan for Coastal Zone Management in The Gambia*.

Urban:

- All supply services including distribution networks and connections (water, sewerage, power, telecoms);
- Artificial and natural drainage channels, flood corridors, ponding areas and structures, to include condition survey for both built structures and uncontrolled channels;
- Waste disposal sites, both official and illegal with area and management activity;

- Established or traditional tracks and rights of way not designated as roads;
- Planned and unplanned car park areas;
- Historic and cultural buildings / sites to be protected; and
- Location of trees and other significant habitat to be protected.

These data and information are mainly the responsibility of the Municipal Councils and NAWEC.

Rural:

- Vegetation cover, separated in to exploitable resources (arable, grazing, forestry) and protected habitats;
- Soil mapping;
- Artificial and natural drainage channels, flood corridors, ponding areas and structures, to include condition survey for both built structures and uncontrolled channels;
- Waste disposal sites, both official and illegal with area and management activity;
- Established or traditional tracks and rights of way not designated as roads;
- Historic and cultural buildings / sites to be protected; and
- Location of trees and other significant habitat to be protected;
- Location and condition of water supply and irrigation features, including dykes, bunds, ditches, etc.; and
- Market places, including type and condition of buildings and services.

The Department of Agriculture and Natural Resources is responsible for much of this information, and further information is available from remote sensing sources including the MESA Project.

Cross-sectoral:

- Definition of existing land use at scales of 1:1250 for urban areas, 1:2500 for sub-urban areas and 1:5000 for rural areas, based on all categories defined for the 1985 plan as set out in the Physical Planning and Development Control Act, but also including more detail such as infrastructure corridors, waste management sites, boreholes / wells, water and sewerage treatment sites, power stations and renewable energy sites, seasonal drainage routes and storage reservoirs, car parking / links with public transport corridors, urban gardens, fish landing sites, protected habitat areas, tourism / eco-tourism areas, coastal set-back zones, port facilities, airport restricted areas, designated sand mining areas, ferry and river transport landing sites, warehouse zones, , telecoms towers, sewerage treatment sites, etc.;
- Topography to 1 m contour intervals, building on the Japanese (JICA) survey of 2001;
- Legal definition of local, municipal, regional and national boundaries;
- Roads, including type, width, load capacity, condition, traffic volume, etc.;
- Traditional and established tracks not classified as roads;
- Power distribution network, with voltages and location of all associated structures and delivery points;

- Boreholes and wells, both private and public, including ownership / responsibility, depth, annual abstraction volume, pump type and capacity, together with water table / water quality monitoring records for a representative sample throughout the country;
- National Parks and habitat conservation areas;
- Land ownership / legal leaseholder cadastral information, including legal boundaries, census information on occupancy, plus condition of any structures, date and type of construction, use, occupancy, contribution of taxes, availability of services, sanitation, etc.);
- Land and property values for each holding; and
- Drift and sub-surface geology (building on the 1995 Chinese survey) to determine exploitable quarry and mining resources, plus suitability as open space for aquifer recharge and for waste disposal sites.

This information is the responsibility of various bodies such as Bureau of Statistics, Tourism Board and the Departments of Lands and Surveys, Physical Planning, Water Resources, Geology, Transport and Parks & Wildlife.

Component 2: Establish a central information management system based on GIS

All data, information and metadata should be retained and managed within a single national GIS. GIS provides a platform for collating, storing and analysing geospatial data and information, and the facility for presentation in thematic map formats at scales appropriate to the input information and the user's needs. Use of information may range from informing government on long term socio-economic planning to providing map based teaching materials for primary education.

Central control of a national capability would ensure that quality standards can be maintained, that data formats are compatible, data security can be maintained where required and that distribution to users is efficient at a cost that ensures widespread access (for example, to schools, universities, NGOs, government departments and commercial bodies). Extensive investment in human resources, technology and office space would be required, with support from international contractors and training centres.

At present, there are two national centres of significant GIS capability, one at the NEA and one at the Gambian Bureau of Statistics (GBoS). The NEA has a programme to continually expand their capability and the extent of the system to deliver output to bodies such as the Tourism Board and the Department of Physical Planning, but they are a **very** considerable distance from having the capacity or depth of knowledge to deliver this proposed project. It may be that a centralized GIS capability should be housed by a different Department and Ministry, drawing initially on the human resources within the NEA and GBoS plus other departments; given that the central objective is to produce and implement a national Land Use Plan then it is logical that responsibility should be with the Department of Physical Planning.

National GIS capacity is required at three main levels:

1. Senior leadership to oversee GIS development in terms of national level vision, aims and objectives. This role requires at least Masters Degree level theoretical understanding of GIS, with the administrative capability to manage integration of cross-sectoral and cross-boundary interests involving stakeholders at a Ministerial / Departmental level.

2. Management to oversee implementation of the national GIS programme in terms of developing and sustaining resources and capacity, with specific responsibility for input data / metadata quality and control, and managing cross-sectoral user access. These roles are also likely to require post-graduate level understanding of GIS, along with technical competence to manage technical teams. It is possible that there are suitable individuals already working in The Gambia that could fulfil these roles but they would need at least some training support to migrate from specific sectoral roles to embrace a cross-sectoral role in support of a national vision. Initially it is likely that at least four individuals would be required at this level initially, expanding in future as required. Responsibilities could be divided according to technical responsibilities and / or sectoral interests.
3. Technicians to collate, quality check, input data / meta data, analyse information and present outputs to stakeholder requirements. These roles are likely to require formal post-secondary training, initially at an international universities or training facilities to ensure both technical competence and an understanding of the function of GIS as an important tool for national development. There are a small number of individuals working in sectoral roles in The Gambia (for example at the NEA) who already have some technical skills but may lack an appreciation of quality, data management and output issues required to support a national vision. It is likely that a team of at least forty would be needed to establish an effective national system, with additional support from IT specialists capable of maintaining a complex network under the challenging conditions in The Gambia.

Technical resources for the GIS facility would need to be specified by an international supplier with detailed knowledge of current technology. Dedicated office space with up to date IT, communications and reliable power supply would be needed to house the GIS unit.

Component 3: Preparation and publication of national land use and cadastral maps at a range of appropriate scales based on the existing situation

The first output from the data collection and GIS development components would be land use maps and cadastral maps for the existing situation. Land use classes determined for the 1985 Land Use Plan are still relevant, but should be expanded to include features relevant to modern Gambia as set out under cross-sectoral land use information in Component 1 above.

The maps would be highly detailed, with working scales of 1:1250 for urban areas, 1:2500 for suburban areas and 1:5000 for rural areas. Having produced the initial series, the maps would then be subject to continuous future updating to remain current.

Component 4: Development and publication of a National Land Policy and overarching Act to guide land ownership, planning, management, development, and governance

Gambia does not have a Land Policy. By virtue of its colonial past, land tenure in The Gambia is based on a dual system – statutory and customary. The statutory system governs the freehold and leasehold titles both of which were introduced by the British and are based on English law. The customary tenure evolved from the traditions and practices of the indigenous communities that allow communities to distribute or sell land, but discriminates against women heads of household who constitute the majority in rural areas. Freehold and leasehold are most prevalent in the Banjul and Kombo St. Mary Regions and within the west coast Tourism Development Area, while customary tenure is most

common in the Provinces. The different statutes that regulate the management of these lands are the State Lands Act 1992 and the Lands (Provinces) Act.

The goal of a National Land Policy should be to ensure efficient, equitable and optimal planning, utilization and climate-resilient management of Gambia's land resources for poverty reduction, wealth creation, environmental enhancement and overall socio-economic development. Responsibility for the Policy would lie with the Ministry of Local Government and Lands, but action would require cross-sectoral consultation and negotiation between stakeholders.

Component 5: Cross-sectoral updating, development and publication of relevant Policies and Acts taking account of climate resilience in addition to other national development objectives

Government Acts, Policies, Procedures and Guidelines need to be reviewed and, where required, updated to account for climate resilience, youth / gender issues and other national development objectives that are relevant to Land Use Planning. Cross-sectoral actions include:

- Policy Formulation: to identify appropriate policies through surveys and analyses of physical development related issues so that guidelines and parameters can be set and used to direct future decisions related to land use and development, including issues relating to compulsory purpose to release land for alternative purposes and monitoring / enforcement procedures;
- Development control: to identify the requirements of development projects and to control the possible conflicts resulting from different land uses and claims and from utilization of natural and other resources; and
- Development planning: to estimate future requirements for ongoing developments especially regarding population growth, and to identify and specify projects and plans for physical development, resulting in investment proposals to be included in the overall public investment planning.

Within the coastal zone there are specific actions required to address coastal resilience regarding existing and future flooding and erosion:

- The first and most significant is to prioritize the relocation of government functions in Banjul to a planned new enclave at a location that would best serve the nation and act as a best practice example of urban planning, the use of climate resilient building codes and the development of sustainable public transport. This action would release land in Banjul for expansion of the port, recognizing that Banjul is subject to both erosion and flooding and that the port would need to protect its facilities;
- The second is to achieve coastal resilience along the open and river coasts by establishing a formal land use Policy for set-back, with associated procedures and powers for implementation and enforcement. The set-back distance should be defined on a site-specific basis recognizing the spatial variation of flood / erosion risk and any associated land use issues. The Policy should enshrine the principle that coastal resilience is normally best achieved through adaptation to natural processes and not through engineering intervention, a process generally referred to as managed realignment. The specific issue of responsibility for removal / relocation of existing assets from within the set-back would need to be addressed in Policy to ensure that natural shoreline eco-systems can evolve and the foreshore remains freely available for public recreation, fishing and other customary activities.

Responsibility for policies, procedures and guidelines would be the responsibility of individual Ministries, Departments and Agencies that make up the cross-sectoral interest group for Land Use Planning. Coordination would be the responsibility of the Ministry of Lands and Regional Governments and the Department of Physical Planning and Housing with the full contribution and support of all stake holders. Capacity at the Department would need to be expanded to manage the project (*it is of interest to note that the Department for Physical Planning offices are located immediately adjacent to the north shore of Banjul, and will be amongst the very first to be directly affected by coast erosion*).

Component 6: Preparation and publication of a national land use plan, including definition and legal recognition of implementation, monitoring and enforcement procedures and creation of capacity to enact

The National Land Use Plan would be a combination of a Policy, procedural documents, guidance documents, cadastral maps, land use maps, supporting reports and data bases. The preparation of the Plan would be the responsibility of the Ministry of Lands and Regional Governments and the Department of Physical Planning and Housing, but would be informed by consultation with cross-sectoral stakeholders addressing the wide ranging and often conflicting issues. The Plan would provide an environment to achieve a climate resilient, rational, efficient, economical and equitable use of resources, thereby enhancing the following:

- The presentation of data relating to the stock of physical structures and associated land use as well presentation of data relating to socioeconomic and environmental characteristics;
- Identification and estimation of present and future land requirements for expansion, in addition to new facilities and changes in land use;
- Preparation of plans for new facilities, land use changes, expansions as well as measures to alleviate possible shortcomings with respect to their locations, and integration into the existing environment;
- Coordination of building plans and intended land uses of public and private sector investors to achieve an optimal compromise acceptable to both the individual sector and the community; and
- Implementation, monitoring and enforcement of the physical development Plan.

The 1985 Land Use Plan identified a wide range of land use categories, but there are new categories relevant to the modern Gambian situation. Examples include:

- A new government enclave as a figurehead development for the nation;
- Waste management sites, sewerage works and water treatment plants;
- Power stations, including renewal energy facilities and waste-to-power facilities;
- Flood corridors and ponding areas, not to be developed;
- Public transport corridors, “park & ride” facilities to reduce urban centre traffic and planning for integration of residential / work / child-care areas to reduce transport dependency, reduce sub-urban sprawl and improve quality of family life;
- Pedestrian only commercial and urban amenity areas; and
- Port expansion zone and re-development of river transport for bulk loads.

Component 7: Ongoing review and updating of the policies, plans and maps to respond to future changes in social, economic and environmental conditions

The development and implementation of a National Land Use Plan should not be a time framed project. Planning is ongoing, constantly responding to new demands and challenges that may arise from socio-economic or political evolution and from changes to the natural environment as anticipated under climate change scenarios. Although certain aspects of the project would be weighted to the early years, such as agreement of management structures, policy development, provision of a suitable work environment, recruitment and training of staff and purchase of equipment, it should be seen as ongoing with a rolling programme of review, updating, maintenance, monitoring and enforcement.

6. Implementation arrangements

As with all investment programmes developed under the SPCR, high-level oversight in the interim will be provided through the Technical Team set up to oversee the SPCR preparatory process. The GoTG would as a priority need to formalise the draft NCCP, in order to have the basis for initiating the institutional arrangements envisaged in the NCCP for enhanced coordination of climate change planning and responses, as set out in the main volume of the SPCR. It would be most appropriate for those institutional mechanisms to provide final direction on optimal oversight of the SPCR. An initial step would be for the MoECCNAR to develop and submit a Cabinet Paper to motivate for consideration and approval of the draft NCCP.

Additional details on project-level oversight of the SPCR investment programmes would be developed once the NCCP was formalised and the key institutions – the National Climate Change Council and the Inter-Ministerial Committee on Climate Change – were in place.

7. Estimated cost and provisional financing plan

The estimated cost of this investment programme is **US\$ 45,000,000**.

Sr. Nr.	Components	Cost in US\$
1	Data gathering to inform climate resilient land use planning and Training	1,500,000
2	Establish a central information management system based on GIS, GIS Equipment and Accessories	33,500,000
3	Preparation and publication of national land use and cadastral maps at a range of appropriate scales based on the <u>existing</u> situation	4,000,000
4	Development and publication of a National Land Policy and overarching Act to to guide land ownership, planning, management, development, and governance	1,500,000
5	Cross-sectoral updating, development and publication of relevant Policies and Acts taking account of climate resilience in addition to other national development objectives	500,000

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6	Preparation and publication of a national land use plan, including definition and legal recognition of implementation, monitoring and enforcement procedures and creation of capacity to enact	2,500,000
7	Ongoing review and updating of the policies, plans and maps to respond to future changes in social, economic and environmental conditions	1,500,000
TOTAL Cost		US\$ 45,000,000

An overall provisional financing plan for the entire SPCR is contained in section 2.4 of the Volume I report. The GoTG will develop the more specific provisional financing plan for this Concept Note at a later stage, after validation of the SPCR Phase 1.

8. Logical framework

Results-based Logical Framework: Concept Note 2

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
<p>GOAL Put in place the necessary steps to develop, implement and enforce a national Land Use Plan that recognises the need for climate resilience and balances the cross-sectoral aspirations of all relevant stakeholders</p>	<p>IMPACT Improved Land Use Plan, institutional arrangements, and infrastructure to deliver climate resilience</p> <p>Effective mechanisms for regular Monitoring, Evaluation and Reporting on “Meeting the targets and goals of the Land Use Plan</p>	<p>All population in the Greater Banjul Area and other parts of the Gambia</p>	<p><u>Indicator</u> Land Use Plan <u>Sources:</u> Ministry of Lands</p> <p>Project Reporting and Evaluation</p>		<p>Land Use Plan remain relevant, effective, adequate, operational and reliable (this will be mitigated by the project support)</p> <p>Impacts of climate change do not outpace project Adaptation/resilience responses (this will be alleviated by the project’s interventions targeted to build resilience)</p>
<p><u>Project purpose:</u> <i>To establish Land Use Plan that would provide an environment to achieve rational, efficient, economical and equitable use of resources in The Gambia, considering future growth and development. The Plan would specifically address the relocation of the government functions currently within Banjul.</i></p>	<p><u>Outcomes:</u> 1. Better understanding and knowledge of the state of Land Use Plan in The Gambia and Land Governance, Management systems, current gaps and developments</p>	<p><u>Beneficiaries:</u> 1. The Greater Banjul Municipal Council, Developers, Planners</p>	<p><u>Outcome indicators:</u> The Gambia Municipalities and Property Developers annually report on the status of land use, management and land sector</p>	<p><u>Progress anticipated in the medium term:</u> Annual Municipality, National and Regional report on Land Use, Management and Development</p>	<p><u>Assumption statement:</u> Acceptance of the land use report content</p>

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HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
<p>Component 1: Data gathering to inform climate resilient land use planning</p>	Improved organizational and technical structures of land use and data collection, monitoring and reporting mechanisms	Municipalities, Sector Ministries and M&E Units	<p>Land Use strategies, programs and action plans adopted by National Government and Municipalities</p> <p><u>Sources:</u> Project Reporting and Evaluation</p> <p>Number of municipalities monitoring, assessing, and reporting to National Climate Change Authority on land degradation measures. <u>Sources:</u> Project Reporting and Evaluation</p>	National Land Use and Planning indicators governance and monitoring compatible with global monitoring systems.	Capacity of National level stakeholders will match project activity demands (this will be alleviated by a project capacity building strategy)
	Adequate resources mobilized for functional and regular observation mechanism and reporting process established at municipal, national and regional levels	Municipal Councils, Sector Agencies, Civil Society, NGOs, CBOs	<p>Total hectares included within protected areas system in the project sites</p> <p><u>Sources:</u> Project Reporting and Evaluation</p>	Municipal and National Governance and M&E budgets finance adequately the municipal and national governance and M&E action Plan	Protected area expansion is approved by government structures (this will be eradicated through the participatory planning processes implemented in Component One)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
1.6 Survey coastal zones structures by technical experts;	1.1 Strategic assessment, including climate change considerations, conducted for target coastal landscapes. Economic valuations completed comparing the	Municipal Councils, National Government, Sector Agencies,	Functional and adequate Municipal and National Task Teams set and put in place		Classified information on coastal zones and restricted areas

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	coastal landscape level costs and benefits. Coastal Ecosystem-based Resilience/Adaptation strategies completed and operational for selected eco-regions				
1.7 Survey Urban areas and demarcation of land in accordance with effective use	1.2 Plans for infrastructure, Industrialization, Resettlement, Waste Disposal, Recreational prepared	Municipal Councils, National Government, Sector Agencies,	Functional and adequate Municipal and National Task Teams set and put in place		Land Use and Resource Management including wetlands/Riparian Reserves conflicts
1.8 Survey Rural Areas and land allocation for farming and resettlement	1.3 Land Survey Maps prepared	Local Authorities, Farmers, Organizations, Entrepreneurs	Functional and adequate Municipal and National Task Teams set and put in place		Land Use and Resource Management including wetlands/Riparian Reserves conflicts
1.9 Determine Cross-sectoral interventions	1.4 Topographical Maps prepared	Municipalities, National Government, Private sector, Developers, Farmers, Fishermen	Functional and adequate Municipal and National Task Teams set and put in place		Land Use and Resource Management including wetlands/Riparian Reserves conflicts
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
Component 2: Establish a central information management system based on GIS	National level GIS and Data Base and M&E systems assessed Capacities established for climate change resilience/adaptation assessment and monitoring	Municipal Councils, National Government and Regional Coordination Teams and consultants,	Number of Municipalities Using GIS for strategic programs on Land Use and Planning <u>Sources:</u> Project Reporting and Evaluation Monitoring by national and local authorities and project stakeholders	GIS and M&E systems assessment reports validated at municipal and national levels periodically	National and Municipal level stakeholders will match project activity demands (this will be eradicated by a project capacity building strategy, including national/local mentoring program)

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					Proposed interventions are able to deliver GIS results (this will be eradicated by strategic and participatory planning implemented under Component One that will identify and prioritize actions based upon local needs.)
<p>Component 3: Preparation and publication of national land use and cadastral maps at a range of appropriate scales based on the existing situation</p>	Cadastral maps prepared	Municipal, National, and Regional Coordination Teams	<p>Number of government decision-makers with increased knowledge of basic cadastral maps principles and practices</p> <p><u>Sources:</u> Project Reporting and Evaluation Determined by cadastral maps monitoring</p> <p>Number of Municipalities replicating cadastral maps principles and practices within the target areas</p> <p><u>Sources:</u> The Municipal Council Strategy Process implemented will verify results</p> <p>Project Reporting and Evaluation Report</p>	Municipal Council County, National and Regional gaps in cadastral maps, M&E compiled and prioritized periodically	<p>National, Municipal, Regional, provincial and district level stakeholders are receptive to project's cadastral maps knowledge building approach (this will be eradicated by with project support for the design of formal information development and awareness for outreach strategies)</p> <p>Government is willing and capable of directing financing towards the support of cadastral maps, soil maps</p>
<p>Component 4 Development and publication of a National Land Policy and overarching Act to guide land ownership, planning,</p>	Land Policy and overarching Land Act prepared	Municipal, National, and Regional Provinces	<p>Number of government decision-makers with increased knowledge of Land Policy, Land Act and Practices</p>	Municipal Council County, National and Regional gaps inland Policy, Land Act, Land Practices, M&E compiled and prioritized periodically	Land Regulatory Commission may lack capacity and may be constrained by institutional and administrative challenges posing the risk of

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management, development, and governance			<u>Sources:</u> Project Reporting and Evaluation Determined by Land Policy, Land Act and Practices monitoring		non-performance and non-delivery
Component 5 Cross-sectoral updating, development and publication of relevant Policies and Acts taking account of climate resilience in addition to other national development objectives	5.1 Publication of relevant Policies and Acts prepared	Municipal, National, and Regional Provinces	Number of government decision-makers with increased knowledge of Land Policy, Land Act and Practices <u>Sources:</u> Project Reporting and Evaluation Determined by Land Policy, Land Act and Practices monitoring	Municipal Council County, National and Regional gaps inland Policy, Land Act, Land Practices, M&E compiled and prioritized periodically	Duplication of information and information gaps may result into information risk
Component 6 Preparation and publication of a national land use plan, including definition and legal recognition of implementation, monitoring and enforcement procedures and creation of capacity to enact	6.1 Publication of a national land use plan prepared	Municipal, National, and Regional Provinces	Number of government decision-makers with increased knowledge of Land Policy, Land Act and Practices <u>Sources:</u> Project Reporting and Evaluation Determined by Land Policy, Land Act and Practices monitoring	Municipal Council County, National and Regional gaps inland Policy, Land Act, Land Practices, M&E compiled and prioritized periodically	Duplication of information and information gaps may result into information risk
Component 7: Ongoing review and updating of the policies, plans and maps to respond to future changes in social, economic and environmental conditions	7.1 updated policies, plans and maps	Municipal, National, and Regional Provinces	Number of government decision-makers with increased knowledge of Land Policy, Land Act and Practices <u>Sources:</u> Project Reporting and Evaluation Determined by Land Policy, Land Act and Practices monitoring	Municipal Council County, National and Regional gaps inland Policy, Land Act, Land Practices, M&E compiled and prioritized periodically	Duplication of information and information gaps may result into information risk
Resources: SPCR Resilient Fund Grant: US\$45,000,000 and The Gambia Government in kind contribution: US\$					

Concept Note 3: Developing climate resilient infrastructure, services and energy systems

1. Title and brief summary of the investment

This Concept Note is for an integrated programme entitled “**Developing climate resilient infrastructure, services and energy systems in The Gambia**”. The programme includes an integrated set of components designed to enhance the climate resilience of the urban areas in The Gambia – namely the Greater Banjul Area (GBA) and the growth centres. Specific components include developing climate-resilient integrated waste management, addressing the associated need for climate resilient roads and drainage systems, and actions to climate proof water supply and sanitation infrastructure, as well as energy infrastructure. The important cross cutting focus areas of gender, youth, health, tourism and DRR are integrated into the project components where applicable.

2. Background and justification

While a number of studies carried out over the years have made numerous recommendations, waste management continues to be a major challenge. Problems are particularly severe in the Greater Banjul Area (GBA). From collection, storage and disposal, all aspects of waste management are poorly managed, whilst existing dumpsites including the Bakoteh disposal site are public health hazards as well as being eyesores. Both Bakoteh and Mile 2 Dump sites are no longer capable of handling the volume of waste they were intended to handle, whilst Bakoteh has been rendered unhealthy and ineffective by the uncontrolled urban development and encroachment around it. It is therefore necessary to identify a new site that can replace both Bakoteh and Mile 2. Blockage of drainage channels through indiscriminate dumping of waste reduces the ability to cope with flooding, which is expected to increase under climate change. It is clear that the current practices adopted by various municipalities in dealing with drainage problems in the GBA and the growth centres are not sufficient to address the problem. Appropriate drainage off roads, to handle higher volumes of water from more intense rainfall and increased hard surfaces, is further required.

The GBA is served by a good network of roads supplemented by numerous bridges, which however have a long history of vulnerability to coastal erosion. The Banjul/Serekunda highway which runs westwards from Banjul parallel to the northern coast line of the GBA has in the past been threatened as erosion has reached less than 10 metres from the road. The Denton Bridge, across which the highway runs at Oyster Creek, is equally vulnerable. To protect this infrastructure, as well as other valuable shore front properties, a wide beach nourishment was undertaken in 2004, but this has subsequently been heavily eroded and the pre-2004 situation is expected to return in less than 10 years.

The National Water Policy calls strongly for an Integrated Water Resources Management (IWRM) approach, and clearly highlights the likelihood of future climate change-driven flood risks across the Gambia River Basin, noting that some 20% of the country’s surface area consists of water, wetlands and tidal creeks. The Policy includes strong reference to both climate change and flooding, and clearly raises the issue of increased risks in the future in the face of climate change and sea level rise.

The Gambia's energy supply comes exclusively from four sources: fuelwood, petroleum products, butane gas and solar energy. Fuelwood is the most important energy source in the country and accounts for about 80% of the country's primary consumption. There are important gender and health considerations inherent in this. Access to electricity outside the GBA is very low. Therefore, wind and solar PV are likely to remain the most appropriate renewable power options in the Gambia in the short term. There is currently no interconnection within the West African region. This will change when the OMVG hydroelectric project becomes operational, as it will connect up the four member states, and in turn allow them to access the West African Power Pool.

3. Project development objective

The project development objective is to put in place a series of steps and develop systems to promote climate resilience in the urban areas of The Gambia, through actions to make systems and infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient to current and future projected climatic changes.

4. Link to national adaptation and /or mitigation objectives

The programme contributes directly to the achievement of the following policy objectives in the draft 2016 National Climate Change Policy (2016):

- Advance the understanding, capacity and social empowerment of all Gambians so that they can adequately respond to climate change.
- Effectively integrate climate change into all sectors and across all scales, through mainstreaming climate risks and opportunities into national and sectoral frameworks, and through effective policy coordination and implementation.
- Put in place sound and equitable adaptation and mitigation measures that promote effective management of ecosystems and biodiversity, reduce vulnerability to climate change impacts, and reduce greenhouse gas emissions, to achieve sustainable low-carbon socio-economic development.
- Build the resilience of communities and ensure health and welfare through participatory, equitable and pro-poor approaches to climate change that emphasise the meaningful inclusion of women and vulnerable groups.

The programme objective and activities are additionally aligned with the relevant provisions on mainstreaming climate change and environmental sustainability into the relevant sectors as set out in the draft PAGE II, and will contribute to the realisation of the priorities identified in the National Adaptation Programme of Action (NAPA) and the Intended Nationally Determined Contribution (INDC), which in themselves are reflected in the policy provisions of the NCCP.

5. Project components and activities

The programme includes 5 inter-linked components, with associated activities, as detailed below.

Component 1: Climate-resilient integrated waste management

Apart from the formal sites, a number of illegal dumpsites exist, some of which are located on waterways. These should be completely eradicated, based upon improved waste collection strategies that maximize entrepreneurial opportunities. Improved integrated waste management is inextricably linked to updating and enforcing land use planning in the GBA, and indeed throughout the country. For an enhanced urban environment, existing environmental and physical planning laws and regulations should be enforced, to eradicate inappropriate developments on waterways, amongst other issues.

The GBA and Brikama areas face serious challenges with respect to solid waste management. Insufficient collection is occurring due to lack of municipal resources and extensive equipment downtime as a result of unavailable spare parts. Collected waste is being disposed of improperly at authorized substandard dumpsites, while waste not collected by the municipalities is dumped indiscriminately throughout the community, and particularly in riverine areas. Landfills have not been properly sited or managed, and the many temporary dumpsites are degrading the urban environment. These practices are resulting in a littered landscape, surface water and groundwater pollution, air quality degradation, risks of explosion from methane gas for adjacent structures, blocked drains and public health and safety impacts (SNC Lavalin International, 2005).

The Kanifing Municipal Council (KMC) has recently prepared a 5-year Waste Management Strategy, for which resources are lacking. There is the opportunity to contribute to the implementation of this strategy, for example by funding the critical awareness raising priority component.

The composition of wastes generated by Gambian households typically includes organic waste, garden waste, animal waste, night soil, paper, cardboard, textiles, glass plastic containers and bags, polyethylene, ceramic and stone, metals, leather, rubber and wood wastes. In addition to these components a large amount of sand also finds its way into the waste set out for collection through existing practices of sweeping wastes from the ground of compounds.

The Waste Surveys Report (Louis Berger/GAP Consultants, 2002) carried out a substantive effort to develop household waste compositions for Banjul, Kanifing and Brikama and to look at variations associated with income levels. A combined average of the household waste composition for all three of these municipalities by weight is: sand (46.7%), organic (35%), paper/carton (9.7%), glass (1.2%), wood (2.6%), metals (2.1%), textiles (1.6%), rubber (0.5%), and other (0.7%). It should be noted that more than 80% of the waste stream is organics and sand.

Project Lighthouse Gambia in collaboration with KMC collected data on incoming waste at Bakoteh dumpsite. The findings can be summarized as follows:

YEAR	Reference year	2011	2012	2013	2014
	2002				
VOLUME OF WASTE	220 Mg/d	411 Mg/d	380 Mg/d	541 Mg/d	478 Mg/d

This data was used to project a landfill volume after 15 year at 2,000,000 Mg/d, assuming that (a) the average waste rate of 350Mg/d (b) 1 Mg is equal to 1 M³ (waste is not compacted)

In 2015, Waste Aid UK conducted a waste composition study in Brikama, during which 2.497 tonnes of waste were segregated into 45 separate categories, using 25 separate samples (28th April to 2nd May) at Jamisa dump site following UNEP IETC waste characterization protocols. This produced results with an 80% confidence level with the following composition: “Organics”: 36.45%, “Other”: 19.28%, “Plastics”: 15.22%, “Textiles”: 7.80%, “Paper and Paperboard”: 5.81%, “Construction and Demolition”: 5.54%, “Hazardous Waste”: 5.22%, “Glass”: 1.35%, “Metals”: 3.32%.

For an enhanced urban environment, existing environmental and physical planning laws and regulations would need to be enforced to, among other things, eradicate developments on waterways.

Critical activities and steps identified are the following:

- Building on the good practice gained by the KMC in developing the municipal Integrated Waste Management Strategy, develop a National Integrated Waste Management Strategy and allocate resources for capacity development in this regard
- Conduct a waste survey in GBA and Growth Centres to identify opportunities for recycling businesses, particularly to target women and youth
- As a matter of urgency, implement a participatory process to identify socially and environmentally acceptable waste dump sites in the GBA; this should form part of the land use planning exercise as covered in Concept Note 2
- Develop standards and design and implement dumpsites and landfills in the GBA to appropriate standards, with access roads, embankments, fencing, drainage, weigh scales and scale house as appropriate
- Assess the equipment for proper waste collection in each municipality or growth centre (e.g. waste compactors, bulldozers, back hole/with front loader and dump trucks, skip buckets, trailers etc.)
- Once appropriate waste sites have been identified and initiated, and municipal household collections are in place in the KMC, close all community dump sites (collection points), as well as both Bakoteh and Mile 2 dump sites
- Design and implement a nation-wide awareness raising campaign to sensitise the public about the rationale for integrated waste management, and climate resilient infrastructure and services; this should include *inter alia* the health impacts of illegal waste dumping, the need to keep drains free of waste and climate-related increased flooding risks

Component 2: Climate-resilient water supply and sanitation

Water for domestic and other uses in the GBA is mainly sourced from below ground in deep and shallow aquifers. Adequate amounts of rainfall are required to recharge the underground aquifers, necessitating

reliable climate and precipitation projections for future estimates of groundwater recharge; moreover, extraction levels of the groundwater need to be controlled for sustainability.

In the GBA, two water resource management problems exist, both of which are essentially climate-induced:

- Salt intrusion due to increased extraction; and
- Insufficient recharge due to runoff from hard surfaces.

For the former, existing boreholes need to be relocated away from possible salt intrusion areas whilst extraction rates are adequately monitored to ensure that appropriate levels are always maintained. For the latter, new boreholes need to be located away from heavily built up areas to minimize runoff and facilitate recharge of aquifers. A likely reduction in rainfall due to climate change would be likely to further reduce the rate of recharge. In both cases, however, planning authorities should ensure that boreholes are adequately protected from encroachment.

Recent developments have resulted in a more supportive legal and institutional framework, as there is now an IWRM Policy, Strategy and Road Map. There is an evolving institutional framework that includes water user groups. However, all of this is project based, with no dedicated budget lines for reliable and ongoing support to institutions, which means they are not able to carry out their institutional mandates effectively.

The Banjul sewerage system currently suffers from both infrastructure and operational problems. These include blockages in the system, infiltration of rain water and sand through manhole covers, intermittent mains power supply to the two pumping stations and regular overflows to the environment chiefly at the pumping station.

The Kotu system on the other hand, suffers from discharge of raw sewage into the Kotu Stream due to defective sewer pipes, a lack of overflow storage capacity during pump/power failures, lack of an alarm system to alert operators that there is a problem with the pumps, and intermittent mains power supply to the pumping stations. In addition to these, fundamental equipment needed to adequately maintain and repair failures in the system is lacking.

Critical activities and steps identified are the following:

- Implementation of the IWRM strategy
- Update the SNC Lavan Water and Sanitation Master plan up to 2030 and implement plan – this should entail *inter alia* the location of new boreholes away from heavily built up areas to minimize runoff and facilitate recharge of aquifers (US\$75)
- Develop a Rural Water Supply Programme to attain 100% coverage in the Gambia (US\$30M)
- Put in place a robust village water supply maintenance mechanism to maintain the systems to a satisfactory and sustainable level
- Increase the density of observation boreholes to monitor the groundwater extraction rates and possible relocation of boreholes due to salt water intrusion.
- Develop a treatment plant for the Banjul sewage system

Component 3: Climate resilient roads and drainage infrastructure

Existing facilities are limited to drainage systems in Banjul, Kanifing and Brikama and drainage canals constructed to serve some of the main roads. In most communities, there is no way to collect and eliminate rainwater and in many cases, drainage is insufficient or has not been provided. Areas of standing water are often a daily problem during the wet season. Unfortunately, drainage channels located in the GBA are generally poorly maintained resulting in the dumping of waste leading to blockage of the channels and accumulation of stagnant water. With increasing temperature and rainfall, this scenario is potentially a source for transmission of diseases such as malaria and cholera.

The current situation in the remaining growth centres of the country is essentially the same, characterized by inadequately designed open drainage facilities, often without outlets, with minimal coverage of the main catchment area. At present, the only provincial centres with some drainage facilities are Bansang and Basse with 1.5 km each, and Janjangbureh with 3 km of drains network, which are apparently well interconnected.

In addition to the Banjul/Serekunda highway, a section of the Kombo coastal road, close to the Tanji Bridge, has been threatened by coastal erosion, necessitating protection using a rock revetment. With a possible increasing intensity of some rainfall events, similar flooding may occur causing the Tanji River or other water channels to further damage road infrastructure in the GBA. In the floodplain of the Gambia River and its main tributaries there is a complex pattern of alluvial deposits and fluvial marine deposits. Inappropriate road construction on these substrates has led to damage to the road surfaces, which reduces their durability and impacts negatively on road safety.

The impacts of changes caused by floods, drought and erosion may entail significant additional project costs. Because the GBA is relatively flat, flooding caused by heavy rains leads to inundation of the roads, destruction of the road shoulders and undermining of the infrastructure foundations. Additional studies, evaluation, budgeting, and consultation on the part of construction companies are required to ensure climate-resilient infrastructure. More thorough consideration of current and future climate impacts in the design of projects should also contribute to a more ambitious quality of the works. The sustainability of road infrastructure must meet an unequivocal standard for climate resilience. Investments may therefore be costly both in terms of new work and maintenance; best practices must be taken into account, without being exhaustive.

Critical activities and steps identified are the following:

- Review and modify existing policies and strategies on roads and bridges to ensure climate resilient standards are applied, including appropriate drainage systems along their corridors
- Update and design the Kotu stream drainage system from Lamin to Badala Park
- Design and implement drains for all major roads in the GBA including Kombo Coastal Roads
- Provide a comprehensive institutional framework for the maintenance of urban drains.

Component 4: Climate resilient energy infrastructure

Energy infrastructures refers to NAWEC's entire electricity generation, transmission and distribution assets comprising of power stations with an aggregate capacity of 101 MW produced by electro-mechanical generators. Power produced is conveyed to users through an electricity grid comprising of 181-km long 33kV/11kV transmission network, step-down transformers, and finally 230V and 400V distribution lines. With increase in temperatures, sagging of overhead lines will become more serious leading to significant electricity transmission losses, resulting in subsequent power shortages and power outages.

The power supply in The Gambia is still largely inadequate, inefficient, and extremely unreliable, which had a negative impact on investment and production. This is one of the reasons for the excessive dependence within the city and major urban centres on firewood and charcoal, which reduce the country's forest resources and natural vegetation cover at an alarming rate, causing widespread environmental degradation

Vulnerability of the energy sector on the whole resides in various different effects, as set out in Njie (2016). Rising temperatures combined with decreasing rainfall are likely to cause a decline in standing forest biomass, and hence the renewable volume of fuelwood. Delivery of petroleum products, the second most important source of energy in use, could suffer disruptions in supply related to extreme weather. The vulnerability of growing renewable energy solutions varies according to technologies, with wind turbines likely to be least affected, and solar PV efficiencies slightly reduced by dust coating of modules. Electricity supply infrastructure faces decreased thermal efficiency of power lines, and possibly damage to infrastructure. Higher temperatures degrade heat exchange efficiency of engines and encourage use of air-conditioning, resulting in higher fuel consumption and increased GHG emissions.

At the regional level, the most important ongoing activity is the West African Power Pool (WAPP), aimed at integrating the regional power system and the realisation of a regional electricity market in West Africa. The Gambia will benefit from three projects under the Gambia River Basin Organisation (OMVG):

- 240 MW Kaleta Hydropower Plant, which started operation in Guinea
- 128 MW Sambangalo hydropower dam to be constructed along the River Gambia in Senegal. A Chinese company has been contracted and construction will commence soon
- 225 KV Gambia – Guinea – Guinea Bissau – Senegal interconnection Project

Despite these projects, it is essential that additional investment be channelled into renewable energy, in order to make the energy systems more climate resilient. Several studies have been carried out on alternative energy sources such as wind, solar and hydropower, in order to reduce dependence on electro-mechanical generators. Steps need to be taken to make existing energy infrastructure and systems more climate resilient.

Critical activities and steps identified are the following:

- Explore the possibility of immediately replacing NAWEC's existing aged generators.
- Expedite the feed-in- tariff study to encourage private sector participation in the Energy Sector
- Install solar and wind mini-grids to compliment NAWEC's generating capacity (US\$ 15M)

- Support SMEs (tailoring shops, fish markets, vegetable vendors etc.) with solar powered system to boost the sector (US\$ 3M)
- Institute urgent human resources development together with a substantial investment of material resources (US\$ 1M)
- Design and implement a nation-wide awareness raising and sensitisation campaign on the climate change and health related aspects of fossil fuels and energy inefficiency, and the substantial adaptation and mitigation benefits existing within renewable energy.

6. Implementation arrangements

As with all investment programmes developed under the SPCR, high-level oversight in the interim will be provided through the Technical Team set up to oversee the SPCR preparatory process. The GoTG would as a priority need to formalise the draft NCCP, in order to have the basis for initiating the institutional arrangements envisaged in the NCCP for enhanced coordination of climate change planning and responses, as set out in the main volume of the SPCR. It would be most appropriate for those institutional mechanisms to provide final direction on optimal oversight of the SPCR. An initial step would be for the MoECCNAR to develop and submit a Cabinet Paper to motivate for consideration and approval of the draft NCCP.

Additional details on project-level oversight of the SPCR investment programmes would be developed once the NCCP was formalised and the key institutions – the National Climate Change Council and the Inter-Ministerial Committee on Climate Change – were in place.

7. Estimated cost and provisional financing plan

The estimated cost of this investment programme is **US\$ 164,000,000**.

Sr. Nr.	Components	Cost in US\$
1	Climate-resilient integrated waste management	30,000,000
2	Climate-resilient water supply and sanitation	105,000,000
3	Climate resilient roads and drainage infrastructure	10,000,000
4	Climate resilient energy infrastructure	19,000,000
TOTAL Cost		US\$ 164,000,000

An overall provisional financing plan for the entire SPCR is contained in section 2.4 of the Volume I report. The GoTG will develop the more specific provisional financing plan for this Concept Note at a later stage, after validation of the SPCR Phase 1.

8. Logical framework

Results-based Logical Framework: Concept Note 3

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
<p>GOAL Develop systems to promote climate resilience in the urban areas of The Gambia, through actions to make systems and infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient to current and future projected climatic changes</p>	<p>IMPACT Improved systems for promoting climate resilience in the urban areas of The Gambia, and developed systems and infrastructure for waste management, roads and drainage, water supply and sanitation, and energy climate resilient</p> <p>Effective mechanisms for regular Monitoring, Evaluation and reporting on “Meeting the targets and goals of the climate resilient</p>	<p>All population in The Gambia</p>	<p><u>Indicator</u> Sustained climate resilience in the urban areas of The Gambia, and infrastructure for waste management, roads and drainage, water supply and sanitation, and energy</p> <p><u>Sources:</u> National and international statistics and reports</p>		<p>climate resilience reporting remains operational and reliable (this will be alleviated by project support)</p> <p>Impacts of climate change do not outpace project Resilience/adaptation responses (this will be alleviated by the project’s interventions targeted to build resilience)</p>
<p><u>Project purpose:</u> <i>To establish actions to make systems and infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient to current and future projected climatic changes.</i></p>	<p><u>Outcomes:</u> 1. Better understanding and knowledge of the state of infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient</p>	<p><u>Beneficiaries:</u> 1. National Government, Regional Provinces, Municipalities, Technical Teams and Sector Ministries and water, infrastructure, energy, roads, sanitation governance and population</p>	<p><u>Outcome indicators:</u> National Government, Regional Provinces and Sector Ministries annually reports on the status of infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient</p>	<p><u>Progress anticipated in the medium term:</u> Annual National Government and Regional Provinces reports on infrastructure for waste management, roads and drainage, water supply and sanitation, and energy resilient</p>	<p><u>Assumption statement:</u> Acceptance of the reports content</p>
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS	ASSUMPTIONS / RISKS

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				TIMEFRAME	
Component 1: Climate-resilient integrated waste management	Integrated climate resilient in waste management	National Government, Regional Provinces, Municipalities	Waste Management strategy programs and action plans adopted by National Government, Regional Provinces and Municipalities <u>Sources:</u> Project reporting and Evaluation	National waste management sector indicators governance and monitoring compatible with global monitoring systems.	Capacity of National, Regional Provinces and Municipalities levels will match project activity demands (this will be alleviated by a project capacity building strategy)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
1.10 Develop a National Waste Management Strategy;	1.1 Developed a waste management strategy	National Government, Regional Provinces, Municipalities	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up of Task Forces	Restrictions in setting up Task Forces
1.11 Conduct a waste survey in GBA and Growth Centres to identify opportunities for recycling businesses, particularly to target women and youth	1.2 Conducted survey in GBA for waste and recycling	Local communities, National Government, Regional Provinces, Municipalities	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for conducting survey in GBA for waste and recycling	Restriction in conducting survey in GBA for waste
1.12 Identify socially and environmentally acceptable waste dump sites in the GBA	1.3 Identified dumpsite in GBA	Communities, National Government, Regional Provinces, Municipalities, NGOs, Private Sector	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for identifying socially and environmentally acceptable waste dump sites in the GBA	Restriction of identifying socially and environmentally acceptable waste dump sites in the GBA
1.13 Develop standards and design and implement dumpsites and landfills in the GBA to appropriate standards, with access roads, embankments, fencing, drainage, weigh scales and scale house as appropriate	1.4 Developed standards and designed and implemented dumpsites and landfills in the GBA	Communities, National Government, Regional Provinces, Municipalities, NGOs, Private Sector	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for developing standards and designing and implementing dumpsites and landfills in the GBA	Restriction in developing standards and designing and implementing dumpsites and landfills in the GBA

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1.14 Assess the equipment for proper waste collection in each municipality or growth centre (e.g. waste compactors, bulldozers, back hole/with front loader and dump trucks, skip buckets, trailers	1.5 Assessed the equipment for proper waste collection in each municipality or growth centre	Communities, National Government, Regional Provinces, Municipalities, NGOs, Private Sector	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for assessing the equipment for proper waste collection in each municipality or growth centre	Restriction in assessing the equipment for proper waste collection in each municipality or growth centre
1.15 Close all community dump sites (collection points), as well as both Bakoteh and Mile 2 dump sites	1.6 Closed all community dump sites (collection points), as well as both Bakoteh and Mile 2 dump sites	Communities, National Government, Regional Provinces, Municipalities, NGOs, Private Sector	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for closing all community dump sites (collection points), as well as both Bakoteh and Mile 2 dump sites	Restriction in closing all community dump sites (collection points), as well as both Bakoteh and Mile 2 dump sites
1.16 Design and implement a nation-wide awareness raising campaign to sensitise the public about the rationale for integrated waste management, and climate resilient infrastructure and services; this should include <i>inter alia</i> the health impacts of illegal waste dumping, the need to keep drains free of waste and climate-related increased flooding risks	1.7 Designed and implemented a nation-wide awareness raising campaign plan	Communities, National Government, Regional Provinces, Municipalities, NGOs, Private Sector	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for designing and implementing a nation-wide awareness raising campaign plan	Restriction in designing and implementing a nation-wide awareness raising campaign plan
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
Component 2: Climate-resilient Water and Sanitation	Developed Climate-resilient Water and Sanitation infrastructure	Urban areas of the Greater Banjul area and towns in Regional Provinces	Number of towns developed with climate resilience infrastructure <u>Sources:</u> Project reporting and evaluation Monitoring by national and local authorities and project stakeholders	Climate-resilient Water and Sanitation and M&E systems assessment reports validated at municipal. Regional Provinces and National Government	National, municipal and regional levels stakeholders will match project activity demands (this will be eradicated by a project capacity building strategy, including national/local mentoring program)

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					Proposed interventions are able to deliver Climate-resilient Water and Sanitation results (this will be eradicated by strategic and participatory planning.)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
2.1 Implementation of IWRM	2.1 IWRM implemented	Urban areas of the Greater Banjul area and towns in Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for 1 Implementation of IWRM	Restriction in awareness, sensitization and public consultation
2.2 Update the SNC Lavan Water and Sanitation Master plan up to 2030 and implement plan – this should entail <i>inter alia</i> the location of new boreholes away from heavily built up areas to minimize runoff and facilitate recharge of aquifers	2.2 Updated the SNC Lavan Water and Sanitation Master plan up to 2030 and implement plan	Urban areas of the Greater Banjul area and towns in Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for updating the SNC Lavan Water and Sanitation Master plan up to 2030 and implementing the plan	Restriction in updating the SNC Lavan Water and Sanitation Master plan up to 2030 and implementing the plan
2.3 Develop a Rural Water Supply Programme to attain 100% coverage in the Gambia	2.3 Developed a Rural Water Supply Programme to attain 100% coverage in the Gambia	Urban areas of the Greater Banjul area and towns in Regional Provinces and local communities	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for developing a Rural Water Supply Programme to attain 100% coverage in the Gambia	Restriction in developing a Rural Water Supply Programme to attain 100% coverage in the Gambia
2.4 Put in place a robust village water supply maintenance mechanism to maintain the systems to a satisfactory and sustainable level	2.4 Put in place a robust village water supply maintenance mechanism to maintain the systems to a satisfactory and sustainable level	Rural areas of The Gambia and towns in Regional Provinces and local communities	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for putting in place a robust village water supply maintenance mechanism to maintain the systems to a satisfactory and sustainable level	Restriction in putting in place a robust village water supply maintenance mechanism to maintain the systems to a satisfactory and sustainable level
2.5 Increase the density of observation boreholes to monitor the groundwater extraction rates and possible relocation of boreholes due to salt water intrusion	2.5 Increase the density of observation boreholes	Urban areas of the Greater Banjul area and towns in Regional Provinces and local communities	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for increasing the density of observation boreholes	Restriction in increasing the density of observation boreholes

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2.6 Develop a treatment plant, for the Banjul sewage system	2.6 Developed a treatment plant for Banjul Sewage system	Urban areas of the Greater Banjul area	Functional and adequate Municipal Task Forces set up in place	Official set up time for developing a treatment plant, for the Banjul sewage system	Restriction in developing a treatment plant, for the Banjul sewage system
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
Component 3: Climate resilient Roads and Drainage Infrastructure	country level climate resilient roads and drainage infrastructure governance and M&E systems assessed	National and Regional Provinces	Number of municipalities implementing climate resilient roads and drainage Infrastructure governance and M&E systems strategic programs <u>Sources:</u> Project reporting and evaluation Monitoring by national and local authorities and project stakeholders	level climate resilient roads and drainage infrastructure governance and M&E systems governance and M&E systems assessment reports validated at municipal, regional and national levels	National, Regional and Municipal levels stakeholders will match project activity demands (this will be eradicated by a project capacity building strategy, including national/local mentoring program)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
3.1 Review and modify existing policies and strategies on roads and bridges to ensure climate resilient standards are applied, including appropriate drainage systems along their corridors	3.1 Reviewed and modified existing policies and strategies	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for reviewing existing policies and strategies	Restriction in reviewing existing policies and strategies
3.2 Update and design the Kotu stream drainage system from Lamin to Badala Park	3.2 Updated and designed the Kotu stream drainage system from Lamin to Badala Park	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for updating and designing the Kotu stream drainage system from Lamin to Badala Park	Restriction in updating and designing the Kotu stream drainage system from Lamin to Badala Park

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3.3 Design and implement drains for all major roads in the GBA including Kombo Coastal Roads	3.3 Designed and implement drains for all major roads in the GBA including Kombo Coastal Roads	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for designing and drains for all major roads in the GBA including Kombo Coastal Roads	Restriction in designing and drains for all major roads in the GBA including Kombo Coastal Roads
3.4 Provide a comprehensive institutional framework for the maintenance of urban drains	3.4 Provided a comprehensive institutional framework for the maintenance of urban drains	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for providing a comprehensive institutional framework for the maintenance of urban drains	Restriction in providing a comprehensive institutional framework for the maintenance of urban drains
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
Component 4: Climate resilient energy infrastructure	country level climate resilient energy infrastructure governance and M&E systems assessed	National and Regional Provinces and Municipalities	Number of Municipalities and Regional Provinces implementing climate resilient energy infrastructure strategic programs <u>Sources:</u> Project reporting and evaluation Monitoring by national and local authorities and project stakeholders	Climate resilient energy infrastructure governance and M&E systems assessment reports validated at national levels	National, Municipality and Regional Provinces levels stakeholders will match project activity demands (this will be eradicated by a project capacity building strategy, including national/local mentoring program)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
4.1 Explore the possibility of immediately replacing NAWEC's existing aged generators.	4.1 Replaced NAWEC's existing aged generators	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for replacing NAWEC's existing aged generators	Restriction in replacing NAWEC's existing aged generators
4.2 Expedite the feed-in-tariff study to encourage private sector participation in the Energy Sector	4.2 Completed Feed-in-Tariff studies	National Government, Municipalities and Regional Provinces, Technical Teams and consultant	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for undertaking studies on Feed-in-Tariffs	Restriction in undertaking studies on Feed-in-Tariffs

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4.3 Install solar and wind mini-grids to compliment NAWEC's generating capacity	4.3 Installed solar and wind mini-grids to compliment NAWEC's generating capacity	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for installing solar and wind mini-grids to compliment NAWEC's generating capacity	Restriction in installing solar and wind mini-grids to compliment NAWEC's generating capacity
4.4 Support SMEs (tailoring shops, fish markets, vegetable vendors etc.) with solar powered system to boost the sector	4.4 Supported SMEs (tailoring shops, fish markets, vegetable vendors etc.) with solar powered system to boost the sector	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for supporting SMEs (tailoring shops, fish markets, vegetable vendors etc.) with solar powered system to boost the sector	Restriction in supporting SMEs (tailoring shops, fish markets, vegetable vendors etc.) with solar powered system to boost the sector
4.5 Institute urgent human resources development together with a substantial investment of material resources	4.5 Instituted urgent human resources development together with a substantial investment of material resources	National Government, Municipalities and Regional Provinces, Technical Teams and consultant	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for instituting urgent human resources development together with a substantial investment of material resources	Restriction in instituting urgent human resources development together with a substantial investment of material resources
4.6 Design and implement a nation-wide awareness raising and sensitisation campaign on the climate change and health related aspects of fossil fuels and energy inefficiency, and the substantial adaptation and mitigation benefits existing within renewable energy	4.6 Designed and implemented a nation-wide awareness raising and sensitisation campaign plan	National Government, Municipalities and Regional Provinces	Functional and adequate National, Regional and Municipalities Task Forces set up in place	Official set up time for designing and implementing a nation-wide awareness raising and sensitisation campaign plan	Restriction in designing and implementing a nation-wide awareness raising and sensitisation campaign plan
<p>Resources:</p> <p>SPCR Fund Grant: US\$164,000,000 and The Gambia Government in kind contribution: US\$</p>					

Concept Note 4: Developing integrated approaches to build rural climate resilience in The Gambia

1. Title and brief summary of the investment

This Concept Note is for an integrated programme of investment entitled “Developing integrated approaches to build rural climate resilience in The Gambia”. The programme includes an integrated set of components designed to support and develop the climate resilience of the rural (and peri-urban) areas in The Gambia. Specific components include developing the resilience of small scale farming against future climate impacts; addressing the “Sahelization” of ecosystems in The Gambia; rehabilitating and managing the buffering coastal ecosystems, and the involvement of the private sector for promoting and strengthening the resilience of communities’ livelihoods in the Gambia. The important cross cutting focus areas of gender, youth, health, tourism and DRR are integrated into the project components where applicable.

2. Background and justification

Over the past forty years The Gambia has experienced a decline in mean total annual rainfall, as set out in the Gambia National Agricultural Investment Plan (GNAIP) - 2011 – 2015. Annual rainfall amounts from 1950 to 2000 have decreased by about 30%, associated with a steady reduction in the length of the rainy season (growing period). One further important effect is the evident reduction in the quantity of rainfall amounts recorded in the month of August, which induces a mid-season dry spell. This small detail, coupled with the current sociological context, has profound implications on the sustainability of rural farming in The Gambia.

In addition, there has been an increase in the frequency of extreme rainfall events, which invariably lead to numerous flooding events and widespread run-off induced erosion phenomena, particularly in uneven and bare grounds. Sea level rise and rainfall reduction has led to increased salinization of River Gambia further upstream, spreading into rice farming fields in the riverine locations. The net result of these climatic variations for rural farming communities is the ever-increasing episodes of dry years, erratic distribution of rainfall, and droughts alternating with intense rainfall events, both of which cause great damage to crop production and farming sustainability.

Agriculture and small-scale farming

Drivers of rural vulnerability include the absence of capacity to overcome the impacts of climate change, particularly the increasingly shortening of the growing period with late onset and early cessation of rains; the growing migration flux of young people, the main workforce, towards the urban centres and abroad, enlarging the number of women headed households; and the deficient technical support to adopt adaptive options that would enhance resilience to the shortening of the growing period. As it is, frequent dry spells in the middle of the rainy season limit farming activities such as ploughing, sowing and planting before the arrival of the dry spell. The Multidisciplinary Facilitating Teams (MDFTs), which are essentially extension services, are

presently monovalent, with an extension/farmer ratio of 1: to over 3,500, and not cost effective in their delivery performances; and lack technical knowledge about climate smart farming techniques for erosion protection and improving soil structure and fertility. Soils in the Gambia are generally poor in organic matter and chemical fertility, requiring high inputs of manure and fertilizers to increase yields and quality.

Forestry and land management

The current Forest Policy envisages that 30% of the total land area should be covered by forests, and that 75% of this should be sustainably managed by communities. While the policy target for the area has been surpassed, the sustainability of this management approach is questionable. Communities are increasingly struggling to ensure multiple use of forests and forest resources/products for food and nutrition security, incomes, employment and investment. In addition, forests are under severe attack with widespread cutting of trees both for commercial purposes and charcoal or other household fuel purposes. There is regular encroachment into forests and virgin lands when the fertility of farming grounds is exhausted, mostly through inadequate land use and lack of technical knowledge on soil improvement, use of composting and mineral fertilizers.

Forestry and livestock

Further degradation of vegetation cover is taking place through freely moving cattle (transhumance) and small ruminants. Rapid population growth and urbanisation, for example in the Brikama area, have placed increased demand on forests for new settlements and/or expansion of existing ones, agricultural production, fuel wood, timber for construction and other forest produce. Cattle production is constrained by scarcity of feed and water during the long dry season, and aggravated by rampant bush fires that consume most of standing hay, crop residues and by-products to feed cattle. The Forestry sub sector could arrest and reverse degradation of lands along river banks and mangrove areas and protect others at risk of degradation from erosion, and in the process, expand land availability for increased rice production from tidal irrigation, and short cycle cash crops from uplands. Forestry could also increase the efficiency of the value chains of livestock, especially increasing off-take and processing of cattle in the rangelands of the country.

3. Project development objective

The project development objective is to develop systems and integrated approaches to promote climate resilience in the rural and peri-urban areas of The Gambia, through developing climate resilient small-scale agriculture and livestock, community-based approaches to forest and natural resource management, and promotion of livestock and agro-forestry value chains and markets.

The project development objective will be supported by actions in the following areas:

- **Agriculture and small-scale farming:** by addressing climate smart farming practices guided by strong climate advisory services, land degradation, crop diversification, climate

smart irrigation practices and training and capacitance of Extension Services and farmers alike;

- **Community-based approaches to forest and natural resource management:** by protecting and restoring forest and agricultural landscapes (including afforestation and reforestation) to achieve resilient integrated and productive landscapes throughout the Gambian regions;
- **Climate-smart livestock management practices:** by addressing multiple gains of adaptation (green expansion, livestock diversification, and water supply), and mitigation through developing a National Programme for Biogas Production and Utilisation through on-farm anaerobic digestion of manure as an integrated adaptation-mitigation measure;
- **Promotion of livestock and agro-forest value chains and markets:** through training and capacity development, with a focus on cross cutting issues linked to gender, youth, tourism, waste and community livelihoods.

4. Link to national adaptation and /or mitigation objectives

The programme contributes directly to the achievement of the following policy objectives in the draft 2016 National Climate Change Policy (2016):

- Advance the understanding, capacity and social empowerment of all Gambians so that they can adequately respond to climate change.
- Effectively integrate climate change into all sectors and across all scales, through mainstreaming climate risks and opportunities into national and sectoral frameworks, and through effective policy coordination and implementation.
- Put in place sound and equitable adaptation and mitigation measures that promote effective management of ecosystems and biodiversity, reduce vulnerability to climate change impacts, and reduce greenhouse gas emissions, to achieve sustainable low-carbon socio-economic development.
- Build the resilience of communities and ensure health and welfare through participatory, equitable and pro-poor approaches to climate change that emphasise the meaningful inclusion of women and vulnerable groups.

The programme objective and activities are additionally aligned with the relevant provisions on mainstreaming climate change and environmental sustainability into the relevant sectors as set out in the draft PAGE II, and will contribute to the realisation of the priorities identified in the National Adaptation Programme of Action (NAPA) and the Intended Nationally Determined Contribution (INDC), which in themselves are reflected in the policy provisions of the NCCP.

5. Project components and activities

The programme includes four inter-linked components, with associated activities, as detailed below.

Component 1: Enhancing the resilience of small-scale farming against future climate impacts

Critical activities and steps identified are the following:

- Develop plan and put in place a National Programme for Crop Diversification led by the Ministry of Agriculture, as a tool to spread crop failure risks and enhance resilience of small scale/commercial farming; (1 million \$US)
- Strengthen stakeholder structures in water resources and irrigation management to enhance the resilience of small-scale farming; (5 million \$US)
- Strengthening technical capacity and skills among farmers and Extension Service officers through Climate Change Farmer Field Schools (CC-FFS) for implementing climate-smart measures addressing crop yield response to water and husbandry (fertilizers and organic matter); (3 million \$US)
- Strengthening and/or operationalization of a Climate Change Integrated Agrometeorological Advisory Services for the Gambia to support farming practice under the extreme climate variability; (1 million \$US)

Component 2: Reverting the “Sahelization” of ecosystems in The Gambia to support resilience of small-scale farming, livestock and wildlife sub-sectors

Critical activities and steps identified are the following:

- Climate-smart ecosystem-based approach to protection, management, conservation, restoration of traditional farming ecosystems to promote water retention, conservation and soil management (intercropping fruit or native trees within the farming plots crops to act as “nutrient pumps,” bringing nutrients that are too deep for crops); (3 million \$US)
- Promoting soil and water conservation measures through climate-smart water ponds and intercropping in agroforestry to act as “climate buffers” providing shade, wind breaker and litter source for water conservation, coupled with minimum tillage, soil fertility management and regeneration of natural vegetation; (2 million \$US)
- Promoting strategically placed drinking points/ponds deep in Forest protected areas (“traditional flora and wildlife regeneration traps”) for offsetting the disappearance of the natural habitats and indigenous traditional flora and wildlife species due to frequent bush fires and drying of streams. (2 million \$US)
- Establishment a regional network of rural water supply system coupled with construction of strategically placed Plunge dips structures¹ to support livestock animals for preventing against ticks, flies, mites, lice and other external parasites expected to increase under the projected warmer climate and new management practices such as artificial insemination, castration, inoculation, dehorning and weighing. (5 million \$US)

¹ Typical cattle dips have a volume of 10'000 liters or more, sheep dips about 2'000 liters.

- Climate-smart livestock management practices addressing multiple gains of adaptation (green expansion, livestock diversification, and water supply) and mitigation (developing National Programme for Biogas Production and Utilization through on-farm anaerobic digestion of manure as an integrated adaptation-mitigation measure); (3 million \$US)
- Development of National Planning of Grazing Zones and management of grazing activities with Improvement of stock feeds to avoid overgrazing issues (goats/sheep); (3 million \$US)
- Diversification of the small-scale livestock sector with adoption of small ruminants and poultry activities and Incentives for developing milk collection centres that use solar cooling powered energy (2 million \$US).

Component 3: *Supporting the planning, rehabilitation and management of buffering coastal ecosystems to build the resilience of fisheries and tourism development in The Gambia*

- Develop Regional Programmes for Ecotourism for buffer control of protect forest and riverine locations with clear identification of potential sites and natural conditions. This will be used by the Gambia Tourist Board to attract external investment on ecotourism; (3 million \$US)
- Initiation of a national programme addressing the Rehabilitation of ecosystems bordering the costal dunes and riverine areas to be used as a buffer between the coastal zone and the community villages particularly in the West Coast Region (land reclamation operations on fish landing sites and old sand mining sites using palm trees, mangroves and other native shrubs); (7 million \$US)
- Implementation of long-term Monitoring and Management National Mechanisms through the establishment of a National Climate Change Centre for Information and Risk Management (CC- CIRM) made of robust Remote Sensing Unit and an operational a mobile innovative system using drone based GIS technology. (3 million \$US)

Component 4: *Private sector involvement for promoting and strengthening the resilience of communities' livelihoods in The Gambia*

- Promotion of youth and women centred “Spin-off” SMMEs for development of climate resilient agricultural and livestock value chains in each of the Gambian Regions, supported by policy intervention and the establishment of the Gambia Climate Change Fund (covered in Concept Note 1) (5 million \$US)
- Establishment of Waste Management Plans at Municipal Level – National Recycling Training Programmes for youth and women. This will be linked to the Centres for Skills Development (see below) and “spin-off” programmes. (5 million \$US)

- Establishment (physical and logistical infrastructures) of a regional network of Village Centres for Agro-Forest Resources Transformation (Village CARTs) following the Global Eco-village Network approach²; (5 million \$US)
- Establishment of a network of Centres for Skills Development (CSDs) to assist youth and women associations in developing skills for alternative income generating activities to curb migration and intense degradation of the environment, in particular the coastline through mangrove cutting and sand mining. This would include civil construction, bricklaying, welding, electrical technicians, motorcar mechanics, plumbing, fish net mending techniques, boat construction/repair/maintenance, carpentry, etc. This implies also the Establishment of Centres of Excellence for Skills and Product Development on the following sectors: (5 million \$US)
 - Natural Resources Management (this will support the rational use of Forest Resources)
 - Fisheries (based on/expanding the TRY Oyster Association model)
 - Food processing, production and certification
 - Renewable energy (FANDEMA Association - solar installation and maintenance)
- Strengthening the resilience of the Fisheries Sector and community livelihoods by upgrading all eight national Fish Landing Points, and fish markets and cold chain structures, as well as the establishment and operationalization of post-harvest value chain units at each landing site³. (10 million \$US)

6. Implementation arrangements

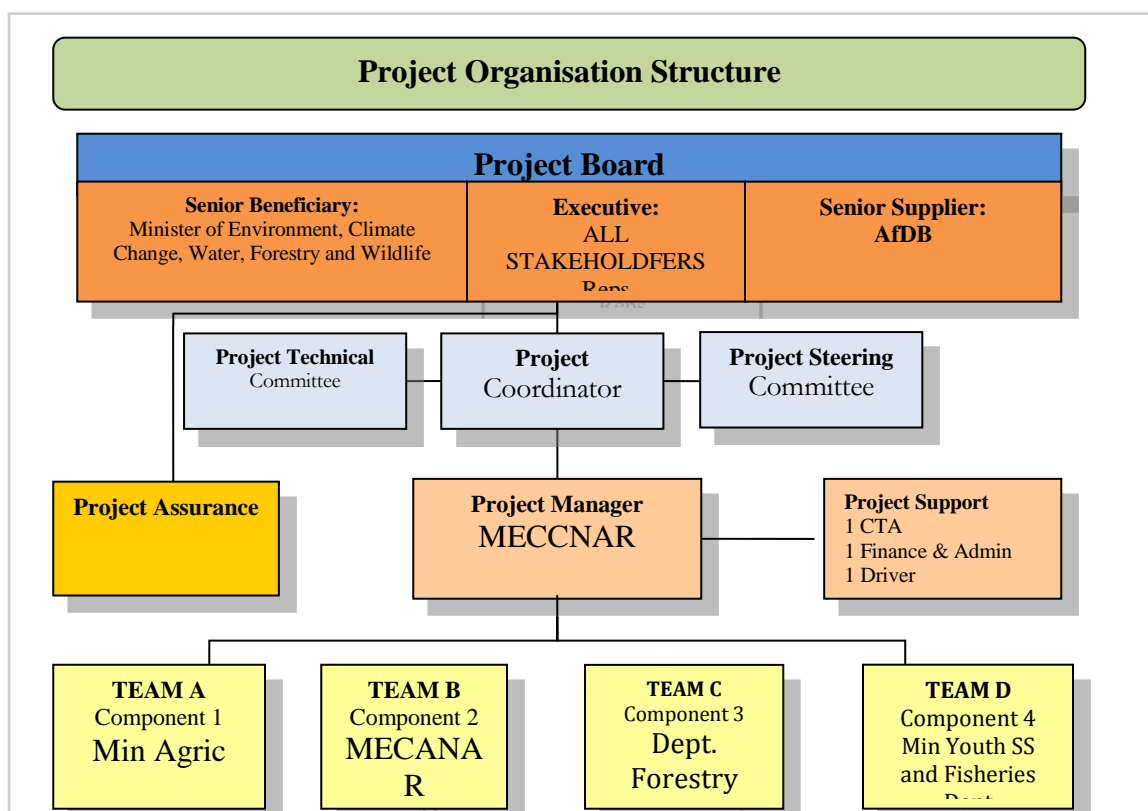
As with all investment programmes developed under the SPCR, high-level oversight in the interim will be provided through the Technical Team set up to oversee the SPCR preparatory process. The GoTG would as a priority need to formalise the draft NCCP, in order to have the basis for initiating the institutional arrangements envisaged in the NCCP for enhanced coordination of climate change planning and responses, as set out in the main volume of the SPCR. It would be most appropriate for those institutional mechanisms to provide final direction on optimal oversight of the SPCR. An initial step would be for the MoECCNAR to develop and submit a Cabinet Paper to motivate for consideration and approval of the draft NCCP.

Additional details on project-level oversight of the SPCR investment programmes would be developed once the NCCP was formalised and the key institutions – the National Climate Change Council and the Inter-Ministerial Committee on Climate Change – were in place.

² <https://ecovillage.org/>. Activities range from e.g., *Creation of art crafts workshops*; production of native fruit jam; beekeeping and honey production, native fruits liquor production facilities, small ruminant and poultry breeding, *Mushroom farming* and dry mushroom processing, *Poultry farming* and egg production, etc.

³ This includes: transportation means, fish handling and processing section, cold room, ice making plant, rodent free store for smoked fish, smoke ovens, training hall with the availability of water and hygienic facilities; Upgrading Smoke ovens to modified “altona” oven which requires considerably more capital investment than the traditional “banda” system but uses approximately 40 percent less fuel and only one fourth the labour required by the “banda” per unit of fish processed.

In the interim, a potential specific project organisational structure for the rural resilience investment of the SPCR is presented below. This would need to be harmonised with the overall SPCR implementation arrangements.



7. Estimated cost and provisional financing plan

The estimated cost of this investment programme is **US\$ 73,000,000**.

Sr. Nr.	Components	Cost in US\$
1	Enhancing the resilience of small scale farming against future climate impacts	10,000,000
2	Reverting the “Sahelization” of ecosystems in The Gambia to support resilience of small scale farming, livestock and wildlife sub-sectors	20,000,000
3	Supporting the planning, rehabilitation and management of buffering coastal ecosystem to build the resilience of fisheries and tourism development in The Gambia	13,000,000

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4	Private sector involvement for promoting and strengthening the resilience of communities' livelihoods in The Gambia	30,000,000
TOTAL Cost		US\$ 73,000,000

An overall provisional financing plan for the entire SPCR is contained in section 2.4 of the Volume I report. The GoTG will develop the more specific provisional financing plan for this Concept Note at a later stage, after validation of the SPCR Phase 1.

8. Logical framework

Results-based Logical Framework: Concept Note 4

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
<p>GOAL Develop systems and integrated approaches to promote climate resilience in the rural and peri-urban areas of The Gambia</p>	<p>IMPACT Improved systems and integrated approaches to promote climate resilience in the rural and peri-urban areas of The Gambia</p> <p>Effective mechanisms for systems and regular Monitoring, Evaluation and reporting on “Meeting the targets and goals of the climate resilience in the rural and peri-urban areas</p>	<p>All population in The Gambia</p>	<p><u>Indicator</u> Sustained systems for climate resilience in the rural and peri-urban areas in The Gambia</p> <p><u>Sources:</u> National and international statistics and reports</p>		<p>systems for climate resilience in the rural and peri-urban areas in The Gambia remain operational, accessible and reliable (this will be alleviated by project support)</p> <p>Impacts of climate change do not outpace project Resilience/adaptation responses (this will be alleviated by the project’s interventions targeted to build resilience)</p>
<p><u>Project purpose:</u> <i>To develop climate resilient small-scale agriculture and livestock, community-based approaches to forest and natural resource management, and promotion of livestock and agro-forestry value chains and markets in The Gambia</i></p>	<p><u>Outcomes:</u> 1. Better understanding and knowledge of the systems for climate resilience in the rural and peri-urban areas in The Gambia</p>	<p><u>Beneficiaries:</u> 1. Technical Teams and Sector Ministries and climate resilience governance and regional provinces</p>	<p><u>Outcome indicators:</u> National Government and Regional Provinces annually report on the status of systems for climate resilience in the rural and peri-urban areas in The Gambia</p>	<p><u>Progress anticipated in the medium term:</u> Annual National and Regional Provinces report on systems for climate resilience in the rural and peri-urban areas in The Gambia</p>	<p><u>Assumption statement:</u> Acceptance of the report content on systems for climate resilience in the rural and peri-urban areas in The Gambia</p>
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS

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<p>Component 1: Enhancing the resilience of small-scale farming against future climate impacts</p>	<p>Improved organizational and technical structures of the resilience of small-scale farming against future climate impacts</p>	<p>Regional Provinces, Sector Ministries and M&E Units</p>	<p>The resilience of small-scale farming against future climate impacts strategy programs and action plans adopted by National Government and Regional Provinces</p> <p><u>Sources:</u> Project reporting and Evaluation</p> <p>Number of Regional Provinces monitoring, assessing, and reporting to National Climate Change Authority on the resilience of small-scale farming against future climate impacts measures.</p> <p><u>Sources:</u> Project Reporting and Evaluation</p>	<p>National Agriculture sector indicators governance and monitoring compatible with global monitoring systems.</p>	<p>Capacity of National and Regional Provinces' level stakeholders will match project activity demands (this will be alleviated by a project capacity building the resilience of small-scale farming against future climate impacts strategy)</p>
<p><u>Inputs and activities:</u></p>	<p><u>Outputs:</u></p>	<p><u>Beneficiaries:</u></p>	<p><u>Output indicator:</u></p>	<p><u>Progress /Timeframe:</u></p>	<p><u>Assumption statement:</u></p>
<p>1.17 Develop plan and put in place a National Programme for Crop Diversification led by the Ministry of Agriculture, as a tool to spread crop failure risks and enhance resilience of small scale/commercial farming;</p>	<p>1.1 A tool to spread crop failure risks and enhance resilience of small scale/commercial farming developed;</p>	<p>Sector Ministries, Regional Provinces, Farm Organizations, Cooperatives, rural communities</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in diversifications may limit coordination</p>

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1.18 Strengthen stakeholder structures in water resources and irrigation management to enhance the resilience of small-scale farming	1.2 Structures in water resources and irrigation management to enhance the resilience of small-scale farming strengthened	Sector Ministries, Regional Provinces, Farm Organizations, Cooperatives, rural communities	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in strengthening stakeholder structures in water resources and irrigation management to enhance the resilience of small-scale farming may limit functional operations of the regional provinces and national task force
1.19 Strengthening technical capacity and skills among farmers and Extension Service officers through Climate Change Farmer Field Schools (CC-FFS) for implementing climate-smart measures addressing crop yield response to water and husbandry (fertilizers and organic matter);	1.3 Technical capacity and skills among farmers and Extension Service officers developed	Sector Ministries, Regional Provinces, Farm Organizations	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in strengthening technical capacity and skills among farmers and Extension Service officers through Climate Change Farmer Field Schools (CC-FFS) for implementing climate-smart measures addressing crop yield response to water and husbandry (fertilizers and organic matter) may impact capacity development
1.20 Strengthening and/or operationalisation of a Climate Change Integrated Agrometeorological Advisory Services for the Gambia to support farming practice under the extreme climate variability;	1.4 A Climate Change Integrated Agrometeorological Advisory Services for the Gambia to support farming practice under the extreme climate variability strengthened	National Government Meteorological Stations, Sector Ministries, Regional Provinces, Farm Organizations	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in operationalisation of a Climate Change Integrated Agrometeorological Advisory Services for the Gambia to support farming practice under the extreme climate variability may limit operational functions
HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGETS TIMEFRAME	ASSUMPTIONS / RISKS
Component 2: Reverting the “Sahelization” of ecosystems in The Gambia to support resilience	Capacities established to support resilience of small-scale farming, livestock and wildlife sub-sectors	National and Regional Provinces Teams, Farm Organizations and local communities	Number of Regional Provinces and Farm Organization		National and Regional Provinces stakeholders will match project activity demands (this will be

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of small-scale farming, livestock and wildlife sub-sectors			implementing resilience of small-scale farming, livestock and wildlife sub-sectors strategic programs <u>Sources:</u> Project reporting and Evaluation Monitoring by national and local authorities and project stakeholders		eradicated by a project capacity building strategy, including national/local mentoring program)
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
2.1 Climate-smart ecosystem-based approach to protection, management, conservation, restoration of traditional farming ecosystems to promote water retention, conservation and soil management (intercropping fruit or native trees within the farming plots) to act as “nutrient pumps,” bringing nutrients that are too deep for crops	2.1 Climate-smart ecosystem based approach developed	National Government, Regional Provinces and Sector Ministries	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in climate-smart ecosystem-based approach to protection, management, conservation, restoration of traditional farming ecosystems to promote water retention, conservation and soil management
2.2 Promoting soil and water conservation measures through climate-smart water ponds and intercropping in agroforestry, to act as “climate buffers” providing shade, wind breaker and litter source for water conservation, coupled with minimum tillage, soil fertility management and regeneration of natural vegetation;	2.2 Developed soil and water conservation measures	National Government, Regional Provinces and Sector Ministries	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in promoting soil and water conservation measures through climate-smart water ponds and intercropping in agroforestry, coupled with minimum tillage, soil fertility management and regeneration of natural vegetation

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<p>2.3 Promoting strategically placed drinking points/ponds deep in Forest protected areas (“traditional flora and wildlife regeneration traps”) for offsetting the disappearance of the natural habitats and indigenous traditional flora and wildlife species due to frequent bush fires and drying of streams.</p>	<p>2.3 Developed climate-smart livestock management practices</p>	<p>National Government, Regional Provinces and Sector Ministries</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in climate-smart livestock management practices addressing multiple gains of adaptation (green expansion, livestock diversification, and water supply) and mitigation (developing National Programme for Biogas Production and Utilization through on-farm anaerobic digestion of manure as an integrated adaptation-mitigation measure)</p>
<p>2.4 Establishment a regional network of rural water supply system coupled with construction of strategically placed Plunge dips structures to support livestock animals for preventing against ticks, flies, mites, lice and other external parasites expected to increase under the projected warmer climate and new management practices such as artificial insemination, castration, inoculation, dehorning and weighing.</p>	<p>2.4 Developed National Plans for Grazing Zones and management systems of grazing activities</p>	<p>National Government, Regional Provinces, Sector Ministries, Farm Organizations, individual farmers and local communities</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restriction in development of National Planning of Grazing Zones and management of grazing activities with Improvement of stock feeds to avoid overgrazing issues (goats/sheep)</p>
<p>HIERARCHY OF OBJECTIVES</p>	<p>EXPECTED RESULTS</p>	<p>REACH</p>	<p>PERFORMANCE INDICATORS</p>	<p>INDICATIVE TARGETS TIMEFRAME</p>	<p>ASSUMPTIONS / RISKS</p>
<p>Component 3: Supporting the planning, rehabilitation and management of buffering</p>	<p>Plan for rehabilitation and management of buffering coastal ecosystems prepared</p>	<p>National Government, Regional Provinces, Sector Ministries</p>	<p>Number of government decision-makers with increased knowledge of</p>		<p>National, provincial and district level stakeholders are receptive to project’s building the resilience of fisheries and</p>

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coastal ecosystems to build the resilience of fisheries and tourism development in The Gambia	Ecosystem-based climate resilience of fisheries and tourism development in The Gambia established		<p>planning, rehabilitation and management of buffering coastal ecosystems</p> <p><u>Sources:</u> Project reporting and Evaluation Determined by monitoring</p> <p>Number of Regional Provinces replicating Ecosystem-based climate resilience of fisheries and tourism development principles and practices within the target areas</p> <p><u>Sources:</u> Climate Resilient Strategy Process implemented will verify results</p>		<p>tourism knowledge (this will be eradicated by with project support for the design of formal information development and strategies)</p> <p>Government is willing and capable of directing financing towards the support of building the resilience of fisheries and tourism programming (Incentive issues will be eradicated by the project strategy of linking success demonstrations with comprehensive capacity building efforts, including studies showing the economic, social and ecological benefits of up scaling)</p>
<u>Inputs and activities:</u>	<u>Outputs:</u>	<u>Beneficiaries:</u>	<u>Output indicator:</u>	<u>Progress /Timeframe:</u>	<u>Assumption statement:</u>
3.1 Develop Regional Programmes for Ecotourism for buffer control of protect forest and riverine locations with clear identification of potential sites and natural conditions. This will be used by the Gambia Tourist Board to attract external investment on ecotourism;	3.1 Developed Regional Programmes for Ecotourism	National Government, Regional Provinces, Sector Ministries	Functional and adequate Regional Provinces and National Task Forces set up in place		Restrictions in development Regional Programmes for Ecotourism

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<p>3.2 Initiation of a national programme addressing the Rehabilitation of ecosystems bordering the costal dunes and riverine areas to be used as a buffer between the coastal zone and the community villages particularly in the West Coast Region (land reclamation operations on fish landing sites and old sand mining sites using palm trees, mangroves and other native shrubs);</p>	<p>3.2 Established national programme for addressing the Rehabilitation of ecosystems bordering the costal dunes and riverine areas</p>	<p>National Government, Regional Provinces, Sector Ministries</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in establishment of national programme for addressing the Rehabilitation of ecosystems bordering the costal dunes and riverine areas</p>
<p>HIERARCHY OF OBJECTIVES</p>	<p>EXPECTED RESULTS</p>	<p>REACH</p>	<p>PERFORMANCE INDICATORS</p>	<p>INDICATIVE TARGETS TIMEFRAME</p>	<p>ASSUMPTIONS / RISKS</p>
<p>Component 4: Private sector involvement for promoting and strengthening the resilience of communities' livelihoods in The Gambia</p>	<p>Involved private sector in promoting and strengthening the resilience of communities' livelihoods in The Gambia</p>	<p>Private Sector in The Gambia</p>	<p>Number of government decision-makers with increased knowledge of Private sector involvement for promoting and strengthening the resilience of communities' livelihoods in The Gambia <u>Sources:</u> Project reporting and Evaluation Determined by monitoring</p>		<p>Government is willing and capable of directing financing and providing incentives towards the support of Private sector involvement for promoting and strengthening the resilience of communities' livelihoods in The Gambia</p>
<p><u>Inputs and activities:</u></p>	<p><u>Outputs:</u></p>	<p><u>Beneficiaries:</u></p>	<p><u>Output indicator:</u></p>	<p><u>Progress /Timeframe:</u></p>	<p><u>Assumption statement:</u></p>

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<p>4.1 Promotion of youth and women centred “Spin-off” SMMEs for development of climate resilient agricultural and livestock value chains in each of the Gambian Regions</p>	<p>4.1 Promoted youth and women centers</p>	<p>Youth and Women centers</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restriction in Promoting youth and women centers</p>
<p>4.2 Establishment of Waste Management Plans at Municipal Level – National Recycling Training Programmes for youth and women</p>	<p>4.2 Established Plans for waste management</p>	<p>National Government, Municipalities, Youth and Women Enterprises</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in establishment of Waste Management Plans at Municipal Level – National Recycling Training Programmes for youth and women</p>
<p>4.3 Establishment (physical and logistical infrastructures) of a regional network of Village Centres for Agro-Forest Resources Transformation (Village CARTs) following the Global Eco-village Network approach</p>	<p>4.3 Established physical and logistical infrastructures of a regional network of Village Centres for Agro-Forest Resources Transformation (Village CARTs)</p>	<p>National Government, Regional Provinces, Municipalities</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in establishing physical and logistical infrastructures of a regional network of Village Centres for Agro-Forest Resources Transformation (Village CARTs)</p>
<p>4.4 Establishment of a network of Centres for Skills Development (CSDs) to assist youth and women associations in developing skills for alternative income generating activities to curb migration and intense degradation of the environment, in particular</p>	<p>4.4 Established a network of centers for skills development</p>	<p>National Government, Regional Provinces, Youth and Women</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in establishing a network of centers for skills development</p>

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<p>the coastline through mangrove cutting and sand mining</p>					
<p>4.5 Strengthening the resilience of the Fisheries Sector and community livelihoods by upgrading all eight national Fish Landing Points, and fish markets and cold chain structures, as well as the establishment and operationalization of post-harvest value chain units at each landing site</p>	<p>4.5 Strengthened, Established and Operationalized resilience of the Fisheries' Sector and community livelihoods</p>	<p>National Government, Sector Ministries, Regional Provinces, Fishery Organizations</p>	<p>Functional and adequate Regional Provinces and National Task Forces set up in place</p>		<p>Restrictions in strengthening the resilience of the Fisheries Sector and community livelihoods by upgrading all eight national Fish Landing Points, and fish markets and cold chain structures, as well as in establishing and operationalization of post-harvest value chain units at each landing site</p>
<p>Resources: Adaptation Fund Grant: US\$73,000,000 and The Gambia Government in kind contribution: US\$</p>					

Reports from the Regional Consultations

Regional Consultations: North Bank Region

11th April 2017.

1. Responses to SPCR overview presentation

Farmers welcomed the priority areas of the PPCR particularly the rural resilience component. They were concerned with the late delivery of inputs such as seeds and fertilisers by government. Some indicated that government is targeting the wrong farmers and called for farmer organisations to be consulted during project design and implementation. Other issues raised were inter alia: good agricultural policy with adequate extensive personnel, provision of early maturing crops, crop diversification, construction of dykes to prevent salt-water intrusion, marketing outlets for vegetable products and agro-industries in all the regions, promote waste management and use of compost etc. Awareness raising, inadequate information sharing, lack of cattle tracks, wildlife human conflict and weak enforcement of policies were identified as major challenges.

2. Gap Analysis / Needs

Policies and Legal Framework

- Enforcement of sectoral policies and Laws
- Poor planning in growth centres (settlements in wetlands)
- Weak and inadequate policy formulation (not reinforce).
- Lack of processing materials (livelihood both in materials and capacity).

Agriculture:

Farmers lamented on the following:

- Inadequate farm inputs and farm implements and/or their late delivery when available
- Early cessation of rains results in low harvest, less food and low income for families hence the rush for women to grow the same vegetables at the same time all across the regional gardens
- Government programmes designed without consulting and involving the real farmers
- Wildlife particularly hippopotamus, bush pigs and monkeys destroy farmlands, farmers not compensated while cattle owners do compensate farmers for any damage cause on farm lands.
- Development of rangelands and cattle tracks for transhumance
- Overgrazing as a result of transhumance (inter, intra region and country).
- Inadequate drinking ponds for the cattle, small ruminants and limited domestic fuel.
- Increase number of extension workers with provision of mobility
- Change attitudes and also encourage good farming practice, avoid cutting trees but promote tree planting on their farms
- encouraging early maturing crops and crop diversification e.g. cassava, beans etc.
- encouraging the use of animal manure and compost instead of chemical fertilisers

Livelihood and Value Chain:

Building agro-processing industries, storage facilities and marketing outlets in communities
Provision of micro-credit with low interest for women and youths to engage in entrepreneurship
Providing farmers with alternative livelihood such horticultural gardens with boreholes and skills centres to engage in soap making, tie and dye, tailoring, welding etc.

Ecosystem:

Cognisant of the magnitude of land degradation and loss of forest cover in the north bank region, farmers called for:

- Concerted efforts to reclaim the forest through agro-forestry to reduce erosion, plant more trees including cashew for income generation.
- Encouragement of community forest management to restore the ecosystem through afforestation and minimise the cutting of trees and bushfires.
- Encouragement of the use of improved cooking stoves (e.g. “Jambarr” improved cooking stove sold at Njawara Agricultural Training Centre)
- Proper control of hunting license.
- Community based wildlife management
- Provision of adequate drinking ponds.
- Stock routes and identification of rangelands

3. Suggested interventions / components for the SPCR

Due to the high rate of migration of youths (“back-way syndrome”), farmers called for the provision of gardens with boreholes and skill centres across the region to create employment for the youths.

The women requested for agro-industries, food processing and storage facilities and availability of markets for their produce.

Both men and women requested for the timely availability of farm inputs and implements

4. Any other key points of relevance

A farmer was concerned about prioritisation of women and youths instead household heads who are responsible for both women and children.

5. Lessons learned through the consultations

The workshop started on time and there was a large turnout of participants including women and youths.

Regional Consultations: Central River Region

12th April 2017.

1. Responses to SPCR overview presentation

The participants thanked the consulting team and Ministry of Environment for the presentation. Participants echoed the timeliness of the SPCR in light of the current challenges confronted them and raised the following:

- Need for effective waste management and proper waste disposal sites for the growth centres like Bansang, Brikamaba and Janjanbureh
- Awareness creation, construction of recycling plants. Restrict dumping near water points and health facilities
- Advocate for waste reduction, cycling and composting at community level
- Capacity building for community radios in Bansang, Brikama and media representative in Janjanbureh with provision of computers and recorders
- Use of integrated system for biogas production since CRR has the highest cattle population in the Gambia
- Support for storage, processing, marketing and value addition of horticultural products of women gardens
- Provision of livelihood projects for the women of the region with micro-credit facilities
- Provision of protective clothes for women engaged in soap making, tie & dye
- Intensify efforts to plant more trees and reduce the proliferation of charcoal production despite its ban in the country
- Need for more information on impacts of climate change and how to mitigate and adapt to their effects
- Support in construction of dykes to reduce salt water intrusion into rice fields
- Address the wildlife human conflict
- Establishment of wood lots and tree planting exercise, while raising awareness on the harmful effects of bushfires and deforestation. Alternative source of energy (improved cooking stoves)
- Using biological solution formation and Home Base Effect Microorganisms (H.B.E.M)
- Government to involve farmers in policy formulation especially (ANR)
- Decentralization of skill centres and creation of job opportunities with better remuneration for youths
- Creation of awareness through IEC on the need to obtain approval prior to construction of buildings.

2. Gap Analysis / Needs

Under Agriculture, the participants raised the following:

- Government to involve farmers and all stakeholders in formulation of policies particularly in the ANR sector.

- Provision of early maturing and high yielding crop varieties due to low rainfall in recent years
- Replacement of diesel pumping machines in the rice fields to solar powered pumps for sustainability and environmental friendliness
- Create study tours for farmers to enhance information sharing and learning from each other
- Increase and train extension services to farming community
- Access to agricultural project finance, eradicate or reduce the requirements for the matching grants
- Support in construction of dykes to reduce salt water intrusion into rice fields
- Diversification of agriculture by engaging in livestock production and small ruminants in addition to crop production

With respect to natural resources and ecosystems, the participants mentioned the following:

- Establishment of wood lots and community forestry. Alternative source of energy (improved cooking stoves)
- Intensify efforts to plant more trees and reduce the proliferation of charcoal production despite its ban in the country
- Need for more information on impacts of climate change and how to mitigate and adapt to their effects
- Address the wildlife human conflict
- Establishment of wood lots and tree planting exercise, while raising awareness on the harmful effects of bushfires and deforestation. Alternative source of energy (improved cooking stoves)
- Using biological solution formation and Home Base Effect Microorganisms (H.B.E.M)
- Government to involve farmers in policy formulation especially (ANR)
- Creation of awareness through IEC on the need to obtain approval prior to construction of buildings.
-

On Livelihoods and support to women and youths, participants mentioned the following:

- Decentralization of skill centres and creation of job opportunities with better remuneration for youths
- Support for storage, processing, marketing and value addition of horticultural products of women gardens
- Provision of livelihood projects for the women of the region with micro-credit facilities
- Provision of protective clothes for women engaged in soap making, tie & dye

3. Suggested interventions / components for the SPCR

The responses relevant to women were:

- Support for storage, processing, marketing and value addition of horticultural products of women gardens
- Provision of livelihood projects for the women of the region with micro-credit facilities

- Provision of protective clothes for women engaged in soap making, tie & dye
- Provision of improved cooking stoves
- Construction of dykes to address flooding and salt-water intrusion and
- Replacement of diesel pumping machines to solar powered pumps

The responses relevant to youths were:

- Decentralization of skill centres and creation of job opportunities with better remuneration for youths
- Establishment of wood lots and community forests
- Provision of fishing gears, with storage facilities at regional level

4. Any other key points of relevance

N/A

5. Lessons learned through the consultations

The meeting started on time and was opened by the Governor of the Region. Participants came from CRR North and South. Refer to the registration for more information.

Regional Consultations: Upper River Region

13th April 2017.

1. Responses to SPCR overview presentation

Participants thanked government for the priority areas set in the SPCR and echoed the timeliness in light of the current challenges confronted them and raised the following:

- Need for effective waste management and ensure effective utilization of the waste by encouraging the private sector to recycle waste into useful purposes such as energy, organic waste etc.
- Proper waste management (waste collection, site identification, land filling, waste segregation, recycling and awareness raising).
- Recognised and appreciate the importance of community radios but emphasised the role the traditional communicators for effective dissemination of climate related information and messages at community level.
- While acknowledging that human activities through ploughing with tractors, deforestation etc. have resulted in land degradation, erosion and siltation of the river and sedimentation of natural drainage in the region, they called for efforts to widen and deepen the natural drains to allow free flow of water.
- Sustainable land management (reclamation, erosion control, Construction of contours, bonds and dykes and adaptive agriculture)
- Law enforcement (various policies and laws e.g. DPPH, NEA and Forestry)
- Improvement of livelihoods (agroforestry, skills development, micro finance access, storage, market and value chain)

- Reforestation (tree planting, community forest, orchards and plantation)
- Bushfire control committee (early burning control, prosecute offenders)
- Proper drainage sanitation systems
- Improved grazing areas for livestock
- Improve agricultural practice
- Attitudinal change and awareness creation
- Participatory implementation of plan activities
- Family planning
- Land use planning
- Proper planning of settlements
- Introduce proper farming techniques and good ploughing methods (GAP)
- Pest control
- Proper sand mining site identification
- National policies in all sectors

2. Gap Analysis / Needs

Under Agriculture, the participants raised the following:

- Introduce proper farming techniques and good ploughing methods (GAP)
- Sustainable land management (reclamation, erosion control, Construction of contours, bonds and dykes and adaptive agriculture)
- Improved grazing areas for livestock
- Pest control

With respect to natural resources and ecosystems, the participants mentioned the following:

- Improvement of livelihoods (agroforestry, skills development, micro finance access, storage, market and value chain)
- Reforestation (tree planting, community forest, orchards and plantation)
- Bushfire control committee (early burning control, prosecute offenders)

3. Suggested interventions / components for the SPCR

The responses relevant to women were the improvement of livelihoods (agroforestry, skills development, micro finance access, storage, market and value chain)

There were responses that are relevant to men, women and youths such as:

- Reforestation (tree planting, community forest, orchards and plantation) applies to men women and youths
- Sustainable land management (reclamation, erosion control, Construction of contours, bonds and dykes and adaptive agriculture)

4. Any other key points of relevance

N/A.

5. Lessons learned through the consultations

The meeting started on time and was opened by the Governor of the Region. Participants came from URR North and South. Refer to the registration for more information.

Regional Consultations: West Coast Region

15th April 2017.

1. Responses to SPCR overview presentation

Participants thanked government for the priority areas set in the SPCR and proposed the following solutions:

- Provision of farming implements and inputs e.g. seeders and fertilizers
- Provision of more vegetable gardens with adequate water facilities
- Introduction of climate Smart agriculture
- Training on women in food processing and preservations with provision of cold stores and processing equipment and transport facilities
- Provision of pesticides (local).
- Planting of drought tolerant varieties/species, salt tolerant varieties or deep flooded variety of rice
- Practice zero tillage, contour farming
- Agro-forestry practice and establish community woodlots and create fire belts to control bush fires
- Promote the use of improve cooking stoves
- Training of youths & women on livelihood skills
- Construction of good drainage systems
- Settlement planning
- Proper waste management
- Sensitisation / outreach programmes
- Capacity building
- Compost making and management
- Provision of canoes, nets and transport facility for the fishing industry
- Introduce integrated pest management e.g. organic pest mgt.
- Strengthen advocacy on male involvement on reproductive health issues
- Strengthen advocacy on family planning among women i.e. child spacing, adolescent

2. Gap Analysis / Needs

Under Agriculture, participants attributed problems of low productivity, inadequate marketing outlets, post harvest losses, inadequate rainfall and inadequate knowledge on vegetable production.

The proposed solutions are:

- Provision of farming implements and inputs e.g. seeders and fertilizers
- Provision of more vegetable gardens with adequate water facilities
- Introduction of climate Smart agriculture
- Introduce integrated pest management e.g. organic pest mgmt.
- Training on women in food processing and preservations with provision of cold stores and processing equipment and transport facilities
- Introduction livelihood skills
- Support to animal husbandry
- Demarcation of rangelands
- Easy accessibility to finance with less conditions attached

With respect to Natural Resources and Ecosystems, participants indicated loss of wildlife, environmental pollution, outbreak of bushfire, deforestation, coastal forest depletion, unsustainable oyster harvesting.

The following were proposed to address these problems:

- Creation of tree nursery
- Support to agro-forestry and encourage planting of more trees on the fire belt (e.g. cashew)
- Sensitization on effects of bush fires
- Creation of community forest parks
- Enforcement of forest laws
- Control of importation of chemicals
- Planting of more mangroves and other trees species.
- Minimising impact of sand mining on the ecosystem
- Training of oyster harvesters
- Support to eco-tourism system

3. Suggested interventions / components for the SPCR

The responses relevant to women were:

- Provision of more vegetable gardens with adequate water facilities
- Training on women in food processing and preservations with provision of cold stores and processing equipment and transport facilities
- Promote the use of improve cooking stoves
- Training of oyster harvesters
- Training of youths & women on livelihood skills
- Strengthen advocacy on family planning among women i.e. child spacing, adolescent

There were responses that are relevant to men and youths such as:

- Training of youths & women on livelihood skills
- Strengthen advocacy on male involvement on reproductive health issues
- Support to agro-forestry and encourage planting of more trees on the fire belt (e.g. cashew)
- Provision of canoes, nets and transport facility for the fishing industry

4. Any other key points of relevance

N/A.

5. Lessons learned through the consultations

The meeting started on time and was opened by the Governor of the Region. The representation was gender balance including youths.

Final regional consultations report to be added.

List of participants in the Regional Consultations

To be added.