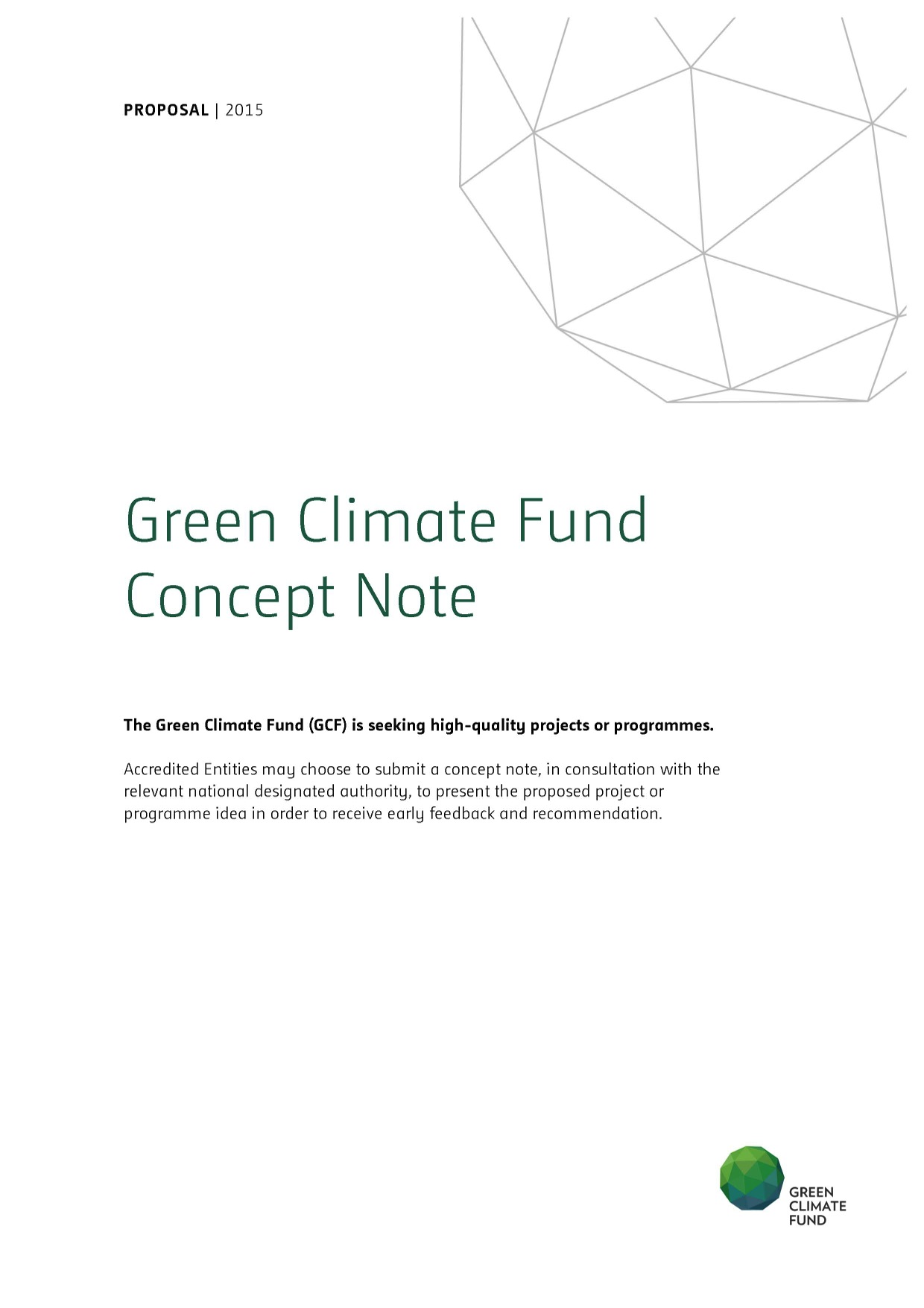
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| Project/Programme Title: | Large-scale ecosystem-based adaptation in the Gambia: developing a climate resilient, natural resource-based economy. |
| Country/Region: | The Gambia |
| Accredited Entity: | UNEP |
| National Designated Authority: | Budget Directorate, Ministry of Finance and Economic Affairs |



Please submitthe completed form to [fundingproposal@gcfund.org](mailto:fundingproposal@gcfund.org)[[1]](#footnote-3)

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| **I. Project/Programme Information** | |
| * 1. Project/Programme Name | Large-scale ecosystem-based adaptation in The Gambia: developing a climate-resilient, natural resource-based economy. |
| * 1. Project or Programme | Project |
| 1.3. Country(ies) / Region | The Gambia |
| 1.4. National Designated Authority(ies) | Budget Directorate, Ministry of Finance and Economic Affairs. |
| 1.5. Accredited Entity | UNEP |
| 1.6. Executing entity / Beneficiary | Executing Entity – ministerial level: Ministry of Environment, Climate Change, Water and Wildlife  Executing Entity – departmental level: Departments of Forestry and Parks and Wildlife Management |
| 1.7. Access modality | Direct☐ International☒ |
| 1.8. Project size category (total investment, million USD) | Micro (≤10) ☐ Small (10<x≤50) ☒ Medium (50<x≤250) ☐ Large (>250) ☐ |
| 1.9. Mitigation / Adaptation focus | Mitigation☐ Adaptation☒ Cross-cutting☐ |
| 1.10. Results areas  *(mark all that apply)* | *Which of the following targeted results areas does the proposed project/programme address?* |
| Reduced emissions from:  ☐ Energy access and power generation  (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)  ☐ Low emission transport  (E.g. high-speed rail, rapid bus system, etc.)  ☐ Buildings, cities, industries and appliances  (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)  ☐ Forestry and land use  (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.) |
| Increased resilience of:  ☒ Most vulnerable people and communities  (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)  ☒ Health and well-being, and food and water security  (E.g. climate-resilient crops, efficient irrigation systems, etc.)  ☐ Infrastructure and built environment  (E.g. sea walls, resilient road networks, etc.)  ☒ Ecosystems and ecosystem services  (E.g. ecosystem conservation and management, ecotourism, etc.) |
|  |  |
| 1.11. Project / programmelife span | 6 years |
| 1.12. Estimated implementation start and end Date | Start: 2016  End: 2021 |

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| **II. Project/Programme Details** | |
| The Fund requires the following preliminary information in order to promptly assess the eligibility of project/programme investment. These requirements may vary depending on the nature of the project/programme. | |
| 2.1. Project/programme description (including objectives) | Summary. Poverty, environmental degradation and climate change are resulting in intensely negative socio-economic effects for rural Gambian communities. The main sources of income and food for these communities are rain-fed agriculture, livestock production and harvesting of resources from forest ecosystems. Particularly severe observed climatic changes in The Gambia include an increasingly unpredictable onset of the rainy season, increased intensity of rainfall, a reduced duration of the growing season and an increased duration of the ‘hungry’, dry season. These changes have all reduced crop and livestock productionover the past decades, and have led to increasingly unsustainable extraction of valuable natural resources from forest ecosystems by households needing to supplement their income and food supplies. These negative trends will intensify through time if major measures are not taken to reduce the vulnerability of rural Gambian communities to climate variability and change. At present government institutions and private sector businesses do not have the financial resources or technical capacity available to systematically plan and implement a rigorous climate-proofing of the agricultural and natural resource sectors across The Gambia. There is consequently an urgent need for a transformational change in rural Gambia that will increase crop and livestock productivity, and increase the supply of resources from forest ecosystems under climate change conditions. The proposed GCF project will use large-scale Ecosystem-based Adaptation (EbA) – a cost-effective and low-risk approach for building climate resilience over large areas – to effect this transformational change. The main objective of the GCF project is to implement large-scale Ecosystem-based Adaptation (EbA) within and adjacent to agricultural areas, community-managed forest reserves and wildlife conservation areas of The Gambia, thereby building the climate-resilience of rural Gambian communities and facilitating the development of a sustainable natural resource-based (green) economy. This objective will be achieved through three complementary components outcomes, as below:  Component 1: Large-scale Ecosystem-based Adaptation (EbA) to build a climate-resilient natural resource base across The Gambia (*Outcome 1: EbA interventions in agricultural landscapes and degraded ecosystems provide adaptation and commercial benefits for local communities, government and the private sector in The Gambia*);  Component 2: Development of markets for natural resource-based businesses in The Gambia (*Outcome 2: Local and international markets using goods produced from climate-resilient natural resource base strengthened*); and  Component 3: Policy support, institutional strengthening and knowledge generation to support large-scale implementation of EbA in The Gambia (*Outcome 3: Institutional capacity of the Government of Gambia strengthened to support large-scale implementation of EbA in The Gambia*).  The project’s activities will deliver the objective above firstly by restoring degraded forests and agricultural landscapes with climate-resilient plant species that provide goods for consumption or sale; and secondly, by facilitating the establishment of natural resource-based businesses and management committees to manage The Gambian natural resource base in a sustainable manner. The considerable economic value of the natural capital created by the GCF project’s EbA investments will be the main incentive for communities to continue investing in The Gambia’s natural resource base, rather than reverting to over-extraction of natural resources after the project has ended. The proposed GCF project will be implemented in rural areas of four of Gambia’s administrative regions, namely Lower River, North Bank, Central River and Upper River Regions. Urban areas were excluded from the project as local Gambian stakeholders consulted during a project preparation mission in August 2015 requested a focused approach on one particular type of EbA approach, namely large-scale restoration of rural degraded ecosystems. The villages prioritised for inclusion in the project are those within and immediately adjacent to The Gambia’s 50 established Community Forest areas (CFs) – depicted in Figure A.1.2 in Annex I. These communities were selected for participation in the project by Gambian stakeholders, including the proposed Executing Entity, for the reason that successful implementation of EbA, as well as establishment of natural resource-based businesses, will require the security of land tenure, legal access to forest ecosystems, and local governance structures that are established to manage CFs. In summary, the GCF project will transform the present negative spiral of poverty, environmental degradation and climate change impacts into a virtuous cycle – based on well-managed natural resources – that builds climate resilience for rural Gambians. This virtuous cycle will be underpinned by EbA interventions that generate goods for consumption and for the establishment of commercially viable businesses that will continue to run after the project has ended. The project will also build a knowledge base and raise public awareness on EbA to promote a transformational change in mindset across The Gambia such that society seeks to maximise long-term rather than short-term adaptation benefits from natural resources. This change in mindset will facilitate the upscaling of EbA interventions across the country. In the sections below, additional details are provided on: the baseline situation; the effects of climate change in The Gambia; and the proposed project’s objectives and intervention logic.  Baseline situation. The Gambia is a small, narrow, West African state (11,300 km2) situated along the Gambia River. Its economy is dominated by farming, fishing and tourism. Of the total population of Gambia (~1,967,000), approximately 750,000 Gambians are rural smallholders and fishermen who are highly dependent on ecosystem goods and services derived from woodlands, savannas, wetlands, mangroves and rivers. These ecosystems are undergoing widespread degradation as a result of unsustainable land use practices including overstocking of livestock, over-extraction of woodland trees, widespread slash and burn agriculture[[2]](#footnote-4), over-harvesting of oysters in mangroves, uncontrolled bushfires, and production of charcoal. This degradation entails a considerable loss of vegetation cover[[3]](#footnote-5), which leads to widespread soil erosion and sediment transfer into the Gambia River[[4]](#footnote-6). It also leads to negative effects on rural Gambian’s food supply, health, nutritional status, income streams and socio-economic well-being.  In addition to the direct impacts of environmental degradation, rural Gambians face the following problems:  a) endemic poverty (~60% of the rural population falls below the poverty line with an income of less than US$1.50 per day[[5]](#footnote-7));  b) widespread reliance on inefficient and unproductive agricultural practices such as rain-fed agriculture, with limited use of modern inputs such as fertilizer and improved crop varieties – resulting in poor yields and regular loss of crops as a result of irregular rainfall;  c) weak and undeveloped value chains for agricultural commodities and other natural resource-based products – resulting in limited access to markets, low prices paid for produce ‘at the farm gate’ and considerable spoilage of produce because of inadequate storage facilities[[6]](#footnote-8); and  d) limited participation in, and access to, financial services and cooperative approaches to marketing – resulting in limited capacity of rural smallholders to invest in activities that will increase or diversify household income.  Effects of climate change. Climate change in the Gambia is presently exacerbating existing climatic and environmental problems, including wind storms, droughts, floods, rainfall variability, coastal erosion and sea-level rise[[7]](#footnote-9). Long-term meteorological records and observations of climate change in Gambia show: a) decreased average rainfall levels and length of the rainy season; and b) increased frequency and length of droughts and flashfloods[[8]](#footnote-10). Observations also indicate an increase in episodes of torrential rainfall (resulting in intense rainwater runoff and flooding) and an increasingly erratic distribution of rainfall. Notably, groundwater levels have also been declining in the last decade[[9]](#footnote-11), leading to the loss of many shallow wells that had been used for irrigating crops. As a result of these effects, Gambian farmers have been experiencing shorter crop growing seasons. During an in-country consultation mission in August 2015, interviews were held with eight agricultural communities in four of the country’s six regions. These interviews included questions on observed and perceived climate changes. Trends reported by the farmers included reduced total rainfall, increased average temperatures, an increased number of abnormally hot days, and an increasing duration of the ‘hungry’, dry season. All respondents reported negative effects on productivity of crop and livestock farming as a result of climate change.  Agricultural productivity is expected to decline further as a result of future climate change because of: a) reduced soil water content from increasing air temperatures; b) more frequent droughts; c) reduced supplies/levels of fresh ground water; and d) greater erosion from intense rain events. Fisheries in the Gambia River will also be compromised as result of a reduced flow of fresh water into the river, and concomitant increases in salinity. Ecosystem goods and services from forest ecosystems are also threatened by climate-related changes in ecosystem composition, structure and productivity of Gambian woodlands, savannas, wetlands and mangroves.  The problem that the proposed GCF project will consequently address is that the supply of goods and services from agricultural landscapes and forest ecosystems that underpin the livelihoods of Gambia’s rural smallholders are declining and are anticipated to decline further under conditions of climate change. The vulnerability of these communities to climate change is further exacerbated by the relative under-development of Gambia’s rural economy, including community livelihoods based on agriculture, fishing, ecotourism and natural resources. In the absence of investments to diversify rural livelihoods away from inefficient agricultural practices and unsustainable use of natural resources, the effects of climate change will exacerbate the ongoing cycle of rural poverty and environmental degradation.  The Solution.To resolve the environmental, economic and climate change problems facing rural Gambian communities, a transformational change is required that increases crop and livestock productivity, as well as the supply of resources from forest ecosystems under climate change conditions. Large-scale Ecosystem based Adaptation (EbA) is a cost-effective and low-risk measure for achieving this change. This is because EbA focusses on building a climate-resilient natural resource base that yields goods for both consumption and sale. Investments in EbA can consequently improve food security and generate new income streams through natural resource-based businesses.  Barriers to implementing large-scale EbA. Barriers to the above solution include:  a) Gambian institutions in both government and the private sector have insufficient technical capacity to implement EbA interventions as well as implement the existing policies promoting community‑based management of natural resources;  b) Private sector investors, credit unions and financial institutions have an insufficient evidence base on the benefits of EbA to assess the commercial viability of natural resource-based businesses that could emerge from investments in EbA;  c) At present, there is a limited understanding of the monetary and economic value of functional ecosystems and natural resources, and in consequence there are insufficient funds allocated to natural resources in both government budgets and the private sector to enable large-scale investments in EbA across The Gambia;  d) Rural Gambian smallholders are unwilling to invest in EbA interventions and natural resource-based businesses in the absence of security of land tenure and rights to access the natural resources; and  e) Gambian government departments and private sector businesses have insufficient knowledge and technical capacity to promote natural resource-based businesses.  The overarching objective of the project is to implement large-scale Ecosystem-based Adaptation (EbA) within and adjacent to agricultural areas, community-managed forest reserves and wildlife conservation areas of The Gambia, thereby building the climate-resilience of rural Gambian communities and facilitating the development of a sustainable natural resource-based (green) economy. The proposed GCF project will achieve this objective by restoring and building the Gambian natural resource base in agricultural landscapes and degraded forest ecosystems using climate-resilient tree and shrub species. It will also facilitate the establishment of natural resource-basedbusinessesand community-based management of natural resources across an area of at least ~10,000 hectares. The project’s investments will stimulate economic activity in Gambia’s rural areas that will catalyse increased investments in a climate‑resilient natural resource base, thereby facilitating the transition of the country towards a green economy based on sustainable use of natural resources. The project’s activities will contribute to the achievement of multiple Sustainable Development Goals, including those related to poverty (1), food security (2), sustainable consumption and production (12), climate change (13) and sustainable use of terrestrial ecosystems (15)[[10]](#footnote-12). EbA interventions will take place within and adjacent to at least 50 Community Forestry (CF) reserves, across four regions of The Gambia (Lower River, North Bank, Central River and Upper River Regions). The three complementary components of the project are described below.  Component 1 will comprise the implementation of large-scale EbA interventions and the establishment of natural resource-based businesses. Activities will include: development of site-specific EbA implementation protocols for agricultural landscapes and degraded forests by trained technical working groups; expansion of existing district nursery facilities to produce seedlings of climate-resilient tree and shrub species; and provision of technical assistance to participating communities, regional government extension officers and financial service providers.The actual EbA interventions will entail the planting of a diverse variety of useful and commercially valuable plant species unproductive or underutilised agricultural landscapes and in degraded forests. This will include land in community-managed forest reserves, conservation areas, farms, roadside verges and in/around villages.  Component 2 will comprise transforming markets to support the natural resource-based businesses established in Component 1. Activities will include: undertaking detailed market assessments for quantifying the commercial viability of the different businesses; establishing credit and grant facilities to increase the availability of financing for the businesses; supplying equipment and facilities for natural resource-based businesses that will use the goods emanating from the EbA investments; and increasing access to local markets for products for which there is an established local demand and familiarity, including those products and businesses described in Section 4 below.  Component 3 will strengthen Gambian institutions and suggest policy revisions to catalyse upscaling of EbAand further development of natural resource-based businesses. Activities will include facilitating administrative processes for decentralising the management of natural resources to community-based structures, as well as disseminating information such as market assessments and case studies.  A cross-cutting activity that will inform all the above components will be the building of an evidence base of credible data to show the return on investment for large scale EbA interventions. It is anticipated that the marketing and sale of products from the latter areas will take place predominantly at the end of the project because it will take at least five years for the natural capital to grow to a point where it is yielding large amounts of saleable products. A further phase of the project is envisaged (subject to availability of resources) which would support the natural resource-based businesses further by establishing financial instruments, building infrastructure (e.g. food storage and processing facilities), and ensuring that full value chains – from farm gate to international market – are in place. The theory of change underpinning the project is presented in section 4.2 below and in diagrammatic form in Annex II.  **The project’s intervention logic**  EbA interventions. The EbA approach has been defined as the use of ecosystems – and generation of associated goods and services – as part of a strategy to adapt to climate change. Such an approach is increasingly recognized as a highly cost-effective means of adapting to climate change[[11]](#footnote-13),[[12]](#footnote-14),[[13]](#footnote-15). Specific EbA interventions implemented in the proposed GCF project will vary between the four proposed pilot regions (Lower River, North Bank, Central River and Upper River Regions) and the specific areas identified for inclusion in project activities by each participating community. Land managed by communities who have recently (as of September 2015) been granted formal management rights to 50 national forest reserves will be prioritized for the EbA interventions. Maps of all confirmed forest reserves – including the 50 which have recently been transferred to community management – and lists of adjacent communities, are presented in Annex I. Examples of EbA interventions that will be used to increase the supply of ecosystem goods and services under climate change conditionsinclude: a) restoration, enrichment planting and sustainable management of forest reserves and conservation areas, including ecosystems such as tropical forest, woodland, savanna and mangroves; b) planting a diverse variety of useful and commercially valuable plant species within and adjacent to farmlands and households; and c) restoration of degraded, marginal or eroded land, with a particular emphasis on roadside verges, abandoned agricultural land and degraded riparian areas, using locally adapted and climate‑resilient plant species that will generate adaptation benefits and/or commercially useful products.  The adaptation benefits and natural resource base that will be generated by the project’s EbA interventions will includethe increased supply of commercially valuable products such as hardwood and softwood timber, firewood, fruits, honey, medicine, fibre, fodder, and handicrafts. Furthermore, the project will increase the livestock‑carrying capacity of public and reserved grazing areas by increasing the availability of forage, thereby increasing the productivity of livestock and supply of venison. Similarly, the restoration of mangrovesand degraded riparian areas will support the productivity of the artisanal fishing sector by increasing the availability of feeding and breeding habitats for various fish species. In the vicinity of villages and agricultural land, the project’s EbA interventions will includeadoption of climate-resilient agricultural techniques such as conservation farming, demonstration of improved and locally adapted crop varieties, biodiverse agroforestry and ‘home gardens’[[14]](#footnote-16) of herbs, shrubs and trees. The diversity of local and exotic plant species in such home gardens ensures that there is consistent agricultural productivity through the year and during extreme climate events, thereby providing an important buffering effect against climate change. At a landscape scale, the targeted restoration of priority degraded areas will reduce the rate of soil erosion and increase the infiltration of rainwater by soils, thereby increasing the recharge of groundwater and simultaneously reducing the deposition of sediment into the Gambia River. Finally, the large-scale restoration of degraded areas will support the development of Gambia’s ecotourism tourism sector by improving landscape aesthetics and increasing the habitat for biodiversity.  The location of the project’s EbA interventions will be carefully selected to maximise the return on investment. For example, priority interventions would include re-vegetation of soil types that are particularly erosive, and restoration of degraded riparian zones that are well positioned for trapping sediment before it enters rivers. Importantly, the restoration of the degraded ecosystems will be carefully tailored – based on rigorous scientific research, local knowledge and lessons learned from other initiatives – to manage the expected climate change conditions. For example, depending on the particular environment, plant species that are drought-resilient, tolerant to increased salinity, tolerant of extreme temperatures, and/or effective at binding topsoils during extreme rain events would need to be selected.  Credible financial models: The project’s EbA interventions will be specifically tailored to increase existing income streams for local communities and government revenue, and to create opportunities for the establishment of new natural resource-based businesses. Importantly, the return on investment on EbA interventions will be rigorously analysed for each proposed project site (at the village level) using the Market Analysis and Development (MA&D) process[[15]](#footnote-17)currently in use by the GoG, namelyanalyses of: a) market sustainability; b) resource sustainability; c) social/institutional sustainability; and d) technical sustainability. In addition, the commercial viability of establishing businesses that use the goods produced from the EbA investments will be assessed through rigorous scientific monitoring and evaluation over the course of the project implementation period. For example, the project will determine the monetary value of increasing: a) supplies of ecosystem-derived products (e.g. venison, fish, fruit, fibre, fuelwood, timber, medicines, honey, and water); b) agricultural production (e.g. groundnuts, maize, rice, cattle, goats and sheep); and c) ecosystem services (e.g. soil conservation, enhanced water supplies, improved water quality in feeder streams and the Gambia River, enhanced groundwater recharge, and greater biodiversity). Furthermore, the commercial viability of establishing businesses in sectors such as ecotourism and export of products from natural resources will be analysed. Precedents for such analyses include: market studies by the IFC within the Pilot Program for Climate Resilience[[16]](#footnote-18), cost-benefit analyses of EbA in Lami Town, Fiji project[[17]](#footnote-19), and IRR calculations for restoration of degraded subtropical thicket[[18]](#footnote-20), grasslands, wetlands, shrubland and forests[[19]](#footnote-21). The evidence base that emerges from these analyses will be used to leverage additional funds from public budget allocations such as the National Forest Fund (NFF) as well as from private sector investors. It will also be used to develop bankable business plans for large-scale EbA within The Gambia.  Leveraging of funds for upscaling of EbA:Several complementary financial instruments will be used to promote the upscaling of EbA across The Gambia. These will be based on approaches demonstrated by other past and ongoing national initiatives in the country. Potential models and financial instruments to be investigated and validated during the project implementation period include: a) an increased allocation of municipal and sectoral government budgets such as the NFF to EbA interventions;b) matching grants committed by public-private partnerships as well as private entrepreneurs to EbA investments; c) concessional loans to entrepreneurs investing in EbA; d) micro‑finance facilities for EbA investments; e) risk-sharing facilities provided to micro-finance institutions and credit unions (based on models such as USAID’s Development Credit Authority) for EbA investments; and f) REDD+ financing. The identification and development of appropriate financing mechanisms will be strongly dependent on accurate assessments of the rate of return of investments. The project will consequently focus on providing representatives of participating rural communities with technical support on business record-keeping, profit and loss statements, cash flow analyses, market research, development of contracts and company structuring.  In terms of allocation of government budget, it is anticipated that the National Forest Fund (NFF) will be an important source of public finance to sustain, replicate and upscale the project’s investments in EbA. This is because the project’s EbA interventions will directly increase the generation of revenue for the NFF by: i) promoting the establishment of community-managed natural resource-based businesses in community co-management forest and conservation areas (of which 15% of all revenue is paid to the NFF); ii) upscaling the production and sale of commercially valuable tree species at Regional Forestry Office (RFO) nurseries; and iii) re-establishing revenue-generating activities from state-managed Forest Parks such as issuance of licenses for firewood collection by accredited collectors.  In addition to promoting increased allocation of public budget to upscaling of EbA, the development of viable natural resource-based businesses will provide a strengthened evidence base for promoting national and international private sector investments in EbA. The Gambian Chamber of Commerce and Industry (GCCI) will play a leading role in promoting such investments via regional trade fairs and investment forums. It will also facilitate access to loans and grant-matching facilities, and provide guidance and technical support to emerging natural resource-based businesses.  The primary means of funding the establishment of the natural resource-based will be the disbursement of small seed funding grants through the Social Development Fund (SDF)[[20]](#footnote-22). The SDF is an independent non-governmental organisation (NGO) that serves as a wholesale credit provider to micro-finance institutions (MFIs), credit unions and national banks. The project will adapt the lending criteria and good practice guidelines established by past initiatives of the SDF to identify and provide financial, technical and administrative support to applicable natural resource-based businesses. Technical and administrative support provided by the SDF will include assistance to establish a financial management committee, management by-laws and mechanisms for conflict resolution. Furthermore, participating communities will be provided with training in financial numeracy to ensure that a consistent standard of record‑keeping is maintained in order to develop clear business proposals that will reduce the risk of underperformance of loans. The seed grant funds established by the project will be managed by the SDF as a revolving fund to be maintained beyond the project implementation period, thereby ensuring the sustained availability of funds for establishment of natural resource-based businesses across the country.  A new national EbA agenda: The commercial viability of large-scale EbA in the Gambia River Basin will also depend strongly on the participation and support of a wide range of stakeholders and economic sectors, from village level to national government. The proposed GCF project will consequently work closely with Gambian national and local authorities to develop this support and to ensure that the needs of recipient local communities are taken into account. During the project, a national strategy on EbA will be developed in consultation with a wide range of economic sectors. Importantly, this strategy will be strongly integrated into the existing National Adaptation Plan (NAP) process within The Gambia. The ongoing process of decentralisation of natural resource management (including *inter alia* community forests,forest reserves and conservation areas) to community-based committees will provide a particularly important entry point for integrating EbA into land-use planning. This will take place through the development of 5- and 10-year management plans for community co-managed areas. At the village level, detailed land use plans will be developed for inclusion in the management plans, including details such as where: a) intensive agriculture should take place; b) ecosystems should be restored; c) community forests should be expanded; and d) land should be set aside for future infrastructural developments. Of great relevance for the project is the precedent within The Gambia for establishing and maintaining community forests. The Ministry of Environment, Climate Change, Forestry, Water and Wildlife (MoECCFWW) is for example presently fully committed to transferring management rights of at least 200,000 hectares of forests to decentralised Community Forest Committees[[21]](#footnote-23),[[22]](#footnote-24). These transparent structures for community governance of natural resources (such as forest reserves and conservation areas) are ideal entry points for integration of EbA into mid- and long-term planning of land use across The Gambia.  A cost-effective approach. The proposed GCF project will primarily achieve cost-effectiveness by using an EbA approach.A growing body of scientific research demonstrates that past initiatives which included EbA measures resulted in a greater ratio of benefits to costs compared with the use of infrastructural measures for adaptation[[23]](#footnote-25),[[24]](#footnote-26). Similarly, in a recent in-depth review of strategies for sustainability, restoration of natural capital was deemed the most cost-effective approach when compared with both technology change and social behavioural change[[25]](#footnote-27).  The proposed GCF project will maximise the cost-effectiveness of the EbA interventions as follows. Firstly, during the implementation phase of the project, analyses of the potential EbA interventions to be undertaken at each site will include consideration of cost‑effectiveness and potential return on investment. Secondly, a dedicated project management unit will be established to ensure that all EbA interventions are implemented in a rigorous and timeous manner according to detailed protocols for different landscapes. Thirdly, local communities and regional extension officers will be intensively trained in the implementation of EbA. Fourthly, the project will build on other projects that have been implemented to increase the climate resilience of local communities in The Gambia. For example, lessons learned through the GEF/UNDP-funded project “Enhancing Resilience of Vulnerable Coastal Areas and Communities to Climate Change”[[26]](#footnote-28) will inform the design of EbA interventions for the proposed GCF project. Similarly, interventions of the proposed GCF project that strengthen institutional capacity and establish an enabling policy environment for EbA in The Gambia will build upon and upscale the work of projects such as Phase 1 and 2 of the GEF/UNEP-funded project “Strengthening of The Gambia’s Climate Change Early Warning Systems”. And fifthly, the project will identify opportunities to increase cost-effectiveness by building on the capacities, information and infrastructure established by past and ongoing initiatives. For example: a) the identification of viable natural resource-based businesses will be informed by economic data generated by the MA&D process; and b) the ongoing implementation of existing policies to decentralise management of natural resources across an area of at least 200,000 hectares to community-based committees will provide a rapid and cost-effective means of integrating EbA into land use planning at the village level.  Building on a well-established baseline of past initiatives.The proposed GCF project will be supported by the investments of multiple relevant past and ongoing initiatives. These include initiatives focused on climate change adaptation and mitigation (for example, past and ongoing GEF-financed projects implemented by UNEP and UNDP) as well as national initiatives such as the ongoing implementation of the MA&D process through the Department of Forestry. The total value of investments contributed by these baseline initiatives is estimated to be ~US$ 27,851,000, including investments made before the proposed GCF project’s implementation period. The total value of co-financing investments that will be made during the proposed project implementation period (2016 – 2021) is estimated to be at least ~US$ 11,324,000. A summary table which describes the baseline initiatives is attached to this document as Annex VI.  The three components of the proposed GCF project and associated Outcomes, Outputs and Activities are presented below.  **Component 1: Large-scale Ecosystem-based Adaptation (EbA) to build a climate-resilient natural resource baseacrossThe Gambia.**  *Outcome 1: EbA interventions in agricultural landscapes and degraded ecosystems provide adaptation and commercial benefits for local communities, government and the private sector in The Gambia.*  Output 1.1: Protocols for large-scale EbA to build climate-resilient natural capital in The Gambia   * Take stock of existing EbA, biodiversity and conservation projects in the Gambia. Identify the approaches, lessons learned and best practices emerging from these projects.   + Review and analyse information generated by: a) the MA&D process; b) decentralised management of natural ecosystems; c) rural enterprise and business development; d) climate-resilient agricultural practices, livelihood substitution and strengthening; e) public-private partnerships; and vi) the Forest Farm Facility (FFF)[[27]](#footnote-29).   + Identify extension officers and government officials who have participated and/or benefited from training and capacity-building through the abovementioned initiatives. * Establish and train technical working groups – comprised of local scientists, extension officers, engineers, planners and village leaders (i.e. El Kalos) –to design ecosystem-specific protocols for EbA[[28]](#footnote-30) in agricultural landscapes and forest ecosystems. Where appropriate, technical working groups established through the FFF will be used.   + Technical working groups will adopt a multi-disciplinary approach such that social scientists, horticulturalists, wildlife biologists, ecologists, geologists and hydrologists etc. provide regular input into refining of the EbA protocols through time.   + Representatives from the National Adaptation Plan (NAP) Team (including representatives from 13 organisations within the public and private sector) will be included in these working groups.   + Selection of priority sites for inclusion in EbA restoration and management measures in Lower River, North Bank, Central River and Upper River Regions (including those sites specified in Annex I) will be validated and updated (if necessary) by these working groups.   + Selection of EbA intervention sites will emphasise the identification of multiple neighbouring communities to increase cost-effectiveness and to support a landscape-level approach to EbA.   + Sites to be prioritised for inclusion in EbA interventions will include *inter alia*: i) publicly accessible areas such as agricultural and homestead areas, riparian areas and roadside verges; and ii) degraded forest, savanna and woodland areas that are co-managed by government and local communities. These include *inter alia* Community Forests (CFs), Jointly Managed Forest Parks (JMFPs), Jointly Managed Wildlife Parks (JMWPs) and Community Controlled State Forest Management Areas (CCSFMAs).   + Factors to be taken into account by the technical working groups when developing the protocols will include *inter alia*:   + the importance of using plant species which are indigenous to The Gambia and which do not damage soil quality[[29]](#footnote-31);   + traditional knowledge on ecosystem restoration and management techniques;   + climate data – from existing and foreseen Early Warning Systems[[30]](#footnote-32) in The Gambia – for assessing effects of climate change on ecosystems (e.g. for advising farmers on management of ecosystems during different seasons);   + alignment with The Gambia’s policy to maximise use of labour in public works constructions;   + alignment with priority activities and approaches promoted by relevant national strategies and action plans on climate change, including the draft National Climate Change Strategy and the NAP process (both ongoing as of September 2015);   + the potential need for construction of infrastructure to complement EbA (such as dykes to prevent salt water intrusion into agricultural landscapes);   + the need for protection of agricultural crops from wildlife such as hippopotami;   + requirements for upgrading and/or rehabilitating transport infrastructure to increase access to markets for natural resource-based goods; and   + the need for supporting facilities and equipment for processing – e.g. food-processing, packaging, storage and cooling facilities – close to communities and markets. * Develop protocols for EbA interventions that will enhance goods and services from ecosystems under conditions of climate change across Lower River, North Bank, Central River and Upper River Regions in agricultural landscapes and degraded ecosystems.   + The protocols for EbA interventions in agricultural landscapes will focus on techniques that will provide adaptation and commercial benefits 2–5 years after project inception. These interventions will include:   + agroforestry-based practices such as planting useful, nitrogen-fixing species (e.g. *Parkia biglobosa*) on the edges of agricultural lands and/or upland rice paddies;   + control of soil erosion through planting the borders of degraded roadside verges, riparian areas and agricultural lands with shrub and tree species that provide valuable products (e.g. fruit, medicine, timber, fibre) including *inter alia Adansonia digitata* (baobab), *Landolphia heudelotti* (folley), *Saba senegalensis* (kabba), *Combretum micranthum* (Kinkilaba), *Dialium guineense* (Kosito), *Vitex doniana* (Kutufingo), *Parkia biglobosa* (netto), *Spondia mombin* (Ninkongo), *Ziziphus mauritania* (Tomborogo), *Gmelina leichhardti*, *Khaya senegalensis* (mahogany), *Elaeis guineensis* (Oil palm) and *Borassus aethiopum* (rhun palm)   + introduction of multi-species home gardens that will provide benefits throughout the year, including cashews, cassava, groundnut, mangos, netto (*Parkia biglobosa*) and Nonkongo (*Spondias mombin*);   + horticultural gardens that will be supported by rainwater-harvesting techniques during dry months (including vegetables such as cabbages, onions, tomatoes and spinach);   + promotion of conservation agriculture techniques such as application of green manure and no-tillage in large-scale agricultural lands (e.g. cassava, groundnut and maize); and   + intercropping with forage species (e.g. *Andropogon gayanus*) and/or legumes (e.g. *Vigna unguiculata*);   + The protocols for EbA interventions in degraded ecosystems will focus on restoring/enriching these landscapes with tree and shrub species that will provide adaptation and commercial benefits in the medium (6–10 years) to long term (>10 years). Examples of such species include *Adansonia digitata* (baobab), *Landolphia heudelotti* (folley), *Saba senegalensis* (kabba), *Combretum micranthum* (Kinkilaba), *Dialium guineense* (Kosito), *Vitex doniana* (Kutufingo), *Parkia biglobosa* (netto), *Spondia mombin* (Ninkongo), *Ziziphus mauritania* (Tomborogo), *Gmelina leichhardti*, *Khaya senegalensis* (mahogany), *Elaeis guineensis* (Oil palm) and *Borassus aethiopum* (rhun palm). * Train technical working groups and extension staff to update EbA protocols using adaptive management, with a strong focus on innovation, experimentation (large- and small-scale) and monitoring/evaluation. This iterative process will also support the NAP process in The Gambia. * Package information and share with relevant ministries and departments to promote an integrated approach to EbA and climate change adaptation (in line with the NAP process).   Output 1.2: Nurseries established/expanded to support investment in a climate-resilient natural resource base across The Gambia   * Expand existing nursery facilities to support large-scale propagation of tree and shrub seedlings for use in the project’s EbA interventions. Expansion of nursery facilities will include:   + upgrading and extension of the existing tree nurseries at five Regional Forestry Offices (RFOs); and   + construction of four satellite nurseries in each of five regions for production of easily propagated tree and shrub species and for hardening of seedlings generated at RFOs. * Develop updated propagation guidelines for the various indigenous and exotic tree and plant species prioritised for inclusion in the project’s EbA interventions (see Output 1.1). * Collect seeds of indigenous plants to be used in the project’s EbA interventions. * Develop business plans and revenue models for the nurseries to continue to provide seedlings to local communities after the closure of the project, including through increased public budget allocation and increased generation of revenue by the National Forest Fund (NFF).   Output 1.3: Training and support for regional extension staff, field officers and local communities to implement EbA protocols for establishment of a climate-resilient natural resource base   * Train staff from the Department of Forestry (DoF), the Department of Parks and Wildlife (DoP&W), the Department of Community Development (DoCD) (regional and extension) and CBOs on: i) implementing EbA protocols developed under Output 1.1 in a scientifically rigorous manner, with a strong emphasis on ongoing monitoring and evaluation; and ii) implementing communication protocols (see below). * Develop communication protocols to ensure that staff from the DoF, DoP&W, DoCD and Community-Based Organisations (CBOs) – including Community Forestry User Groups (CFUGs), Women’s Groups (WGs) and Farmers Groups (FGs) – are communicating regularly and effectively. * Develop participatory methods for involved CBOs to evaluate the effectiveness of the EbA interventions on income streams, supply of ecosystem goods and services, and resilience of rural communities to climate change. This activity will be facilitated by extension staff from DoF, DoP&W and the Department of Community Development (DoCD).   Output 1.4: EbA implemented in agricultural landscapes and degraded ecosystems to build a climate-resilient natural resource base   * Using the protocols developed in Output 1.1, implement large-scale EbA to build a climate-resilient natural resource base that yields goods for consumption and sale across The Gambia. The intervention sites in Lower River, North Bank, Central River and Upper River Regions (including those sites identified in the map in Annex I) will include the following ecosystems:   + forests, savannas and woodlands in Community Forests (CFs), Forest Parks (FPs), Community Controlled State Forest Management Areas (CCSFMAs), Protected Areas (PAs) and Wildlife Parks (WPs) (at least 7,000 ha); and   + agricultural landscapes[[31]](#footnote-33) surrounding villages (at least 3,000 ha); and * Update Village Development Plans (VDPs) and Enterprise Development Plans (EDPs) and integrate EbA protocols into these plans. * Update plans for areas that are co-managed by government and local communities such as CFs, Jointly Managed Forest Parks (JMFPs), Jointly Managed Wildlife Parks (JMWPs) and Community Controlled State Forest Management Areas (CCSFMAs) and integrate EbA protocols into these plans. Further updates of these plans will take place every 5 years according to the ongoing process for revision of community management plans, thereby facilitating an adaptive management approach to EbA.   **Component 2: Development of markets for natural resource-based businesses in The Gambia.**  *Outcome 2: Local and international markets using goods produced from climate-resilient natural resource base strengthened.*  Output 2.1 Technical support for fast-tracking and scaling up the Market Analysis and Development (MA&D) process to develop natural resource-based businesses   * At a national level, assess and update capacity needs and coverage of extension services within the DoF, DoPW and DoCD to support the development and sustained operation of natural resource-basedbusinesses. This will include strengthening the capacity of extension officers to undertake the following activities.   + Securing access/tenure for local communities to establish natural resource-based businesses by:   + improving coordination between relevant stakeholders including *inter alia* the Regional Forest Offices (RFOs), DoF, Ministry of Environment, Climate Change, Forestry, Water and Wildlife (MoECCFW&W), DoP&W, Ministry of Local Government and Lands (MoLG&L) and Ministry of Justice (MoJ); and   + providing technical support to the task force that is being established under the FFF project to clear the backlog of requests for CFs within the national assembly.   + Improving and fast-tracking the existing MA&D process[[32]](#footnote-34) across The Gambia by:   + providing training for extension staff on using the updated implementation manual for the MA&D process; and   + applying this new approach with communities at the project’s intervention sites.   + Developing business skills of CBOs for establishing and sustaining micro, small and medium businesses from natural resource-based products. This will include training on *inter alia* business roles, structures, value chains, marketing, record-keeping, accounting, cash flow analysis, and forward planning. * Identify/validate the selection of CBOs – within participating communities – to develop businesses from a climate-resilient natural resource base.   + Communities will be supported according to demand i.e. work will be conducted within communities that express interest to regional authorities in receiving training and financial support for developing natural resource-based businesses.   + Communities which have formally registered rights of use and which have established five‑year management plans for Forest and Conservation areas in alignment with national forestry policies will be prioritised. * Implement the MA&D process with participating communities at each intervention site to assess the commercial viability of establishing natural resource-based businesses. * Train participating communities on basic entrepreneurship skills to facilitate the establishment of natural resource-based businesses, including through development of revised training programmes hosted by the DoCD’s Multi-Purpose Centres.   + Representatives of Community Businesses will attend DoCD training on at least an annual basis, in addition to which ongoing training will be provided by regional extension officers trained under Component 1. * Provide technical assistance and small seed funding grants to community‑based associations for the establishment of bank accounts dedicated solely to natural resource-based businesses as identified through the MA&D process.   + In line with the Social Development Fund’s (SDF) lending criteria and good practice guidelines established by past initiatives, initial capacity‑building will be informed by the need for communities to manage the finances of their businesses through these bank accounts for at least one year in order to qualify for loans;   + Through the mechanisms established by past projects and initiatives focused on financial inclusion and participation, communities will be provided with assistance to strengthen/establish a financial management committee, including identification of a minimum of three signatories and establishment of by-laws and mechanisms for conflict resolution.   + Communities will be provided with training in financial numeracy to ensure that a consistent standard of record‑keeping is maintained in order to develop clear business proposals that will reduce the risk of underperformance of loans.   Output 2.2 Business plans, forums and financial mechanisms to catalyse private and public investment in a climate‑resilient natural resource base   * Identify existing and new businesses based on processing, packaging and marketing natural resource‑based products and services. These businesses will include *inter alia*:   + pulping, drying and/or packaging perishable fruits such as bumbungo (*Bombax costatum*), netto (*Parkia biglobosa*) mango, Nonkongo (*Spondias mombin*) and baobab to produce juices and foods with added value, increased shelf life and reduced transport costs;   + beekeeping businesses, including improved packaging and collective marketing of honey;   + processing and packaging of natural products to supply regional and international cosmetics markets, notably processed by-products of baobab and bees wax;   + sustainable harvesting and processing of moderate- and high-value timber (e.g. *Khaya senegalensis, Pterocarpus erinaceus, Danielia oliveri, Chlorophora excels*, *Gmelina arborea*) for local construction and/or export;   + processing and packaging of oils from oil palm;   + efficient solar- and biomass-powered drying of perishables such as vegetables or fish to produce foods with added value;   + improving markets for ecotourism based on cultural experiences and bird watching (in line with the guidelines for private sector involvement in natural resources management in the Gambia produced by the DoP&W); and   + improving markets for handicrafts such as furniture constructed with rhun palm fronds and split poles. * Support forums for promoting private sector investment – including both local and international investors – in natural resource-based businesses.   + Develop bankable business plans with local and/or international entrepreneurs based on goods produced from a climate‑resilient natural resource base.   + Participate in national and regional trade fairs[[33]](#footnote-35), commercial investment forums hosted by the Gambian Chamber of Commerce and Industry (GCCI) and bilateral meetings with national banks and credit unions. Showcase the bankable business plans at these events.   + Establish an independent and transparent facility in the SDF for disbursement and management of matching grants and concessional loans to attract and promote private sector investment in natural resource‑based businesses. The proposed Grant Management Facility will be managed by the Social Development Fund (SDF) and will follow the well-established modalities for disbursement of credit and grants to applicable businesses, based on existing criteria including *inter alia* submission of financial records and business plans, establishment of dedicated bank accounts, and definition of by-laws and mechanisms for conflict resolution (in the case of community-managed businesses). The project will contribute to building the capacity of businesses to fulfil such criteria.   + Link potential private sector investors to the facility described above. * Identify innovative financial mechanisms with GCCI for catalysing private sector investment in natural resource-based businesses across The Gambia. Potential models include: i) matching grants committed by public-private partnerships as well as private entrepreneurs; ii) concessional loans to entrepreneurs; iii) micro‑finance (building on research undertaken through the *Microfinance for Ecosystem-based Adaptation to Climate Change* project in Latin America and Caribbean)[[34]](#footnote-36); iv) risk-sharing facilities provided to micro-finance institutions and credit unions (based on models such as USAID’s Development Credit Authority); and v) REDD+ financing. * Strengthen synergies between relevant sectoral priorities and ongoing public investments (facilitated by GCCI), including *inter alia* government priorities and targets related to adaptation (including the ongoing NAP process and drafting of a National Climate Change Strategy) and natural resources, decentralised management of forest and conservation areas, climate change adaptation, agricultural development and economic growth.   Output 2.3 Financing, procurement and maintenance of infrastructure to develop natural resource-based businesses   * Identify infrastructure needs for strengthening existing and developing new businesses based on processing, packaging, storage and marketing of goods produced from a climate-resilient natural resource base[[35]](#footnote-37)(informed by enterprises promoted or identified in Output 2.2).   + Equipment and infrastructure procurement needs may include *inter alia* dry or cold storage facilities for perishable goods, specialised machinery for processing or value-adding of food products, tools and equipment for harvesting and processing timber, and materials for packaging such as jars and bottles.   + Criteria for selection of infrastructure and equipment should include consideration of durability and maintenance needs of specific technologies (and available expertise in‑country to undertake maintenance). Cost-effective and low-maintenance approaches should be prioritised where possible. * Procure identified infrastructure and equipment and install in community Multi-Purpose Centres (MPCs) (managed by DoCD) to develop natural resource-based businesses. * Establish long-term plans for monitoring and maintenance of equipment procured to support natural resource-basedbusinesses.   + Monitoring requirements of equipment procured will be dependent on the durability and technical complexity of specific items. Designated service providers will be appointed to manage the monitoring and maintenance of equipment, to be reviewed on an annual basis dependent on satisfactory performance.   + Required maintenance budgets for infrastructure to support the businesses will be estimated and presented to the DoCD and the Ministry of Finance and Economic Affairs (MoFEA). * Train extension staff from DoCD on utilising and maintaining the procured equipment.   **Component 3: Policy support, institutional strengthening and knowledge generation to support large-scale implementation of EbA in The Gambia.**  *Outcome 3: Institutional capacity of the Governmentof Gambia strengthened to support large-scale implementation of EbA in The Gambia.*  Output 3.1 Strategic recommendations/technical support to: i) strengthen the implementation of existing policies for participatory management and benefit-sharing of a climate-resilient natural resource base; and ii) integrate EbA into these policies   * On an annual basis, compile and summarise the existing requests and claims by community-based committees to be engaged in co-/participatory management of natural resources. * Undertake national and regional assessments of existing capacity gaps and logistical challenges to formally integrate EbA into land-use planning, including through decentralised management of natural resources in CFs, JMFPs, JMWPs and CCSFMAs. * Undertake investment needs assessments to promote optimal return from co-/participatory management of natural resources and EbA investments. These assessments should include *inter alia* requested priorities for investment and staff allocation to Regional Forestry Offices and Wildlife Conservation Offices, respectively. * Review proposed annual public budget allocations to regional facilities with DoF and DoP&W, including elaboration of operational and maintenance costs, required infrastructural investments and staff budgets. * Based on past and projected returns to the National Forest Fund, quantify the estimated funding shortfall for implementation of region-specific objectives for decentralised management of natural resources and implementation of EbA.   Output 3.2 Information Platform to support the development of natural resource-based livelihoods and sectors   * Compile an updated summary of existing market analyses and strategic recommendations generated by past initiatives on natural resource-based businesses, particularly site-specific analyses generated by the MA&D process as well as initiatives such as the FFF. * Compile updated maps of existing and proposed community co-managed areas – particularly with respect to CFs, JMFPs, JMWPs and CCSFMAs – to be hosted on the online information system established by the Department of Water Resources[[36]](#footnote-38) through Phase II of the ongoing Early Warning Systems project (to be completed in early 2016). * Generate summary case studies of successful natural resource-based businesses, including lessons learned on *inter alia* implementation arrangements, return on investment, and best practice principles. * Raise public awareness of the multiple social-economic and environmental benefits of large-scale EbA. This will include highlighting large-scale EbA as a means of developing climate-resilient livelihoods and managing the Gambia. Importantly, awareness campaigns will be designed to remove country-specific social barriers to investment in large-scale EbA. * Produce a ‘state of the art’ publication on how to conduct large-scale EbA in different ecosystem types across the Gambia. This publication will be revised as new information emerges from project interventions and will be strongly aligned with the country’s NAP process. * Develop a strategic framework to promote long-term national research on EbA, including the large-scale EbA interventions implemented by the GCF project as well as other initiatives, to assess and increase the effectiveness of EbA approaches demonstrated in The Gambia.   + The proposed long-term research framework (LTRF) should include suggested priority research projects to be undertaken to address identified information gaps and needs to promote the widespread adoption of EbA. Information gaps to be addressed by the LTRF should include consideration of ecological and biophysical factors related to EbA interventions, as well as socio‑economic factors related to the long-term effects and perceptions of EbA.   + The LTRF should identify potential national, regional and international institutions and experts to collaborate on long‑term research in The Gambia, including identification of opportunities to collaborate with other developing countries in the context of South-South Cooperation.   + Research topics and methods should focus on emerging information and data priorities to support Gambia’s efforts to respond to climate change. In particular the research framework should be explicitly linked to information gaps identified through the ongoing NAP process. * Refine large-scale EbA protocols and land use planning based on the following studies:   + A review of historical trends of land-use change (e.g. agriculture, urban settlement, conservation).   + Development of future land-use change scenarios based on predicted socio-economic development in The Gambia, including 'business-as-usual', 'planned' and 'large-scale EbA' futures.   + A review of current and predicted climate change patterns for The Gambia. This will include downscaling of global models.   + An assessment of the predicted effects of climate change and land-use change on ecosystem goods and services, biodiversity and community livelihoods.   Output 3.3 Policy recommendations to support large-scale implementation of EbA and development of natural resource-based businesses in The Gambia.   * Identify local as well as national policy barriers to planning, financing and implementing large-scale EbA based on lessons learned through the GCF project. * Document the socio-economic results from businesses that benefit from the project’s large-scale EbA interventions for dissemination amongst policy makers in the Gambia. * Identify policy options for promoting large-scale EbA as a means of managing natural resources in The Gambia and simultaneously developing businesses from a climate-resilient natural resource base.   + Opportunities for mainstreaming EbA into national development planning will include the upcoming revisions to the Agricultural and Natural Resource policy, Vision 2020 (the next phase of Vision 2016) and the ongoing articulation of The Gambia’s national and sectoral responses to climate change. * Based on lessons learned through the GCF project, develop a national EbA upscaling strategy. * Undertake workshops with the National NAPs Team on climate change and land-use change effects, EbA interventions, lessons learned through the GCF project and proposed policy revisions to promote and upscale EbA. * Pilot the mainstreaming of large-scale EbA into national policy and legislative processes in The Gambia. This will be strongly aligned with the iterative National Adaptation Plan (NAP) and Intended Nationally Determined Contributions (INDC) processes in the country[[37]](#footnote-39). |
| 2.2. Background information on project/programme sponsor | Describe project/programme sponsor’s operating experience in the host country or other developing countries.Describe financial status and how the project/programme sponsor will support the project/programme in terms of equity, management, operations, production and marketing.  UNEP is experienced in the implementation of projects that promote adaptation to climate change at global, regional and national levels. Through the implementation of these projects, UNEP develops innovative solutions for national governments and local communities to adapt to the current and predicted effects of climate change in an environmentally sound manner. This is achieved by: i) providing methods and tools to support decision-making; ii) addressing barriers to implementation; iii) testing and demonstrating proposed solutions; and iv) enhancing climate resilience by restoring valuable ecosystems that are vulnerable to climate change. UNEP has accumulated a substantial knowledge base through its experience of implementing previous and ongoing projects. This experience is globally recognised and includes community-based and natural resource management projects. The agency will draw upon this experience during the implementation of the project. UNEP also has strong technical and scientific capacity in the field of climate change. Specifically, the agency’s work on climate change adaptation focuses on three main areas: i) Science and Assessments; ii) Knowledge and Policy Support; and iii) Building the Resilience of Ecosystems for Adaptation. More recently, as mandated by its Governing Council, UNEP has initiated the EbA[[38]](#footnote-40) Flagship Programme which focuses on adaptation using an EbA approach.  UNEP’s EbA Flagship Programme represents a shift in focus in the realm of adaptation to climate change. In 2011, this programme was commended at the 17th meeting of the Conference of the Parties to the UNFCCC (CoP17). It has also been endorsed by the IUCN, the EC and GEF through the Operational Guidelines on “Ecosystem-Based Approaches to Adaptation”[[39]](#footnote-41). UNEP was therefore an important institution contributing towards a definition of EbA for the UNFCCC negotiations. The EbA approach is multidisciplinary and involves managing ecosystems to enhance their resilience. The approach uses ecosystem services to promote climate change adaptation and disaster risk management. In addition, it provides a platform for engaging a broad range of stakeholders and sectors in the adaptation process. The EbA interventions of this proposed GCF project are strongly aligned with UNEP’s current work on climate change.  UNEP has undertaken numerous projects where innovative solutions and methodologies are demonstrated at regional, national and local levels. This includes past and ongoing initiatives in The Gambia as well as elsewhere in West Africa. All such projects comply with the mandate from the UNEP Governing Council, as detailed in the Bali Strategic Plan for Technology Support and Capacity-building.UNEP is uniquely positioned to implement the innovative approaches to climate change adaptation proposed for this GCF project as a result of UNEPs position at the forefront of efforts to address climate change. In terms of adaptation, the activities of UNEP emphasise the integration of planning, financing and the profitability of the adaptation measures and the national development process based on scientific evidence, climate change impacts and local context. Importantly, UNEP differs from other agencies (e.g. FAO, IFAD, WB) in that its core business is providing technical advice on managing environments in a sustainable manner. This gives UNEP a comparative advantage in implementing the project. There are multiple factors affecting ecosystems and managing this complexity requires a dedicated focus as well as in-depth ecological expertise. UNEP can provide both the requisite focus and scientific expertise to meet this challenge.  UNEP has a well-established relationship with the GoG and has previously supported the implementation of national projects related to climate change adaptation. For example, UNEP recently implemented the GEF-LDCF project entitled “Strengthening of The Gambia’s climate change Early Warning Systems” in cooperation with MoECCWW through the Department of Water Resources (2011–2015). As a result of the experience of these past projects, UNEP has established ongoing relationships within the national Executing Entity (EE) MoECCWW and other ministries and departments within GoG. Consequently, UNEP is well‑placed as the GCF Accredited Entity (AE) to oversee the efficient and effective delivery of the project’s objectives through the EE. |
| 2.3. Market Overview | The proposed GCF project will develop an enabling environment for the development of climate-resilient, natural resource-based businesses to supply local, regional and international markets. The project will prioritise the development of community‑based businesses for existing natural resource-based products that arelocally available and for which there is an established demand. Existing businesses – known as Community Forest Enterprises (CFEs) within the Department of Forestry – will in particular be prioritised. The project will take a phased approach to the development of markets and value chains for the various natural resource-based products. The initial phase of the project will prioritise the development of value chains for locally marketed products, while the latter phase of the project will identify opportunities and promote investment in products which can be exported to international markets.  Concurrent with the establishment of businesses based on existing natural resources, the project will increasethe supply of goods from a climate-resilient natural resource base through large-scale investments in EbA using climate-resilient plant species that generate useful or valuable products. Consequently, the returns generated by the project’s investments are likely to mature during the later stages of the project implementation as a period of ~five years will be required for generation of products such as fruit, fibre, medicine, timber and wildlife from the EbA interventions.The information below provides an overview of the type of income streams that are likely to be generated by the end of the project. Detailed assessments of the feasibility and commercial viability of businesses based on the following income streams will be included as part of the full project proposal.  Natural resource-based income streams: Large-scale EbA interventions in a range of ecosystems, including woodlands, savanna, wetlands and mangroveswill increase the supply of a wide range of ecosystem goods and services. This will provide opportunities for entrepreneurs to generate new income streams and increase existing income streams derived from natural resources. Some of these income streams will be derived from exports (e.g. timber, fish, agricultural produce) thereby capitalising on one of the Gambia’s main competitive advantages, namely its proximity to Europe and its use as a shipping node between the EU and its trade partners.  Forest products: EbA interventions will increase the supply of valuable forest products for subsistence consumption as well as for sale on local and international markets. Commercially valuable products are generated by trees such as Rhun palm[[40]](#footnote-42)(fruits, fibre and timber), African locust bean[[41]](#footnote-43)(food and medicine), African oil palm[[42]](#footnote-44)(palm oil), African mahogany[[43]](#footnote-45) (timber and medicine), jujube[[44]](#footnote-46)(fruit and building material), tamarind[[45]](#footnote-47) (timber, food, medicine)*;* baobab[[46]](#footnote-48)(food, medicine and fodder); black plum[[47]](#footnote-49)(timber, food and medicine); muninga[[48]](#footnote-50)(livestock fodder and sap used as a dye) and Cayor pear tree[[49]](#footnote-51)(medicine and food).In particular, planting tropical hardwood trees to produce timber for local and export markets is an investment that is likely to provide attractive financial returns in the long-term[[50]](#footnote-52),[[51]](#footnote-53)**.** The production and harvesting of honey to supply the local market is in addition a business opportunity which will be supported by EbA interventions. Furthermore, there is considerable unexploited potential to increase the income generated from natural resource-based products through investments in value addition, processing, packaging and collective marketing.  Tourism/ecotourism: The Gambia is known as a “winter sun” tourism destination by Europeans, with tourism contributing ~15% of national income and ~30% of export earnings. Although international bird watching enthusiasts do visit The Gambia, the ecotourism sector is relatively underdeveloped and has only a limited number of service providers (inbound tourism operators and guides). The large-scale EbA interventions in the proposed GCF project will increase The Gambia’s competitiveness as a safari/ecotourism destination by: a) increasing the carrying capacity of the woodlands and savannas for wildlife; b) increasing the fishing opportunities on The Gambia River; and c) improving landscape aesthetics as well as increasing biodiversity over large parts of The Gambia by restoring vegetation cover in ecosystems such as woodlands, savannas, wetlands and mangroves. These changes to The Gambian landscapes will enable the country to increase its share of the international ecotourism market, valued at ~US$600 billion[[52]](#footnote-54).  Fisheries: There is a strong export as well as local fisheries market in The Gambia. The fish export market in 2007 was worth ~US$3 million, and the latest available data show an upward trend in quantities of fish being exported (405 tonnes in 2004 versus 1,480 tonnes in 2007)[[53]](#footnote-55). Local fishing markets and subsistence fishing in the Gambia River support the livelihoods of ~200,000 rural Gambians, particularly women[[54]](#footnote-56). The export and local fishing markets have the potential to be expanded through the restoration of degraded ecosystems such as mangroves. Furthermore, there is considerable potential for expanding the aquaculture industry in the Central River Region of The Gambia. To date, the production of shrimps, oysters and a range of fish species – including catfish and tilapia – has been explored in pilot aquaculture projects[[55]](#footnote-57). All of these products have the potential to be exported to Europe and sold in local markets.Large-scale EbA interventions will facilitate the expansion of such aquaculture businesses because the interventions will protect the natural resource base underpinning the industry – namely the supply of fresh water without heavy sediment loads into the Gambia River. Expansion of the aquaculture industry will also contribute to preventing unsustainable extraction of fish from the Gambia River. In addition, it will promote private sector businesses based on the processing and transport of fish products. |
| 2.4. Regulation, taxation and insurance | Provide details of government licenses, or permits required for implementing and operating the project/programme, the issuing authority, and the date of issue or expected date of issue.Describe applicable taxes and foreign exchange regulations.Provide details on insurance policies related to project/programme.  Environmental Impact Assessments will be undertaken where required according to the Gambian law and UNEP’s Environmental, Social and Economic Sustainability Framework. |
| 2.5. Implementation Arrangements | Describe construction and supervision methodology with key contractual agreements. Describe operational arrangements with key contractual agreements following the completion of construction.Provide a timetable showing major scheduled achievements and completion for each of the major components of the project/programme.  The GCF-financed project will be implemented over a six-year period from 2016 to 2021. The project will be executed by the Ministry of Environment, Climate Change, Water and Wildlife (MoECCWW) in coordination with UNEP, the GCF Accredited Entity (AE). As the national Executing Entity (EE), MoECCWW will coordinate the implementation of the project primarily through the Departments of Forestry (DoF) and Parks and Wildlife Management (DoPWM). As the AE, UNEP will be responsible for: a) overseeing the implementation of the project in coordination with the Project Steering Committee (PSC) and the Project Management Unit (PMU); and b) providing technical assistance to meet the project’s objectives.A Task Manager (TM) – based in UNEP’s Department of Environmental Policy Implementation’s Climate Change Sub-Programme – will be responsible for project supervision to ensure consistency with GCF and UNEP policies and procedures. The TM will formally participate in the following: i) Annual Project Steering Committee (PSC) meetings; ii) the mid-term and final evaluations; iii) the clearance of periodic Progress Reports and Project Implementation Reviews; and iv) the technical review of project outputs.UNEP will establish a Project Cooperation Agreement with MoECCWW to establish clear responsibilities for delivery of the proposed activities, determine requirements for disbursement and oversight of funds, and to establish agreed supervisory roles.  The Ministry of Finance and Economic Affairs (MoFEA) will be the Designated National Authority (NDA) responsible for endorsement of the GCF project proposal. As NDA, the role of MoFEA includes providing oversight to submission of requests for GCF support on behalf of the Government of Gambia, and to ensure that GCF project activities are well‑coordinated and in alignment with national priorities.  The PSC will comprise representatives of the EE, the AE and the NDA, in addition to representatives of *inter alia*: the Ministry of Agriculture (MoA); Ministry of Lands and Governance (MoLG) through the Department of Community Development (DoCD); the Gambian Chamber of Commerce and Industry (GCCI) and the Social Development Fund (SDF). The PSC will also include the Project Coordinator (PC) and the Chief Technical Advisor (CTA) (see below for a description of the roles of the PC and CTA, respectively). The chair of the PSC will be the Secretary of the Ministry of Environment, Climate Change, Water and Wildlife. The PSC will primarily serve to provide project oversight and advisory support, including: a) overseeing project implementation; and b) reviewing annual workplans and project reports, including approval of any changes to the project’s targets, activities or timelines. The PSC will meet at least twice a year – with *ad hoc* meetings held as and when necessary – to discuss the project's main performance indicators and provide strategic guidance. Any changes made by the PSC to the project’s results framework or timeline will be communicated to the PMU by the PC.  The PMU will consist of a national Project Coordinator (PC), a national Project Manager (PM), a Climate Change and Development Expert (CCDE), and a Financial and Administrative Officer. The PMU will coordinate activities between the project’s AE, EE and various partners to oversee the implementation of the project’s activities.  The PC will be a senior representative of MoECCWW seconded to the project on a part-time basis who will: a) lead and direct the PMU; b) oversee the daily responsibilities of the PM;c) provide administrative and technical expertise; and c) serve as the focal point for interactions between the project stakeholders and partner organisations (e.g. government departments, NGOs, civil society groups).  The PM will be a full-time employee of the project and will be responsible for the day-to-day implementation and management of the project. The PM will: i) report to the PC; ii) manage the project in line with the budget, work plans, and in accordance with GCF and UNEP guidelines; iii) be responsible for in-country financial management and disbursements, with accountability to GoG and UNEP; and iv) work closely with national and local authorities, as well as NGOs, to manage the project effectively at a local level. To achieve this, the PM will *inter alia*: i) provide on-the-ground information for UNEP progress reports; ii) engage with project stakeholders; iii) arrange the PSC, PMU and other meetings; iv) provide technical support to the project, including measures to address challenges to project implementation; and v) participate in training activities, report‑writing and facilitation of expert activities that are relevant to the PM’s area of expertise. The PM will serve as a liaison among the members of the PMU and PSC, the technical experts and the government staff involved in project activities.  The CCDE will be hired on a part-time basis to ensure that project activities result in building climate resilience from local village level to national government level. A full time Administrative and Financial Officer will provide the administrative, logistical and financial support/expertise to the project and will work under the direct supervision of the PC. The responsibilities of the AFO will focus on ensuring that all financial and administrative issues are carried out according to UNEP standard procedures. He/she will make all the necessary administrative steps and financial transactions for project outputs and activities to be delivered according to the established work plan. The AFO will assist the PC and the UNEP TM in all project reporting requirements.  A Monitoring and Evaluation (M&E) Expert will be hired part-time to coordinate the M&E process of the project. The duties of the M&E expert will include: i) establishing a performance monitoring framework to track the project’s progress towards the objective and targets defined in the project document by; ii) measuring the indicators to evaluate the progress of the project in meeting the targets; iii) reporting to the PMU and PSC on the performance of the project towards targets; and iv) supporting the PM in meeting the project objective. As part of his/her responsibilities, the M&E specialist will oversee and monitor the application of gender disaggregated indicators.  A team of consultants with skills on *inter alia* ecosystems, adaptation, economics, private sector business development will also be put in place to support the implementation of this project.The CTA will be employed as a part-time consultant to provide technical guidance on EbA.  For further details on implementation arrangements see the diagram in Annex IV. For a proposed timeline of major milestones, please see attached ‘supervision plan’ Excel spreadsheet. |

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| **III. Financing / Cost Information** | | | | | | |
| 3.1. Description of financial elements of the project / programme | | [Template guidance: A financial model that includes projection covering the period from financial closing through final maturity of the proposed GCF financing with detailed assumptions and rationale. A description of how the choice of financial instrument(s) will overcome barriers and achieve project objectives, and leverage public and/or private finance.]  A summary of the project’s costs by components and budget line is presented in the table below. A more detailed summary of the project’s costs, broken down by Outputs within each component, is presented as Annex VII.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Budget line | Component 1 | Component 2 | Component 3 | Total | | Project personnel | 1,222,900 | 1,171,800 | 292,950 | 2,645,800 | | Sub-contracts | 1,815,950 | 4,500,000 | 41,850 | 6,499,650 | | Training | 1,845,800 | 667,400 | 292,950 | 2,806,150 | | Equipment and premises | 5,122,900 | 1,751,100 | 125,550 | 6,999,550 | | Miscellaneous | 711,450 | 83,700 | 83,700 | 878,850 | | PM |  |  |  | 810,000 | | M&E |  |  |  | 360,000 | | Grand total |  |  |  | 21,000,000 |   Project grants will be administered through the DNA within the Ministry of Finance based on submission of annual costed workplans. The country requests that 100% of GCF assistance is committed in the form of grants. GCF grant resources will be used for ‘hard’ investments in EbA interventions that will build a climate-resilient natural resource base, and for procuring equipment and infrastructure to support the establishment of natural resource-based businesses); and ‘soft’ investments in technical support (including *inter alia* detailed market assessments, capacity‑building and training of government extension officers and community members, establishment of EbA restoration protocols).  ‘Hard’ investments made with GCF grant resources for procurement of equipment for the establishment of natural resource-based businesses will be facilitated through a transparent and independent mechanism. This funding mechanism will provide financing to applicable enterprises that conform to a predetermined set of criteria that will be elaborated in the full project proposal and validated at the project implementation stage.  The transparent disbursement of finance will be managed and overseen through the establishment of a dedicated Grant Management Facility to promote sustainable development of natural resource-based businesses. The Grant Management Facility will be managed by the Social Development Fund (SDF), an independent, credible entity with a strong track record of transparent financial management and provision of credit (including direct loans as well as provision of wholesale credit to financial institutions). The SDF will also oversee the management and disbursement of matching grants to encourage large-scale investments by national as well as international private sector entities in natural resource-based businesses. The engagement of appropriate private sector investors to capitalise on the availability of matching grants will be overseen by the Gambia Chamber of Commerce and Industry (GCCI), an independent non‑governmental organisation which has the goal of promoting increased private sector investment in The Gambia. | | | | |
| 3.2. Project Financing Information |  | **Financial Instrument** | **Amount** | **Currency** | **Tenor** | **Indicative Pricing** |
| **Total Project Financing**  **(a) = (b) + (c)** |  | $38.2million | Options |  |  |
| (b) Requested GCF Amount | (i) Senior Loans  (ii) Subordinated Loans  (iii) Equity  (iv) Guarantees  (v) Reimbursable grants \*  (vi) Grants \* | (i) to (v) are not applicable  $21 million | Options  Options  Options  Options  Options  Options | ( ) years  ( ) years | ( ) %  ( ) %  ( ) % IRR |
| *\* Please provide detailed economic and financial justification in the case of grants.*  This information will be provided during the project development phase after conducting a full feasibility study on proposed large-scale EbA interventions. | | |  |  |
| **Total Requested**  **(i+ii+iii+iv+v+vi)** | $21 million | Options |  |  |
| (c) Co-financing | **Financial Instrument** | **Amount** | **Currency** | **Name of Institution** | **Seniority** |
| Grant  Grant  Grant  Grant | 1. $5 million 2. $ 3 million 3. $ 8,36 million 4. $ 864,600 | Options  Options  Options  Options | 1. UNEP 2. Gov of The Gambia 3. UNEP-UNDP LDCF projects 4. EU GCCA | Options  Options  Options  Options |
| Lead financing institution: ……………………… | | | | |
| (d) Covenants |  | | | | |
| (e) Conditions precedent to disbursement |  | | | | |

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| **IV. Expected Performance against Investment Criteria** | |
| Please explain the potential of the Project/Programme to achieve the Fund’s six investment criteria as listed below. | |
| * 1. Climate Impact Potential   *[Potential to achieve the GCF's objectives and results]* | Specify the climate mitigation and/or adaptation impact. Provide specific values for the below indicators and any other relevant indicators and values, including those from the Fund’s Performance Measurement Frameworks.  Summarised contribution to climate‑resilient sustainable development: The targeted beneficiaries of the proposed GCF project are rural Gambian households within and adjacent to community-managed Forest Reserves and Conservation Areas. The project’s EbA interventions will include a variety of activities that will increase the resilience of Gambia’s ecosystems to climate change, thereby reducing the vulnerability of people that depend on these ecosystems. In particular, the EbA interventions of the project will increase the generation of goods and services from degraded natural ecosystems – including forests, savannas and woodlands in Community Forests, Forest Parks, Community Controlled State Forest Management Areas, Protected Areas and Wildlife Parks – and agricultural landscapes surrounding villages in The Gambia. The adaptation benefits that will be delivered by the project will be based on the increased availability of ecosystem goods and services – under the current and future scenarios of climate change – delivered through targeted restoration of degraded ecosystems. The direct benefits of the project will include increased availability of ecosystems goods for household consumption, as well as the increased generation of cash income through the development of businesses based on natural resources. These benefits will increase the resilience of rural Gambian households to the negative effects of climate change, particularly with respect to the effects of rainfall variability and drought on agricultural households. Additional indirect benefits will accrue at the end of the project from: a) the economic growth catalyzed by new businesses capitalizing on the greater supply of the above products; b) the increased productivity of agriculture through adoption of EbA practices that increase topsoil retention and nitrogen fixation within and adjacent to agricultural land; and c) the improved management of water resources in the Gambia River.  Climate change adaptation benefits from ecosystem services:  The project will prioritise the selection of climate-resilient tree and shrub species that generate adaptation and commercial benefits for use in restoration or enrichment planting of degraded ecosystems. For example, climate‑resilientplant species to be prioritized will include those with: a) broad leaves that reduce the impact of erratic, heavy rainfall, thereby decreasing erosion; b) deep or dense root systems that bind soils and promote infiltration of water; c) tolerance to increased frequency and length of weather events such as droughts and/or floods; and d) the ability to fix atmospheric nitrogen (e.g. leguminous species). The project will develop EbA protocols for each intervention site that will include detailed recommendations of appropriate climate‑resilient plant species to address the specific climate change‑related hazards at each site. Examples of EbA interventions that will be demonstrated by the project, and the relative adaptation benefits are detailed in the table below.   |  |  | | --- | --- | | **EbA intervention** | **Adaptation benefits** | | Reforestation and enrichment planting of degraded forests and woodlands | Benefits include: a) reduced soil erosion as a result of binding action of roots as well as increased canopy cover, thereby supporting agriculture through maintenance of soil fertility; b) increased infiltration of rainwater into soils, relative to degraded soil, thereby increasing water security under conditions of climate change; c) increased generation of useful or commercially valuable products such as timber and multiple non-timber forest products (NTFPs), thereby improving household income and food security; d) reduced vulnerability to climate-related hazards, particularly landslides; and e) enhanced biodiversity and improved landscape aesthetics, thereby supporting the development of ecotourism businesses. | | Replanting of degraded mangroves and riparian areas | The restoration of degraded mangroves and riparian areas will primarily address the hazards of salt water intrusion, flooding and erosion. It is anticipated that the variability of rainfall under conditions of climate change is likely to increase the average salinity of the Gambia River, which will result in salinization of agricultural land and groundwater wells. The restoration of mangroves and riparian vegetation will protect the inland fresh groundwater from intrusion by saline water from the river. Furthermore, the revegetation of degraded river banks will reduce the rate of soil erosion, thereby maintaining the stability of river banks while reducing the deposition of sediment into the Gambia River. | | Home gardens/  Home agroforestry | The establishment of small, biodiverse ‘homegardens’ is a well‑known approach to increasing household income and food security through diverse useful or valuable plant species. Benefits of this approach include: a) improved binding of soils by roots, thereby preventing erosion and maintaining topsoil during erratic, heavy rainfall; b) increased provision of food – even under conditions such as drought – thereby increasing food security; c) increased soil fertility as a result of nutrient-rich leaf litter and nitrogen fixation; and d) increased availability of fodder for increased resilience of animal husbandry. | | Planting useful, nitrogen-fixing species on the edges of agricultural lands and/or upland rice paddies, degraded roadside verges and riparian areas | The use of nitrogen-fixing plant species is a well‑established approach of increasing soil fertility, thereby increasing agricultural yields and resource use efficiency. The primary adaptation benefit of this approach is the potential to increase household income and food security. Nitrogen-fixing species which generate additional benefits can also be prioritized to provide alternative resources and livelihoods during times of hardship (e.g. droughts). For example, netto (*Parkia biglobosa*) produces useful fruits, seeds and medicinal products. This approach is strongly linked to the agro-forestry approaches described above. | | Improved vegetable gardens (supported by rainwater-harvesting techniques during dry months) | Rooftop rainwater harvesting is recognised as a relatively low-cost intervention which increases the availability of clean water for household and agricultural use[[56]](#footnote-58). The most notable adaptation benefit of this intervention is increased water availability in the dry season[[57]](#footnote-59). | | Conservation agriculture, intercropping and green manures | The adoption of complementary agricultural techniques that conserve and increase the soil organic matter content improves the productivity of agricultural systems, thereby contributing to food security during times of hardship (e.g. droughts).The Conservation Agriculture (CA) approach is recommended as a climate‑resilient agricultural technique because conservation of soil organic matter increases the fertility and water‑holding capacity of soils. This simple and cost‑effective approach to increasing the climate resilience of agriculture is particularly well‑suited to low‑input rain-fed agricultural systems. The CA approach is compatible with the use of green manures i.e. the use of plant material to increase soil fertility. Intercropping involves planting two or more crops in close association, often focusing on nitrogen-fixing species. This approach can increase the climate‑resilience of agriculture by diversifying the risk of monoculture farming, as well as by increasing soil fertility through planting of nitrogen‑fixing crops. |   The selection of EbA interventions, as well as species to be included in the project’s EbA interventions will also prioritise the identification of species which generate useful or commercially valuable products (see below).  Climate change adaptation benefits from ecosystem goods:  The selection of appropriate EbA interventions – and selection of plant species to be used in EbA – will prioritise plant species which generate useful or commercially valuable products that can be marketed by community-managed businesses. The selection of species to be used in EbA interventions will therefore prioritise the generation of products such as: a) timber, fodder, fibre, resin and medicinal plants, which can provide alternative resources and income during times of hardship (e.g. droughts); and b) food such as fruits, nuts and spices, which increase food security. Examples of species that local communities presently benefit from include *Adansonia digitata* (baobab), *Landolphia heudelotti* (folley), *Saba senegalensis* (kabba), *Combretum micranthum* (Kinkilaba), *Dialium guineense* (Kosito), *Vitex doniana* (Kutufingo), *Parkia biglobosa* (netto), *Spondia mombin* (Ninkongo), *Ziziphus mauritania* (Tomborogo), *Gmelina leichhardti*, *Khaya senegalensis* (mahogany), *Elaeis guineensis* (Oil palm) and *Borassus aethiopum* (rhun palm).  Thegoods generated from the natural resource base established by the project will beharvested, packaged and marketed for sale by community‑based businesses, thereby diversifying and increasing the income of participating households. Furthermore, goods generated by the project – such as fruits, firewood and building materials – will also be directly consumed by households, thereby improving household nutrition and food security while reducing household expenditure of cash.   * Expected total number of direct and indirect beneficiaries and number of beneficiaries relative to total population (e.g. total lives to be saved from disruption due to climate-related disasters)   It is estimated that 50,000 individuals will benefit directly, and 100,000 individuals will benefit indirectly from the proposed EbA interventions over 10,000 hectares (see list of villages and map in Annex I).  Women in The Gambia generally experience a greater incidence of poverty relative to men and are consequently particularly vulnerable to the effects of climate change. The livelihoods of most Gambian women are dependent on natural resources from agricultural landscapes (e.g. crops) or ecosystems (e.g. fish). These natural resources provide income or supplement household food security. Large-scale EbA interventions that increase the supply of these natural resources will consequently generate considerable direct benefits for women. Based on data from existing GEF/UNDP- and GEF/UNEP-funded projects in The Gambia, it is predicted that at least 30% of direct beneficiaries of the proposed GCF project will be women (i.e. ~16,500). Furthermore, it is predicted that the indirect benefits of the project will be evenly distributed between men and women. |
| * 1. Paradigm Shift Potential   *[Potential to catalyze impact beyond a one-off project or programme investment]* | Provide the estimates and details of the below and specify other relevant factors.   * Potential for scaling-up and replication (e.g. multiples of initial impact size) * Potential for knowledge and learning * Contribution to the creation of an enabling environment * Contribution to the regulatory framework and policies   The large-scale nature of this proposed GCF project distinguishes it from all other ecosystem restoration projects undertaken to date in The Gambia – all of which have been conducted over relatively small areas (a maximum of hundreds of hectares). Additional differences between the proposed GCF project in The Gambia and adaptation projects funded through other climate change funds (e.g. LDCF, SCCF, and Adaptation Fund) are highlighted in the table below.   |  |  |  | | --- | --- | --- | | **Component** | **Conventional adaptation projects** | **Proposed GCF project** | | Ecosystem-based adaptation | Immediate, localised priorities over tens or hundreds of hectares are addressed. The interventions consequently do not usually affect ecological processes across entire landscapes. For example, soil erosion within a sub-catchment is not meaningfully altered. | The proposed GCF project will be considerably more extensive than a conventional adaptation project, in terms of geographic scale. EbA will be implemented over ~10,000 hectares, thereby reducing soil erosion and enhancing ecosystem goods and services at the scale of landscapes and sub-catchments. | | Markets | Alternative climate-resilient livelihoods for individuals are developed and access to markets for existing products is improved. | The proposed GCF project will contribute to the development ofnew and existing economic sectors and industries in The Gambia based on products derived from natural resources (e.g. ecotourism, indigenous fruits/fibres/medicines). New and innovative business models, value chains and funding mechanisms will be developed to establish commercially viable businesses to supply local, regional and international markets. | | Policy | Minor revisions are made to relevant policies to mainstream improved management of natural resources under climate change conditions. | New, innovative approaches and governance structures will be developed through the proposed GCF project to promote a paradigm shift that results in major investment into building a climate-resilient natural resource baseacross The Gambia. ‘Learning institutions’ that develop and refine large-scale EbA protocols and improve models for natural resource-based businesses will be developed. |   The proposed paradigm shift in this GCF project is to change the behaviour and mindset of Gambian society such that Gambian decision-makers in government and the private sector invest intensively in growing their natural resource base to build resilience to climate change and to strengthen economic sectors such as ecotourism, indigenous fruits/fibres/medicines, and tropical hardwoods. This change in behaviour and mindset will be undertaken by: a) demonstrating to the government and the private sector the value of public goods generated by large-scale EbA as well as the commercial viability of large-scale EbA interventions; b) working with GCCI, the Department of Community Development (DoCD) and other relevant stakeholders in country to create an enabling environment for natural resource-based businesses to establish and expand (using products derived from existing ecosystems and the large-scale EbA interventions); c) strengthening institutional capacity to plan and implement large-scale EbA interventions; and d) strengthening policies, business models, governance mechanisms and funding instruments for promoting further large-scale EbA investment by government and the private sector. At present in The Gambia, investing in natural resources is not perceived by government or the private sector as viable economically (for society as a whole) or commercially (for private sector businesses). The proposed GCF project aims to change these perceptions – via points ‘a’ to ‘d’ above – across Gambian society, from village-level through to national government. The change in perceptions will result in a transformational change whereby local municipal budgets, national budget allocations(such as through the National Forest Fund, NFF) and private sector funds will be invested in the restoration of degraded ecosystems in a climate-smart manner such that supplies of commercially valuable ecosystem goods and services are increased. An important component of point ‘a’ above will be the rigorous quantification of the commercial viability of large-scale EbA interventions. Sophisticated modelling using data from large-scale EbA interventions will be undertaken to generate a credible discounted cash flow analysis of the overall investment. The knowledge generated from such analyses will be necessary to inform decision-makers and develop learning institutions that continually hone the EbA protocols and improve the returns on investment through time. The results of these analyses will be used to inform and strengthen relevant policies in the country.  The EbA interventions within the proposed GCF project will cover approximately 10,000 hectares. By the end of the proposed GCF project there would be a greatly increased supply of products/benefits from natural ecosystems, as well as from agricultural landscapes, across the project implementation area. Additional benefits from the project’s EbA interventions will include improved quality and quantity of fresh water supplies and reduced rates of soil erosion. The upscaling potential, once the paradigm shift is achieved across Gambian society, is the implementation of EbA over hundreds of thousands of hectares.  Potential for expanding the proposal’s impact without equally increasing the cost base (scalability): The project’s proposed approach to integrating the adoption of EbA into ongoing initiatives and development planning is inherently scalable. The selection of intervention sites and participating communities will focus on villages within and adjacent to community‑managed forest reserves and conservation areas, particularly those 50 Community Forest (CF) areas which were proclaimed in September 2015 (Annex I). During the project preparation phase, over 400 CFs totaling an area of ~40,000 hectares were identified. Given that each CF has several villages in close proximity, it is evident that EbA could be upscaled to include hundreds of such villages across The Gambia (see maps in Annex 1). Furthermore, the Government of Gambia aims to transfer management of at least an additional 200,000 hectares of forest reserves to decentralized community management by 2020, which is an ideal opportunity to further integrate EbA into future land use planning across The Gambia.  The information, knowledge and capacity generated by the GCF project’s investments will provide a sustained platform to support further upscaling and replication of the project’s activities.  Potential for exporting key structural elements of the proposal to other sectors, regions or countries (replicability): The project’s activities will be focused on the programmatic adoption of a predictable and replicable process – namely, the established Market Analysis and Development (MA&D) approach – as part of the participatory engagement of community‑based organisations to establish natural resource based businesses. The integration of this standardised process for community engagementin natural resource management provides a simple mechanism for replication in villages across the Gambia.  The information and knowledge generated by the project will provide an improved evidence base to support further investment in, and promotion of, EbA as part of The Gambia’s response to climate change. The replication of the project’s approach to EbA by other initiatives will be supported through the integration of EbA and related approaches into various sectoral and cross‑sectoral strategies and plans – including the Agricultural and Natural Resources Strategy (to be developed in 2016), the National Climate Change Strategy (under development) and the NAP (under development). The participation of representatives of government responsible for portfolios including climate change adaptation, management of natural resources, agriculture, meteorology and socio‑economic development will ensure that the project’s activities are relevant and well aligned with existing policies and ongoing initiatives. |
| * 1. Sustainable Development Potential   *[Potential to provide wider development co-benefits]* | Provide the estimates of economic, social and environmental co-benefits. Examples include the following:   * Economic co-benefits * Total number of jobs created * Amount of foreign currency savings * Amount of government’s budget deficits reduced * Social co-benefits * Improved access to education * Improved regulation or cultural preservation * Improved health and safety * Environmental co-benefits * Improved air quality * Improved soil quality * Improved biodiversity * Gender-sensitive development impact * Proportion of men and women in jobs created   The economic, social and environmental benefits from the proposed GCF project will emanate from an increased supply of products from natural ecosystems (e.g. venison, fish, fruit, fibre, fuelwood, timber, medicines, and honey), as well as from agricultural landscapes (e.g. groundnuts, maize, rice, cattle, goats and sheep). Additional benefits from the investment in EbA will include: a) improved quality and quantity of fresh water supplies; b) carbon sequestration; c) reduced rates of soil erosion; and d) improved landscape aesthetics and conservation of biodiversity which has the potential of attracting ecotourists. All of these benefits will promote the expansion as well as formation of private sector businesses based on natural resources. The climate resilience of rural Gambian communities will be built as a result of the enhanced supply of the products above. The food products will be used for direct consumption thereby improving health and nutritional status. Other products such as venison, medicines and timber will enable communities to diversify and expand their income streams. Quantification of economic benefits (e.g. number of jobs created; size of income streams generated) will be estimated during the project development phase.  The provision of training and activities to build skills in business development, entrepreneurship and financial management will result in broad socio‑economic benefits for participating communities as a result of the increased capacity to manage profitable businesses, not only those businesses based exclusively on natural resources. For example, the development of business management skills will enhance the capacity of households to increase income from businesses based on transport, trading of household goods or marketing of agricultural produce. The increased household income generated by profitable businesses will address the widespread challenge of rural poverty and will increase the annual income available for households to spend on priorities such as food, education and transport.  Gambian women undertake considerable harvesting of products from natural ecosystems (e.g. fish, fruit, fibre, fuelwood, medicines), account for ~50% of the agricultural labour force, and produce ~40% of the total agricultural output[[58]](#footnote-60) in The Gambia. As a result, the proposed EbA interventions, which will improve productivity from both ecosystems and agricultural landscapes, will have considerable benefits for Gambian women. The capacity building aspect of the proposed project will focus on training women to plan, implement and manage EbA investments. Gender disaggregated targets will be developed and used to monitor indicators. These approaches are in strong alignment with the Gambia National Gender Policy 2010–2020. |
| * 1. Needs of Recipient   *[Vulnerability to climate change and financing needs of the recipients]* | Describe the scale and intensity of vulnerability of the country and beneficiary groups and elaborate how the project/program addresses the issues. Examples of the issues include the following:   * Level of exposure to climate risks for beneficiary country and groups * Does the country have a fiscal or balance of payment gap that prevents from addressing the needs? * Does the local capital market lack depth or history? * Needs for strengthening institutions and implementation capacity   The Gambia is ranked 168 out of 187 countries in the 2011 UN Human Development Index, with more than half of the population living below the US$2 per day poverty threshold. Most Gambians rely strongly on livelihoods from natural resources and rain-fed, subsistence farming. Every year, most households in rural areas of The Gambia experience a “hunger season” between July and September, during which food stocks are low or depleted. To compensate for income and food losses, these households usually depend on consuming and selling cash crops. Such hardships have been exacerbated by the global economic downturn and the drought of 2011. Local communities throughout The Gambia are therefore extremely vulnerable to climate change effects that impact negatively onthe production of food in agricultural landscapes and natural ecosystems. In particular, expected increases in air temperature and rainfall variabilityacross the Gambia River Basin will result in more frequent and severe droughts, floods and windstorms[[59]](#footnote-61),[[60]](#footnote-62).  The above-mentionedclimate change effects will greatly exacerbate existing environmental and economic problems experienced by rural Gambians. Agricultural productivity is, for example, expected to decline because of: a) reduced soil water content with increasing temperatures; b) more frequent droughts; and c) greater erosion from intense rain events. The supply of ecosystem goods and services from natural ecosystems (e.g. venison, fruits, fibre, medicines and fish) will also be reduced by expected climate change effects on the distribution and growth rates of indigenous plants in Gambian woodlands, savannas, wetlands and mangroves. Recent studies show that ground nut yields in The Gambiaare likely to decrease by 40% because of increasing temperatures[[61]](#footnote-63), with rice production also being negatively affected as freshwater swamps dessicate. The production offisheries in the Gambia River is also expected to be reduced because of a reduced flow of fresh water into the river, and concomitant increases in salinity. These decreases in productivity of agricultural landscapes and natural ecosystems will increase food insecurity and malnutrition, which is already widespread across the country[[62]](#footnote-64).  At present, most Gambians – from rural villagers to national decision-makers – are largely unaware of the potential benefits of large-scale EbA particularly with regards to: a) the long-term nature of the investment; b) the potential for large-scale EbA to catalyse private sector businesses; and c) the climate resilience that can be developed across multiple economic sectors. Awareness raising of these benefits is therefore an important need of Gambian society.  As an LDC, The Gambia has limited financial resources without donor support to: a) implement large-scale EbA; b) transform markets to sustain climate-related, natural resource-based livelihoods; and c) strengthen policies, institutions and knowledge sharing for large-scale EbA. At a local level, rural Gambian communities do not have the financial resources, knowledge base, or technical capacity to: a) develop, implement, and maintain large-scale EbA across The Gambia; b) co-ordinate the regular, cross-sectoral, multi-stakeholder engagement that is necessary for EbA interventions; and c) capitalize on the EbA interventions by generating new private sector income streams from the sale of ecosystem goods and services produced by restored climate-resilient ecosystems. |
| * 1. Country Ownership   *[Beneficiary country ownership of project or programme and capacity to implement the proposed activities]* | Provide details of the below and specify other relevant factors.   * Coherence and alignment with the country’s national climate strategy and priorities in mitigation or adaptation * Brief description of executing entities (e.g. local developers, partners and service providers) along with the roles they will play * Stakeholder engagement process and feedback received from civil society organizations and other relevant stakeholders   Coherence/alignment with policies/strategies  The proposed GCF project is aligned with a wide range of Gambian policies, strategies and programmes. These include:   1. The Agriculture and Natural Resources (ANR) policy document (2009-2015) which identifies needs such as decentralised management of wildlife resources, developing value chains for natural resource-based products, introducing micro-finance, and establishing REDD+ projects. 2. Vision 2020, the Medium Term Development Framework, and the Gambia Environmental Action Plan,all of which highlight the importance of managing environmental problems – including land degradation, loss of forest cover, loss of biodiversity and climate change. 3. The Programme for Accelerated Growth and Employment 2012–2015 which focuses on sustainable forest management, increasing agricultural production and achieving food security for the country. 4. The Gambia UNDAF 2012–2016 which has the objective of poverty reduction and social protection by generating sustainable livelihoods while protecting the environment. 5. The National Biodiversity Strategy and Action Plan (NBSAP) and the National Action Plan (NAP for UNCCD) which promote activities such as: wetland engineering to ensure food and water security; restoration of degraded ecosystems; designation of more community protected areas and expansion of existing ones; expansion and consolidation of community forestry; and joint forest park management. 6. NAPA projects including:  * The Rehabilitation of Early Warning Systems on Climate-Related Natural Hazards; * Improvement of Freshwater Availability; * Diversification and Intensification of Agricultural Production, Processing and Marketing; * Expansion of Community Participation in the Management of Forests and Protected Areas; * Expansion and Intensification of Agro-forestry and Re-forestation Activities; and * Improved Livestock and Rangeland Management of Food Security and Environmental Sustainability.   Description of executing entities and partners  The institutional arrangements are briefly described in Annex IV.  Stakeholder engagement process  During a mission to The Gambia in August 2015 by two international consultants, national, regional and local stakeholders were consulted. These stakeholders included representatives from relevant ministries, departments, Community-Based Organisations (CBOs) and NGOs (e.g. GCCI, SDF, FAO). In Banjul (the capital city) representatives from ministries, departments and NGOs were consulted to gather information on *inter alia* the baseline, potential project interventions and sites, implementation arrangements for the project, sustainability, financing and potential risks. Working group meetings were undertaken with CBOs and community members in four regions (Western, Lower River, Central River and Upper River). During these meetings, the local representatives shared information on: a) their current livelihood activities; b) climate change effects on livelihoods; c) local business and governance structures; and d) interests in alternative/additional livelihoods. Furthermore, a validation meeting was held at the end of the mission at which the proposed project structure was presented to representatives from the relevant ministries and departments.  The schedule for the in-country stakeholder engagement process and a list of participants that were engaged is presented in AnnexV. |
| * 1. Effectiveness and Efficiency   *[Economic and financial soundness and effectiveness of the proposed activities]* | Provide details of the below and specify other relevant factors (i.e. debt service coverage ratio), if available.   * Estimated cost per t CO2 eq (total investment cost/expected lifetime emission reductions) * Co-financing ratio (total amount of the Fund’s investment as percentage of project) * Economic and financial rate of return * With the Fund’s support * Without the Fund’s support   The proposed GCF project will achieve cost-effectiveness primarily by using large-scale EbA.A growing body of scientific research demonstrates that past initiatives which included EbA measures resulted in a greater ratio of benefits to costs compared with the use of infrastructural measures for adaptation. An economic analysis undertaken in Lami, Fiji[[63]](#footnote-65) is particularly pertinent. This study included assessments of the costs and benefits of three approaches to watershed management: a) only EbA measures; b) engineering options; and c) a hybrid approach combining both engineering and EbA interventions. The analysis demonstrated that EbA interventions for watershed management are at least twice as cost‑effective as engineering options – e.g. a benefit:cost ratio of US$19.50 for EbA compared with US$9 for hard engineering. Similarly, in a recent in-depth review of strategies for sustainability, restoration of natural capital was deemed the most cost-effective approach when compared with technology change and social behavioural change[[64]](#footnote-66). This conclusion is further supported by a recent economic analysis of the restoration and rehabilitation of grasslands and woodlands which showed internal rates of return (IRRs) of 20–60% and benefit:cost ratios of up to 35:1[[65]](#footnote-67).  The Economic Rate of Return (ERR) and Net Present Value (NPV) of the proposed GCF project’s benefit streams will be estimated during the project development phase. Furthermore, a sensitivity analysis of various lags in the realisation of benefits and effects on economic viability will be undertaken. These analyses will inform the development of more rigorous and accurate assessments during the project implementation phase. |

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| **V. Brief Rationale for GCF Involvement and Exit Strategy** |
| Please specify why the GCF contribution is critical for the project/programme.  Investing in large-scale EbA to build climate resilience for rural Gambian communities and to catalyse economic growth based on natural resources is a new investment paradigm for Gambian decision-makers in both government and the private sector. GCF grant finance is consequently required to change behaviour and mindsets of these decision-makers. This will be achieved by: a) demonstrating to the government and the private sector the commercial viability of large-scale EbA interventions; b) creating an enabling environment for natural resource-based businesses to establish and expand (using products derived from the large-scale EbA interventions); c) strengthening institutional capacity to plan and implement large-scale EbA interventions; and d) developing innovative new  policies, business models, governance mechanisms and funding instruments for promoting further large-scale EbA investment by government and the private sector. An evidence base comprising credible data on the return on investment in large-scale EbA projects can only be obtained from on-the-ground implementation at the scale of landscapes. This evidence base will underpin the activities in points ‘a’ to ‘d’ above.  The proposed GCF project will implement large-scale EbA interventions and develop an enabling environment for natural resource-based businesses to capitalise on the goods and services derived from the EbA interventions. Income streams based on the products generated by the project’s EbA interventions – e.g. fruit, fibre, medicine, timber, ecotourism, and wildlife – will be quantified by the end of the project.This data, together with detailed costings of specific project interventions, will be used for discounted cash flow analyses and calculations of internal rates of return for investments in different types of large-scale EbA. |
| Please explain the exit strategy(i.e. how the project/programme will be sustained after GCF intervention).  The EbA interventions in the proposed project will create natural capital assets in the form of functional ecosystems that generate products for consumption or sale. There will, for example, be an increase in direct benefitsfrom natural ecosystems (e.g. venison, fish, fruit, fibre, fuelwood, timber, medicines, carbon sequestration, ecotourism, and honey), as well as from agricultural landscapes (e.g. groundnuts, maize, rice, cattle, goats and sheep). All of these benefits will promote the expansion as well as formation of commercially viable businesses based on natural resources. The products generated from the restored ecosystems will continue in perpetuity as long as the ecosystems are well managed. To ensure the sustainability of the businesses based on these products, the proposed GCF project will focus strongly on developing institutional capacity in government and the private sector for maintaining the natural capital assets created by the project. In summary: developing government institutional capacity for implementing/maintaining large-scale EbA and creating an enabling environment for commercially viable businesses based on natural resources is the main exit strategy for the project. |

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| **VI. Risk Analysis** |
| Please describe the financial and operational risks and discuss mitigating measures.  Please briefly specify the substantial environmental and social risks that the project/programme may face and the proposed risk mitigation measures.  A risk analysis of all EbA interventions will be conducted during the project development phase once specific sites and type of interventions have been selected. Risks to be assessed will include *inter alia*: a) the effects of EbA interventions on biodiversity; b) the availability of financial resources for private sector entrepreneurs to establish new natural resource-based businesses; c) the potential for existing markets to receive natural resource-based products; d) conflict with Senegalese livestock herders and firewood collectors; e) the access of women to income streams generated in Phase 2 by the EbA interventions. Mitigating measures will be developed once the risks have been fully assessed. |

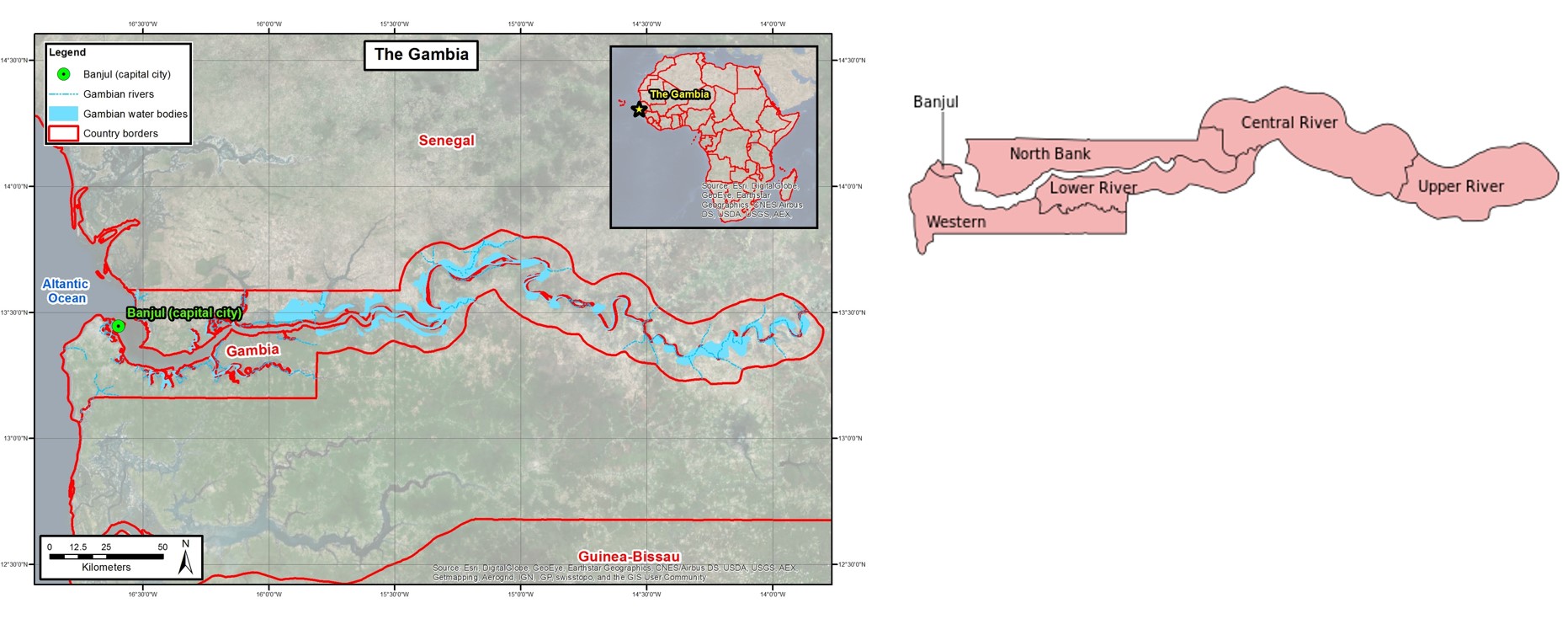
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| **VII. Multi-Stakeholder Engagement** |
| Please specify the plan for multi-stakeholder engagement, and what has been done so far in this regard.  The development of this Concept Note was undertaken in close collaboration with the Ministry of Finance and Economic Affairs, and the Departments of Forestry and Parks and Wildlife Management within the Ministry of Environment, Climate Change, Water and Wildlife. During the project development phase of the project, intensive engagement with these ministries will continue in addition to engagement with local government, non-governmental organisations, civil society groups and private sector entities active in the agricultural sector. Consultations will also be conducted at the village level during the project development phase to ensure that project activities are well aligned with local communities’ requirements. |

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| **VIII. Status of Project/Programme** |
| 1. A pre-feasibility study is expected to be completed at this stage. Please provide the report in Annex II. 2. Please indicate whether a feasibility studyand/or environmental and social impact assessment has been conducted for the proposed project/programme: Yes ☐ No ☒   (*If ‘Yes’, please provide them in Annex II*.)   1. Will the proposed project/programme be developed as an extension of a previous project (e.g. subsequent phase), or based on a previous project/programme (e.g. scale up or replication)? Yes ☐ No ☒   (*If yes, please provide an evaluation report of the previous project in Annex II, if available.*)  A pre-feasibility study of the project interventions will be conducted during the project development phase. |

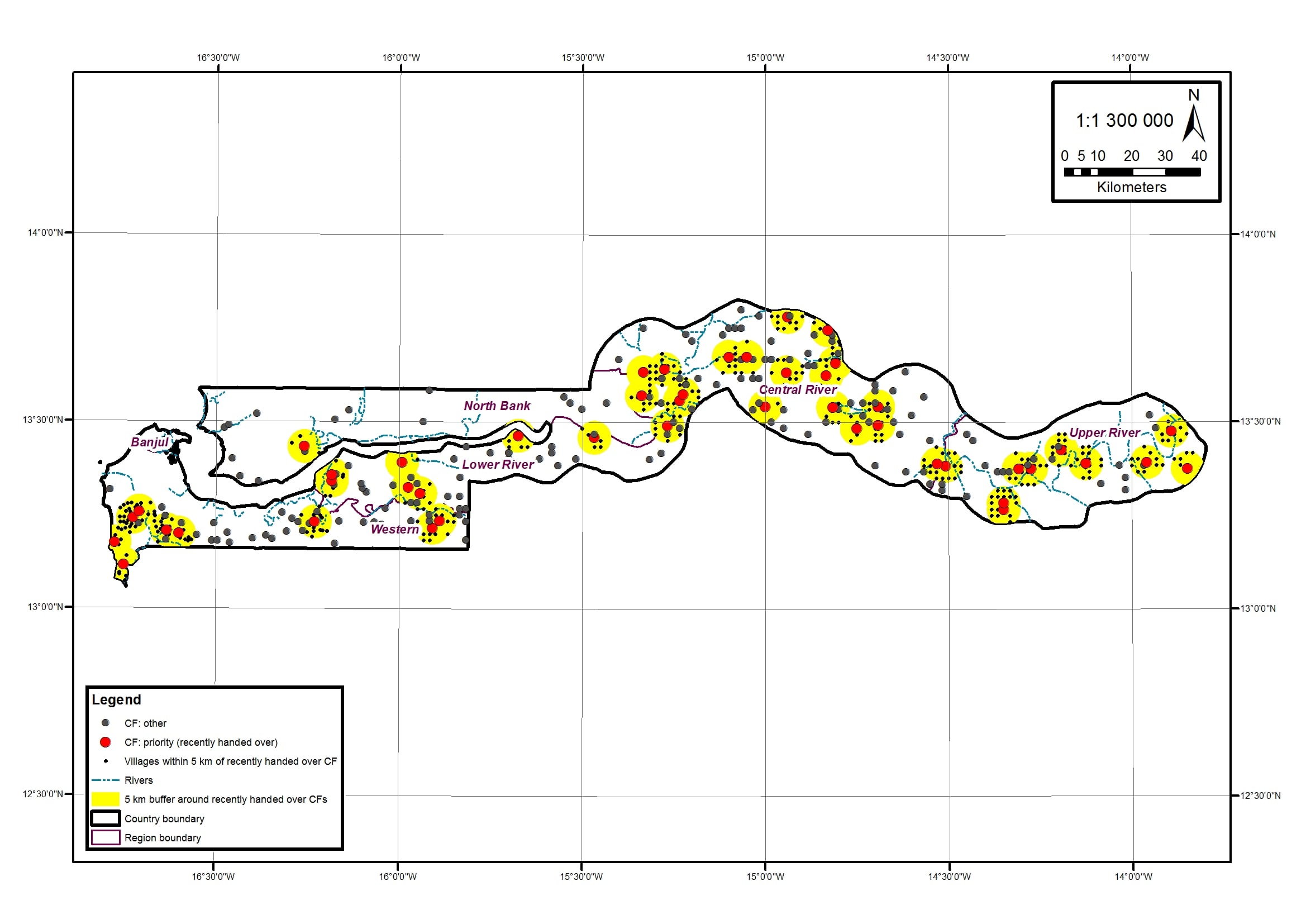
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| **IX. Remarks** |
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**Annex I**

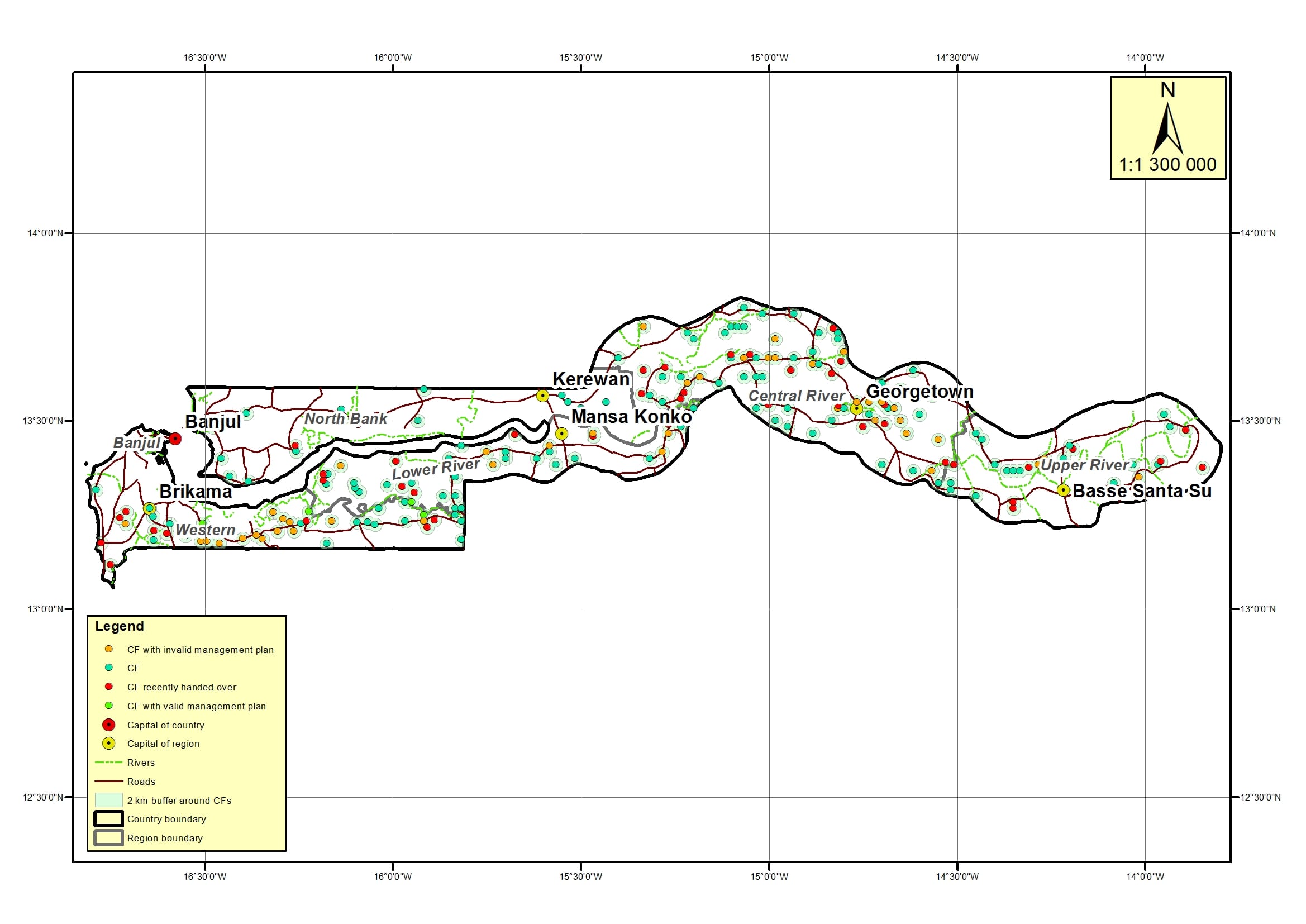
**Figure A.1.1 The location of the Gambia River and the five administrative regions in The Gambia.**



**Figure A.1.2 The location of 50 newly established Community Forestry (CF) areas (proclaimed in September 2015) and surrounding villages within a 5 km radius, to be prioritised for inclusion in the GCF EbA project**



**Figure A.1.3 The location of all identified Community Forestry areas in the Gambia.**

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**Annex II.**

Please provide the pre-feasibility study report for the project/programme.

Please also provide the feasibility study report, environmental and social impact assessment, and/or evaluation report, if available.

A pre-feasibility study (“Pre-feasibility Assessment for GCF Concept Note”) has been developed and is attached separately.

**Annex III**

**The Theory of Change of the proposed GCF project.**

**Baseline problems**

* Unsustainable land management practices in the woodlands, savannas, wetlands and mangroves of The Gambia are reducing supplies of ecosystem goods and services that underpin the livelihoods of hundreds of thousands of rural Gambians. These include benefits from natural ecosystems (e.g. venison, fish, fruit, fibre, fuelwood, timber, medicines, carbon sequestration, ecotourism, and honey), as well as from agricultural landscapes (e.g. groundnuts, maize, rice, cattle, goats and sheep).
* The majority of rural households are impoverished and are heavily dependent on the marginal returns from subsistence-scale agriculture and fishing. In general, these rural households do not have the financial or technical capacity to adopt alternative or supplementary livelihoods.
* Widespread poverty and population growth are leading to increasing rates of resource extraction from natural ecosystems.

**Climate change problem**

* Climate change effects are predicted to greatly exacerbate the abovementioned environmental and socio-economic problems. In particular, climate trends for 1960–2009 show a decrease in rainfall at an average rate of 8.8mm per month per decade[[66]](#footnote-68). Additionally, there has been an increase in the variability of the dates of rainfall onset and cessation, as well as in the length of the wet season[[67]](#footnote-69). This has resulted in more frequent and severe droughts, which are resulting in: a) reduced productivity of agricultural land; b) more extensive saltwater intrusion up the Gambia River; c) decreased supplies of ecosystem goods and services from natural ecosystems[[68]](#footnote-70). These effects are predicted to worsen in the future. Considering the reliance of the rural population in the Gambia on rain-fed agriculture, fishing and natural resources, these climate-related effects will continue to increase the vulnerability of local communities to climate change[[69]](#footnote-71). At present, the Gambia does not have the capacity and financial resources to address the impacts of climate change on the country’s environment and socio-economic development.

**Solution**

* Vulnerability of local communities and sectors in The Gambia reduced through: i) large-scale EbA that provides adaptation and commercial benefits; ii) development of innovative markets that support natural resource-based businesses; and iii) revised policies, strengthened institutions and new knowledge to support large-scale EbA in The Gambia in the long term. This solution will see an increased supply of ecosystem goods and services across the country to increase the climate resilience of rural Gambian communities and catalyse economic growth through businesses based on natural resources.

**Barriers**

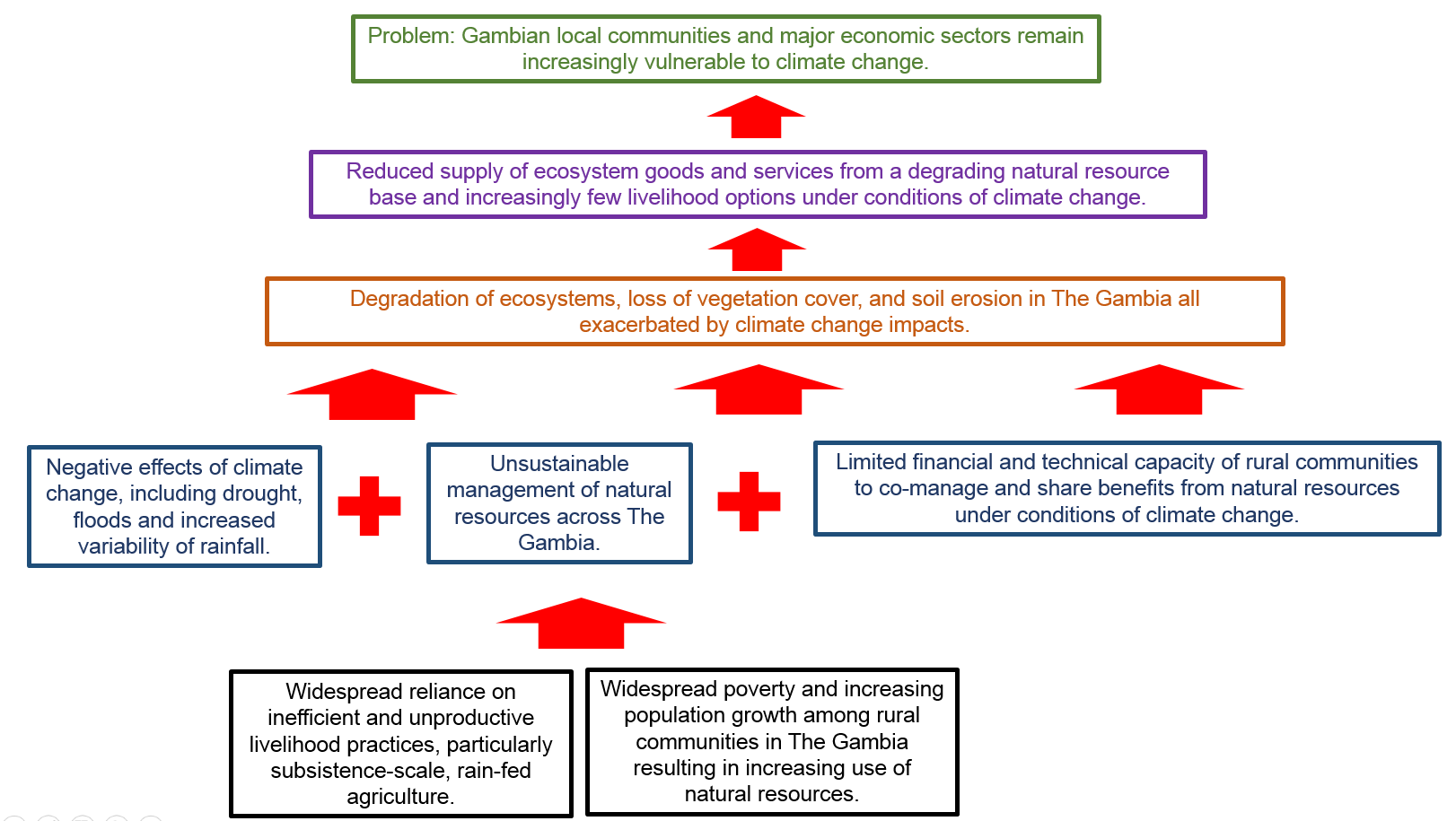
* Gambian decision-makers in both government and the private sector are largely unaware of the commercial viability and benefits of large-scale EbA and are consequently not integrating this approach into ongoing initiatives.
* The evidence base for the commercial viability and benefits of large-scale EbA in The Gambia is insufficient to incentivise increased investment by Gambian decision-makers in both government and the private sector.
* The Gambia has insufficient financial resources to implement large-scale EbA and assess the commercial and adaptation benefits of this approach.
* Gambian government departments, NGOs, and private sector businesses have insufficient knowledge and technical capacity to implement large-scale EbA, and to capitalise fully on the enhanced supply of ecosystem goods and services produced by this approach.

**Project activities to overcome barriers and catalyse a transformational change in the investment behaviour of local communities, Gambian decision-makers in government and the private sector**

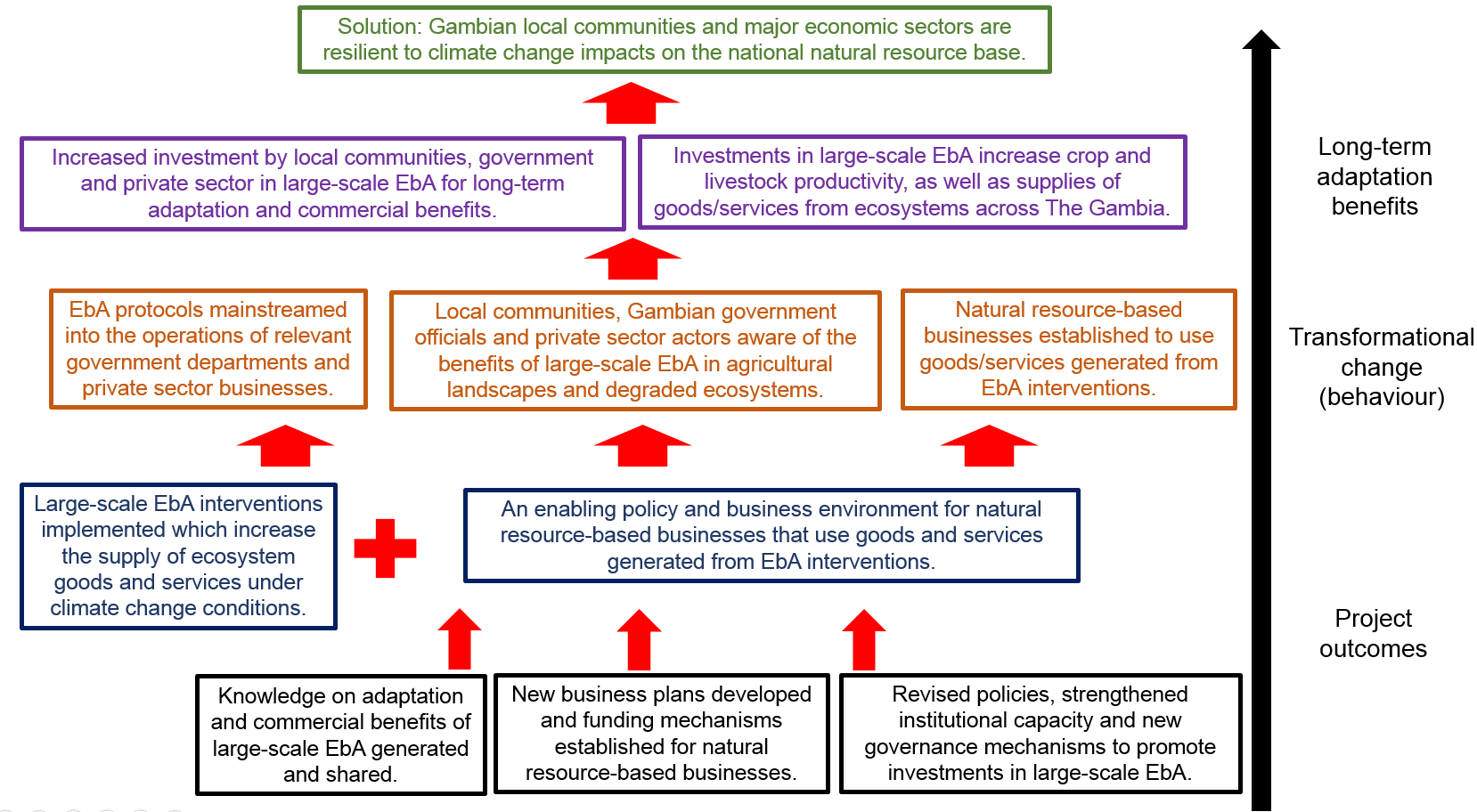
* Demonstrate the commercial viability of natural resource-based businesses to the government and the private sector.
* Create an enabling environment for the establishment and expansion of natural resource-based businesses (using products generated by the project’s EbA interventions).
* Strengthen institutional capacity to plan and implement large-scale EbA interventions, and integrate this approach into ongoing initiatives for decentralised management of natural resources, climate change adaptation and socio-economic development.
* Strengthen policies, governance mechanisms and funding instruments for promoting further EbA investment by government and the private sector.
* Generate an evidence base of credible data to show the return on investment for large‑scale EbA interventions. This evidence base will inform all of the above activities.

A summarised version of the Theory of Change is presented in diagrammatic form below showing: a) the factors underlying the problem facing Gambian society; and b) the proposed GCF project’s approach to addressing this problem.

**Climate change‑induced problem that will be addressed by the proposed GCF project**



**Solution to be contributed to by the proposed GCF project**



**Annex IV Proposed implementation arrangements**



**Annex V Stakeholder consultation process during project development phase (ongoing)**

Stakeholder engagement schedule.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| 24 August | 25 August | 26 August | 27 August | 28 August | 29 August | 30 August |
| Department of Parks and Wildlife  Department of Forests | Ministry of Finance  Ministry of Tourism  Ministry of Finance  Ministry of Agriculture  Ministry of Fisheries  Department of Planning | Fisheries Department  Department of Community Development  Gambia Chamber of Commerce  National Environm-ental Agency | FAO  Growth and Competitiveness Project (WB) | International consultants leave from Banjul  Site visits to rural communities | Site visits to rural communities | Site visits to rural communities |
| 31 August | 1 September | 2 September | 3 September |  |  |  |
| Site visits to rural communities  International consultants return to Banjul | Workshop | Workshop/  meeting | International consultants leave The Gambia |  |  |  |

Stakeholders that were consulted during the mission by two international consultants over the period 24 August to 3 September 2015.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Organisation** | **Position** | **Email** | **Phone (+22)** |
| Bubu Pateh Jallow | Dado and Demba Sirah Consultancy Services | Independent technical consultant | [bubupatteh@yahoo.com](mailto:bubupatteh@yahoo.com) | 9911323  3911323 |
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| Alaqie Manjang | Ministry of Environment, Climate Change, Water and Wildlife | Permanent Secretary | [alagie33@hotmail.com](mailto:alagie33@hotmail.com) | 9845201 |
| Bubacar Jallow | Ministry of Environment, Climate Change, Water and Wildlife | Principal Climate Change Officer | [bubazj@gmail.com](mailto:bubazj@gmail.com) | 353113 |
| Momodou C. Joof | Ministry of Tourism and Culture | Permanent Secretary | [njofa@yahoo.com](mailto:njofa@yahoo.com) | 4222376 |
| Momodou L. Kasama | Department of Parks and Wildlife | Director | [mlkassama2@yahoo.com](mailto:mlkassama2@yahoo.com) | 6236972 |
| Hon. Pa Ousman Jarju | Ministry of Environment, Climate Change, Water and Wildlife | Minister | [daibaiao90@gmail.com](mailto:daibaiao90@gmail.com) | 9969004 |
| Sonko Fofana | Social Development Fund | Director | [sbfofana@yahoo.com](mailto:sbfofana@yahoo.com) | 9962231 |
| Lamin Fofana | Social Development Fund | Director of Finance and Administration | [lanfonfana1973@gmail.com](mailto:lanfonfana1973@gmail.com) | 7670910 |
| Lamin M.F. Joberteh | Social Development Fund | Director of Operations | [baijobs@gmail.com](mailto:baijobs@gmail.com) | 7997405 |
| Tamsir Manga | Gambia Growth and Competitiveness Project | Project Coordinator | [tmanga@ggcp.gm](mailto:tmanga@ggcp.gm) | 3359136 |
| Omar Ngum | Department of Community Development | Senior Planner | [omarsmngum@hotmail.co.uk](mailto:omarsmngum@hotmail.co.uk) | 9991489 |
| Hassan Jallow | Ministry of Agriculture | Deputy Permanent Secretary | [hmjallow@gmail.com](mailto:hmjallow@gmail.com) | 9923084 |
| Bubacarr Dumbuys | Department of Parks and Wildlife |  | [bubacarrdumbuys@gmail.com](mailto:bubacarrdumbuys@gmail.com) | 9819439 |
| Cherno Gaye | Project coordinator (Community Forestry) |  | [chernogaye71@yahoo.com](mailto:chernogaye71@yahoo.com) |  |
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| Fatou Jobe | Ministry of Finance | Senior Fiscal Officer | [fatoukjobe@gmail.com](mailto:fatoukjobe@gmail.com) | 9016474 |
| Naria Azzi | Ministry of Finance | Senior Economist | [missmazzi@yahoo.com](mailto:missmazzi@yahoo.com) | 7004440 |
| Momodou SaidyLeigh | Fisheries Department | Fisheries Officer | [msaidyleigh@yahoo.com](mailto:msaidyleigh@yahoo.com) | 7530416 or 6196179 |
| Babanding Kanyi | Fisheries Department | Principal Fisheries Assistant | [babakanyi2000@gmail.com](mailto:babakanyi2000@gmail.com) | 7843962 |
| Alh. Osman Bojang | Fisheries Department | GAMFIDA coordinator | [OusmanBojang@outlook.com](mailto:OusmanBojang@outlook.com) | 9933261 |
| Bintou Sonko | Department of Planning (Ministry of Agriculture) | Agricultural Economist | [geekonomist89@gmail.com](mailto:geekonomist89@gmail.com) | 9436674 |
| Momodou Tamba | Department of Planning (Ministry of Agriculture) | Planner | [tambayafai@yahoo.com](mailto:tambayafai@yahoo.com) | 9874459 |
| Amet Sallah | Department of Planning (Ministry of Agriculture) | Senior Planner | [ametsallah@gmail.com](mailto:ametsallah@gmail.com) | 9811288 |
| Seeds M. Demba | Department of Planning (Ministry of Agriculture) | Senior Planner | [dembaseed@yahoo.com](mailto:dembaseed@yahoo.com) | 9955139 |
| Fomara LJ Kolley | Department of Planning (Ministry of Agriculture) | Data Procurement | [bajodop998@yahoo.com](mailto:bajodop998@yahoo.com) | 9985159 |
| Bakaryk K.S. Sanyang | Department of Planning (Ministry of Agriculture) | OIC/PSU | [bakskaddy@gmail.com](mailto:bakskaddy@gmail.com) | 9997843 |
| Thomas Roberts | GCCI |  | [troberts@gcci.gm](mailto:troberts@gcci.gm) |  |
| Babucarr Saho | GCCI |  | [bsaho@gcci.gm](mailto:bsaho@gcci.gm) |  |
| Slamina E. Jobe | NEA | Project Coordinator: GC3SP Project | [sjobedemba@gmail.com](mailto:sjobedemba@gmail.com) | 4398587 |
| Kanimang Camara | FAO | Project coordinator FFF | [nacogambia@yahoo.org](mailto:nacogambia@yahoo.org) | 9902140 |
| Ansuman |  |  |  |  |
| Forest Officers: i) Lower River Region Forest Office; and ii) Central River Region Forest Office | | | | |
| Local communities: i) Kassagne community conservation area; ii) Dumbuka Forest Park; iii) Jasopo community forest, honey and salt; iv) Barrow Kunda community conservation area; v) Tabinana community conservation area; vi) Kunkilling Joint Forest Park Management; vii) Cha Kunda community conservation area; and viii) Kass Wolof community conservation area. | | | | |

**Annex VI: Summary of baseline projects and investments to support the GCF proposal**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Grant source** | **Implementing agency** | **Title** | **Timeline** | **Total co-financing contributed (US$)** | **Co-financing contributed during the GCF implementation period 2016–2021 (US$)** | **Main objective/activities** | **Intervention sites** |
| Government of The Gambia (National Forest Fund) | Department of Forestry, FAO | Market Analysis and Development (MA&D) Process | Ongoing (2005 onwards) | 350,000 per year, or 5,600,000 over the 16-year period 2005 – 2016. | 2,100,000 | The NFF is integrated in the budget of the Department of Forestry. The activities funded by NFF include forest protection, development and sustainable use of forests, promotion of community forestry (community forest management and joint forest park management), training of forestry staff, reforestation, and infrastructural development. The NFF is also used to finance the DoF’s activities in the MA&D process, either solely using government resources or alternatively in partnership with international or multilateral agencies (e.g. FAO)/ | National |
| EU-GCCA | Government of The Gambia | GCCA support project to the Gambia for integrated coastal zone management and the mainstreaming of climate change | 2012–2016 | 4,323,000  (3,860,000 €) | 864,600 | * Establish a participatory and self-sustainable integrated coastal zone management (ICZM) process (establish a Technical Working Group; develop an agreed vision and objectives; identify specific options for future management of activities in coastal areas); * Identify concrete coastal protection measures all the Atlantic coast including viable alternatives to sand mining; * Support demonstration and research projects in coastal zones on climate-resilient livelihoods, restoration of climate-resilient ecosystem restoration, and alternatives to sand extraction; * Strengthen community organisations, village committees and private sector involvement for ICZM; * Strengthen the knowledge base for integrating climate change across sectors (establish a working group to support climate change capacity building; analysis of knowledge gaps and sector needs; develop resource mobilisation strategies) and formulate a national climate change policy; * Establishment of climate change-related inter-institutional coordination mechanisms; and * Awareness-raising and training of policy makers and planners in key ministries and agencies, National Assembly members, and civil society representatives on climate change and development and other technical topics. | Gambia coastal zones |
| GEF-LDCF | UNEP | Strengthening of The Gambia’s climate change Early Warning Systems (Phase 1) | 2011–2014 | 1,028,500 | 0 | * Strengthening and rehabilitation of the national hydrometeorological network with the development of human capacity to use this network effectively in order to enhance national capacity to predict climate events; * Improve the delivery of information related to early warning messages to end users through   demonstration activities; and   * Develop institutional capacity of government institutions so as to better integrate climate change considerations into policies. | National |
| GEF-LDCF | UNEP-UNDP | Strengthening climate services and Early Warning Systems for climate resilient development and  adaptation to climate change (Phase 2) | 2014-2018 | 8,000,000 | 4,800,000 | * Support the transition of the Gambia National Meteorological Services towards financial sustainability (including establishing a comprehensive business plan for the deployment of effective hydro-meteorological services); * Installation/upgrade and maintenance of hydro-meteorological infrastructure for an optimal-performance EWS (provide equipment and training on hydrological topics in hydro-meteorological infrastructures, ensure the existence of an operational marine meteorological station and the upgrade of the water quality monitoring system, establishment of a comprehensive database and date management system); * Training and certification of maintenance, repair technicians and hydro-meteorological professionals, and development of a recruitment and retention strategy, to operate the EWS and plan for medium- and long-term adaptation. | * Tanji and Kanlagi of the West Coast Region * Jappeni and Kwinela of the Lower River Region * Salikene and Kerr Ardo of the North Bank Region * Bansang and Kuntaur of the Central River Region * Ndingri and Dasilameh of the Upper River Region * Crab Island and Soldier Town Wards of Banjul * Dippa Kunda and Ebou Town Wards of Kanifing |
| GEF-LDCF | UNDP | Enhancing the resilience of vulnerable coastal communities to climate change | 2013–2017 | 8,900,000 | 3,560,000 | * Building of risk management capacity in coastal areas prone to climate hazards (review national and regional development plans; establish institutional coordination mechanism for coastal-development planning; develop a national programme for coastal monitoring); * Improve coastal defence systems (building protective infrastructures for rice growing areas; build offshore reefs, beach replenishment and rock   groyne structures; implementation of mangrove restoration and management plans);   * Enhance adaptive capacity of vulnerable communities, and strengthen and diversify the livelihoods of threatened populations (test, implement and disseminate practices and technologies to mitigate the effect of salinization on agricultural productivity; introduce climate resilient   wetland and fisheries management tools; develop beekeeping, ecotourism, forest  management and various coastal defence measures) | Gambia coastline (including protective infrastructures against coastal erosion in Kololi beach, alternative livelihoods at least 40 vulnerable communities in the Lower and Central Valley areas) |
| **Total baseline co-financing** | | | | 27,851,500 | 11,324,600 |

**Annex VII Detailed estimates of project costs by Component and Output**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Component 1 | | | | Component 2 | | | Component 3 | | | Total |
| Budget line | Output 1.1 | Output 1.2 | Output 1.3 | Output 1.4 | Output 2.1 | Output 2.2 | Output 2.3 | Output 3.1 | Output 3.2 | Output 3.3 |
| Project personnel | 305,725 | 305,725 | 305,725 | 305,725 | 234,360 | 703,080 | 234,360 | 83,700 | 167,400 | 41,850 | 2,645,800 |
| Sub-contracts |  | 215,950 | 200,000 | 1,400,000 |  | 4,500,000 |  | 27,900 |  | 13,950 | 6,499,650 |
| Training | 369,160 | 369,160 | 1,107,480 | , | 133,480 | 400,440 | 133,480 | 97,650 | 146,475 | 48,825 | 2,806,150 |
| Equipment and premises |  | 1740000 |  | 3,382,900 |  |  | 1,751,100 | 41,850 | 62,775 | 20,925 | 6,999,550 |
| Miscellaneous | 177,863 | 177,863 | 177,863 | 177,863 | 27,900 | 27,900 | 27,900 | 27,900 | 41,850 | 13,950 | 878,850 |
| **Output total** | 852,748 | 2,808,698 | 1,791,068 | 5,266,488 | 395,740 | 5,631,420 | 2,146,840 | 279,000 | 418,500 | 139,500 |  |
| **Component total** | **10,719,000** | | | | **8,174,000** | | | **837,000** | | |  |
| PM |  |  |  |  |  |  |  |  |  |  | 810,000 |
| M&E |  |  |  |  |  |  |  |  |  |  | 360,000 |
| Grand project total |  |  |  |  |  |  |  |  |  |  | 21,000,000 |

**Annex VIII. Acronym list**

|  |  |
| --- | --- |
| CBO | Community-based Organisation |
| CCSFMA | Community Controlled State Forest Management Area |
| CF | Community Forest |
| CFUG | Community Forest User Group |
| DoCD | Department of Community Development |
| DoF | Department of Forestry |
| DoP&W | Department of Parks and Wildlife |
| EbA | Ecosystem-based Adaptation |
| EDP | Enterprise Development Plan |
| FFF | Forest & Farm Facility |
| FG | Farmers Group |
| FP | Forest Park |
| GCCI | Gambia Chamber of Commerce |
| INDC | Intended Nationally Determined Contributions |
| JMFP | Jointly Managed Forest Park |
| JMWP | Jointly Managed Wildlife Parks |
| MA&D | Market Analysis & Development |
| MoECCW&W | Ministry of Environment, Climate Change, Water and Wildlife |
| MoF | Ministry of Finance |
| MoLG&L | Ministry of Local Government and Lands |
| MPC | Multi-Purpose Centre |
| NAP | National Adaptation Plan |
| NFF | National Forest Fund |
| PA | Protected Area |
| RFO | Regional Forest Office |
| SDF | Social Development Fund |
| VDP | Village Development Plan |
| WG | Womens Group |
| WP | Wildlife Park |

1. Please use the following naming convention for the file name: “[CN]-[Agency short name]-[Date]-[Serial number]” (e.g. CN-ABC-20150101-1). [↑](#footnote-ref-3)
2. For example, shifting agriculture in woodlands, as well as rice cultivation in wetlands and mangroves. [↑](#footnote-ref-4)
3. For example, 78% of The Gambia’s woodlands – which cover ~46% of the land area – have been degraded; and mangrove cover has decreased by 650 hectares per year since 1980. [↑](#footnote-ref-5)
4. On average 12.5 tonnes of soil are lost per hectare per year. [↑](#footnote-ref-6)
5. According to the Multi-dimensional Poverty Index (2014). [↑](#footnote-ref-7)
6. High-value fruit products such as mangos, wild fruits such as baobab and kaba, and agro-commodites such as groundnuts and grains, are particularly prone to spoilage as a result of limited facilities and capacity for preservation and value-adding. [↑](#footnote-ref-8)
7. The Republic of Gambia. 2003. First National Communication of the Republic of Gambia to the United Nations Framework Convention on Climate Change [↑](#footnote-ref-9)
8. Malanding, S.J; and Sarr, B. (2011) Climate Change and Development in the Gambia: Challenges to .Ecosystem Goods and Services. Available at: http://www.columbia.edu/~msj42/pdfs/ClimateChangeDevelopmentGambia\_small.pdf. Accessed on 29 May 2015. [↑](#footnote-ref-10)
9. Further research is required to ascertain the extent to which these declines are as a result of over-extraction versus climate change. It is, however, assumed that greater evapotranspiration as a result of increased air temperatures are a major contributing factor to reduced groundwater recharge. [↑](#footnote-ref-11)
10. https://sustainabledevelopment.un.org [↑](#footnote-ref-12)
11. Rao et al. 2013. An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa. The highest benefit-cost ratio for the ecosystem-based options in the Lami Town study was FJ$19.50 benefit for every FJ$ spent over a 20-year time horizon. In comparison, the benefit-cost ratio for the engineering options scenario was FJ$9.00. [↑](#footnote-ref-13)
12. Blignaut et al. 2014. Restoration of natural capital: a key strategy on the path to sustainability. Ecological Engineering. Doi: http://dx.doi.org/10.1016/j.ecoleng.2013.09.003 [↑](#footnote-ref-14)
13. Binney J. Singh R. Anderson P. and Lee Long W. 2015 The cost of protecting our coastline and water supply - Benefit cost analysis of ecosystem-based management and climate change adaptation options in Lami Town, Fiji. Technical Report. UNEP and the Secretariat of the Pacific Regional Environment Programme. [↑](#footnote-ref-15)
14. Nguyen et al. 2013. Multipurpose agroforestry as a climate change resiliency option for farmers: an example of local adaptation in Vietnam. Climate Change. Doi: http://dx.doi.org/10.1007/s10584-012-0550-1. [↑](#footnote-ref-16)
15. The Market Analysis & Development (MA&D) process is a tool that was developed by FAO to assist communities in planning small-scale forest-based enterprises. The MA&D is carried out in three consecutive stages: i) assessment of existing situation (i.e. evaluation of forest resources and commercial capabilities); ii) identification of products, markets and means of marketing; and iii) enterprise planning. Through this process, four pillars of sustainability are assessed: i) i) market sustainability; ii) resource sustainability; iii) social/institutional sustainability; and iv) technical sustainability. This tool has been implemented in The Gambia since 2005. [↑](#footnote-ref-17)
16. Access Pilot Program for Climate Resilience market studies through the following links: i) Mozambique - <http://www-cif.climateinvestmentfunds.org/country/mozambique>; ii) Niger - <http://www-cif.climateinvestmentfunds.org/country/niger>; Zambia - <http://www-cif.climateinvestmentfunds.org/country/zambia> [↑](#footnote-ref-18)
17. Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa [↑](#footnote-ref-19)
18. Mills AJ, Turpie J, Cowling RM, Marais C, Kerley GIH, Lechmere-Oertel RG, Sigwela AM, Powell M (2007) Assessing costs, benefits and feasibility of subtropical thicket restoration in the Eastern Cape, South Africa. Pages 179-187 In: Aronson J, Milton SJ, Blignaut J (eds) Restoring natural capital. Science, business and practice. Island Press, Washington D.C. [↑](#footnote-ref-20)
19. Blignaut et al. 2014. Restoration of natural capital: a key strategy on the path to sustainability. *Ecological Engineering*. Doi: http://dx.doi.org/10.1016/j.ecoleng.2013.09.003 [↑](#footnote-ref-21)
20. http://www.sdfgambia.gm [↑](#footnote-ref-22)
21. FAO. 2005. Empowering communities through forestry: community-based enterprise development. FAO, Rome. [↑](#footnote-ref-23)
22. Gambian Forest Management Concept 2001. [↑](#footnote-ref-24)
23. De Groot et al. 2013. Benefits of investing in ecosystem restoration. *Conservation Biology* 27: 1286-1293. [↑](#footnote-ref-25)
24. Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa. [↑](#footnote-ref-26)
25. Blignaut et al. 2014. Restoration of natural capital: a key strategy on the path to sustainability. *Ecological Engineering*. Doi: http://dx.doi.org/10.1016/j.ecoleng.2013.09.003 [↑](#footnote-ref-27)
26. Activities in this project included community-based restoration and conservation of ecosystems. [↑](#footnote-ref-28)
27. The Forest & Farm Facility (FFF) is a multi-donor programme that is housed within FAO. It was launched in 2012 with the objective to promote sustainable forest and farm management by supporting local, regional and international organisations and platforms for effective engagement in policies and investments that meet the needs of local people. [↑](#footnote-ref-29)
28. Identify and study fortuitous restoration experiments that were conducted decades ago in The Gambia that can inform the development of the EbA protocols in a range of different ecosystems. Such experiments are likely to be sources of information for answering new questions that inevitably emerge from the research. Funds will be allocated for maintaining and even building upon them. [↑](#footnote-ref-30)
29. In certain highly localised areas, exotic plant species may be necessary for rapid production of products such as fuelwood, fruit or timber e.g. Beechwood (*Gmelina arborea*), which is already widely planted and valued in The Gambia. However, exotic species such as *Eucalyptus* spp. are likely to damage soil quality and increase rates of soil erosion, and their use should consequently be greatly limited. [↑](#footnote-ref-31)
30. The LDCF2 UNEP-UNDP project will be investing in the upgrading and installation of hydro-meteorological equipment which will greatly improve the quality of weather and climate modelling. [↑](#footnote-ref-32)
31. ‘Agricultural landscapes’ includes cultivated areas, marginal or degraded areas, roadside verges and other land use types included within the matrix of settled and cultivated areas. [↑](#footnote-ref-33)
32. The Market Analysis & Development (MA&D) process is a tool that was developed by FAO to assist communities in planning small-scale forest-based enterprises. The MA&D is carried out in three consecutive stages: i) assessment of existing situation (i.e. evaluation of forest resources and commercial capabilities); ii) identification of products, markets and means of marketing; and iii) enterprise planning. Through this process, four pillars of sustainability are assessed:i) market sustainability; ii) resource sustainability; iii) social/institutional sustainability; and iv) technical sustainability. This tool has been implemented in The Gambia since 2005. [↑](#footnote-ref-34)
33. Modelled on the existing trade fairs for agricultural and natural resource-based products, such as those organised by the Gambia Chamber of Commerce and Industry (GCCI). [↑](#footnote-ref-35)
34. UNEP-ROLAC & Frankfurt School of Finance & Management (2012–2017). <http://fs-unep-centre.org/projects/microfinance-ecosystem-based-adaptation-climate-change> Accessed: 2 October 2015 [↑](#footnote-ref-36)
35. Natural capital includes goods and services that are generated by natural and agricultural ecosystems. This will include existing goods and services and those enhanced by implementing large-scale EbA. [↑](#footnote-ref-37)
36. The Department of Water Resources (DoWR) has been proposed as the most relevant custodian for environmental data of this kind and is currently in the process of establishing a national environmental information system with a sustainable annual budget and operational plan. Furthermore, the maps and resource assessments generated by the project (and other ongoing initiatives) will be hosted by the National Environment Agency (NEA), a well-funded and independent agency. Research and knowledge outputs generated by the project will be publicly available in digital formats, providing an accessible source of data and information for future EbA initiatives. [↑](#footnote-ref-38)
37. Both the NAP and INDC processes are underway in The Gambia. [↑](#footnote-ref-39)
38. Participants at COP 16 as well as the IUCN have noted that UNEP is an appropriate implementing agency in developing countries and for further developing the EbA concept. At the 2010 United Nations Climate Change Conference (COP 16) the EbA approach adopted by UNEP was noted as vital in playing a role in integrating EBA into the adaptation and development strategies of developing countries. It was also noted at this COP that investing in EbA was one of the most effective ways to address the multiple challenges of vulnerability and poverty. (As reported in the article ‘Inspiring action towards a low carbon, climate resilient future’). Available at: http://www.cc2010.mx/en/press-center/press-resources/news\_2010112340160.htm. [↑](#footnote-ref-40)
39. GEF. 2012. Operational guidelines on Ecosystem-based approaches to Adaptation. Washington, D.C. [↑](#footnote-ref-41)
40. *Borassus aethiopium* [↑](#footnote-ref-42)
41. *Parkia biglobosa* [↑](#footnote-ref-43)
42. *Elaeis guineensis* [↑](#footnote-ref-44)
43. *Khaya senegalensis* [↑](#footnote-ref-45)
44. *Ziziphus mauritania* [↑](#footnote-ref-46)
45. *Tamarindus indica* [↑](#footnote-ref-47)
46. *Adansonia digitata* [↑](#footnote-ref-48)
47. *Vitex doniana* [↑](#footnote-ref-49)
48. *Pterocarpus erinaceus* [↑](#footnote-ref-50)
49. *Cordyla pinnata* [↑](#footnote-ref-51)
50. Varmola, M.I. & Carle, J.B. 2002. The importance of hardwood plantations in the tropics and subtropics. *International Forestry Review* 4, 1–20. [↑](#footnote-ref-52)
51. Wenbin, H. & Xiufang, S. 2013. Tropical hardwood flows in China: case studies of rosewood and okoumé. Forest Trends, Washington D.C. [↑](#footnote-ref-53)
52. Balmford, A., Green, J.M.H, Anderson, M., Beresford, J., Huang, C., Naidoo, R., Walpole, M. & Manica, A. 2015. Walk on the wild side: estimating the global magnitude of visits to Protected Areas. PLoS Biology 13, e1002074. [↑](#footnote-ref-54)
53. The Republic of The Gambia. Agriculture and Natural Resources Policy (2009–2015). [↑](#footnote-ref-55)
54. an estimated 80% of fish processors and 50% of small-scale fish traders are women [↑](#footnote-ref-56)
55. Undertaken by West African Bird Study Association in the Niumi National Park. [↑](#footnote-ref-57)
56. USAID. 2013. Roof-top rainwater harvesting best practice guide. International Relief & Development (IRD). Available at <http://www.ird.org/uploads/IRD_RWH_Guide_10June13.pdf> Accessed on 15 August 2014. [↑](#footnote-ref-58)
57. Mekdaschi Studer, R. and Liniger, H. 2013. Water harvesting: guidelines to good practice. Centre for Development and

    Environment (CDE), Bern; Rainwater Harvesting Implementation Network (RAIN), Amsterdam; MetaMeta, Wageningen; The

    International Fund for Agricultural Development (IFAD), Rome. [↑](#footnote-ref-59)
58. IFAD. 2014. Investing in Rural People in The Gambia. [↑](#footnote-ref-60)
59. Jaiteh, M.S. 2011. Climate change and development in The Gambia: challenges to ecosystem goods and service. Available online at: <http://www.columbia.edu/~msj42/pdfs/ClimateChangeDevelopmentGambia_small.pdf>. Accessed on 5 June 2015. [↑](#footnote-ref-61)
60. The Republic of Gambia. 2003. First National Communication of the Republic of Gambia to the United Nations Framework Convention on Climate Change [↑](#footnote-ref-62)
61. AIACC. 2006. Making economic sense of adaptation in upland cereal production systems in The Gambia. AIACC Working paper No. 37 (August 2006). [↑](#footnote-ref-63)
62. IFAD. 2014. Investing in rural people in The Gambia: rural poverty in The Gambia. Operation Fact Sheet. Available online at: <http://www.ifad.org/operations/projects/regions/PA/factsheets/gm.pdf>. Accessed on 5 June 2015. [↑](#footnote-ref-64)
63. Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa. [↑](#footnote-ref-65)
64. Blignaut et al. 2014. Restoration of natural capital: a key strategy on the path to sustainability. *Ecological Engineering*. Doi: http://dx.doi.org/10.1016/j.ecoleng.2013.09.003 [↑](#footnote-ref-66)
65. De Groot et al. 2013. Benefits of investing in ecosystem restoration. *Conservation Biology* 27: 1286-1293. [↑](#footnote-ref-67)
66. <http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/UNDP_reports/Gambia/Gambia.hires.report.pdf>. Accessed on 18 September 2015. [↑](#footnote-ref-68)
67. Scenarios and impacts of Climate Change in the Gambia. Department of Water Resources. Banjul, The Gambia. <https://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=0CD0QFjAGahUKEwjD4omhz4fIAhUkCtsKHfL1Cp8&url=http%3A%2F%2Fwww.parcc-web.org%2Fparcc-project%2Fdocuments%2F2013%2F05%2Fnational-inception-meeting-and-data-collection-2011-the-gambia-sima-f-scenarios-and-impacts-of-climate-change-in-the-gambia.ppt&usg=AFQjCNFzESt8ooYSLE66ye812tSfgCY6NA&sig2=zQ2IpDE25NORpUA6CWZYug&bvm=bv.103073922,d.d24>. Accessed on 18 September 2015. [↑](#footnote-ref-69)
68. Forest fires – as a result of increasing temperatures, windstorms and severe droughts – are becoming more frequent. [↑](#footnote-ref-70)
69. <http://www.columbia.edu/~msj42/pdfs/ClimateChangeDevelopmentGambia_small.pdf>. Accessed on 18 September 2015. [↑](#footnote-ref-71)