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peuples et des nations

DOCUMENT DE PROJET République Gabonaise

Titre du Projet: Renforcer les services d'information sur le climat pour le développement résilient et l'adaptation au changement climatique au Gabon

Numéro du Projet:

Partenaire d'Exécution: PNUD **Date de Début :** Le 1^{er} Mai, 2019 **Date de Fin:** le 31 Décembre, 2020

Date de la Réunion PAC: 24 Avril 2019

Description Sommaire

La République Gabonaise est située sur l'équateur, sur la côte Ouest de l'Afrique Centrale. Le pays est de plus en plus vulnérable aux changements climatiques étant donné l'étendue de son littoral, où vit près de 60 % de la population. Face à ces défis, le Gabon a placé la lutte contre le changement climatique au centre de son leadership national, continental et mondial. Le Gabon préside le Comité des chefs d'État et de gouvernement de l'Union africaine sur le changement climatique (CAHOSCC) pour la période 2017-2019 et a été désigné " Champion " de l'initiative africaine pour l'adaptions (AAI) par la Conférence des Ministres Africains de l'Environnement.

Mais pour réduire les impacts négatifs du changement climatique et relever efficacement les défis socio-économiques et de développement du pays, il faut développer la capacité d'adaptation aux risques liés au climat. Le renforcement de l'information sur le climat en vue de mettre en place un système d'alerte rapide représente une option pour soutenir une adaptation efficace et améliorer la surveillance du climat dans les zones côtières et les communautés pour le développement de la résilience, une adaptation efficace au changement climatique et la réduction des risques de catastrophe.

Pour que le Gabon puisse faire face à ces défis liés au climat, il est nécessaire : i) de développer un système efficace et ciblé de diffusion de l'information climatique ainsi que la capacité de préparation et de réponse des institutions nationales chargées des alertes ; ii) d'améliorer le réseau de surveillance hydrométéorologique et océanique et la capacité de prévision ; iii) de renforcer les compétences des ressources humaines pour garantir une appropriation et durabilité des services océaniques et hydrométéorologiques ; et iv) de renforcer la capacité des parties prenantes à identifier les risques et vulnérabilités climatiques pour soutenir les décisions et la planification du secteur.




Surmonter les obstacles à la mise en place d'un projet d'adaptation robuste et efficace des zones côtières au Gabon passe par les mesures suivantes : i) améliorer le réseau de surveillance météorologique, climatique et hydrologique pour appuyer un système d'alerte rapide ; ii) développer les infrastructures, les compétences et les capacités pour produire efficacement des prévisions précises ; iii) renforcer les capacités pour émettre, diffuser et répondre aux alertes ; et iv) développer des bases de données environnementales et un cadre national pour le partage des données pour soutenir des politiques sectorielles de développement.

Ce projet, financé par le Fonds de partenariat Inde-Nations Unies pour le développement, sera exécuté par le PNUD en étroite collaboration avec le Conseil National Climat, avec l'appui opérationnel de diverses parties prenantes de différentes institutions nationales et visera à : i) établir un réseau fonctionnel de stations de surveillance océanique, météorologique et hydrologique et d'infrastructures connexes pour mieux comprendre les changements climatiques ; ii) développer les capacités institutionnelles et techniques ; iii) diffuser des informations météorologiques et climatiques adaptées aux besoins (y compris des alertes téléphoniques codées par couleur - avis, veilles et avertissements - pour les inondations, l'érosion côtière, les phénomènes météorologiques violents et les stress agricoles, les analyses coûts-avantages intégrées et les cartes sectorielles des risques et de la vulnérabilité) des décideurs du gouvernement, du secteur privé, de la société civile, des partenaires au développement et des communautés au Gabon ; et iv) intégrer les informations météorologiques et climatiques dans les politiques nationales, les plans de travail annuels et le développement local, notamment le Plan Stratégique du Gabon Emergent.

Effet (UNDAF/CPD, RPD ou GPD):	Ressources totales requises	1,000,100
D'ici 2022, la qualité de la budgétisation du secteur social sera sensiblement améliorée et les populations, en particulier les plus vulnérables, auront fait un meilleur usage de services sociaux de base de qualité (Effet 2, UNDAF Gabon 2018-2022).	Ressources totale allouées:	PNUD TRAC:
		Bailleur de Fonds: 1,000,100
D'ici 2022, le Gabon améliore la préservation de la biodiversité et la gestion des ressources naturelles, forestières, minières, énergétiques et foncières, d'une manière compatible avec la durabilité environnementale (effet 4, UNDAF Gabon 2018-2022)	Non-financé:	Gouvernement:
		en-Nature:
Extrant(s) indicatif(s) avec marqueur de genre 2: RAS		0

Convenu entre :

(Signatures)¹

Gouvernement	Fonds de Partenariat Inde – Nations Unies	PNUD
 Jean-Marie NDAG Ministre de l'Economie, de la Prospective et de la Programmation du Développement, Chargé de la Promotion des Investissements Publics et Privés	 Stephen JACKSON Coordonnateur Résident du Système des Nations Unies	 Célestin TSASSA Chargé de Bureau François JAMES Représentant Résident PNUD
Date: 07 JUIN 2019	Date: 17 juin 2019	Date: 14/06/19

2:

² Le marqueur de genre mesure dans quelle mesure un projet investit dans l'égalité des sexes et l'autonomisation des femmes. Sélectionnez une pour chaque sortie : GEN3 (L'égalité des sexes en tant qu'objectif principal) ; GEN2 (L'égalité des sexes en tant qu'objectif important) ; GEN1 (Contribution limitée à l'égalité des sexes) ; GEN0 (Aucune contribution à la qualité de l'égalité des sexes)

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I. DEVELOPMENT CHALLENGE (1/4 PAGE – 2 PAGES RECOMMENDED)

Describe the development challenge that the project seeks to address and how it is relevant to national/regional/global development priorities, as relevant. Include evidence to support the analysis, such as data demonstrating the magnitude of the problem and how it affects different population groups (esp. women and men, and minority and other excluded groups) and why it is important for poverty reduction and addressing inequality and exclusion. Identify the immediate, underlying and root causes of the challenge (including capacity limitations) which have been identified in the problem tree analysis feeding into the Theory of Change. Please be specific.

1. The Gabonese Republic lies on the equator and is located on the western coast of Central Africa. Gabon has a small population of 2,025 million spread out over 267,667 square kilometers², 88 per cent of which is forest. Gabon achieved upper middle-income status in 1962, from oil, timber and manganese exports, and is in high human development category with an HDI of 0.702 in 2017 (110th between 189 countries).
2. . According to the 2017 household survey, the national poverty rate was 33.4 per cent (29.4 per cent for urban areas and 59.5 per cent for rural)³. The country has one of the highest urbanization rates in Africa (87%), with 60% of the population concentrated on the coastal regions.
3. The unfolding of climate change is of critical importance to Gabon. Its economy remains reliant on climate sensitive agriculture and natural resources management (6.3% of the real GDP emanates from the agriculture sector⁴ which represents 41.88% of total employment⁵) and rainfall and natural resource dependent energy (biomass and hydropower). Recent assessments have estimated that the GDP per capita of Gabon could decrease by up to 89% by 2100⁶. Climate Change is also expected to further impact Gabon's income inequality, which is likely to further decrease economic growth and fuel poverty. Adaptation measures will be necessary to build the capacity for adapting to the opportunities and threats faced by climate change.
4. Coastal regions are essential to the country's economy, many sectors, including tourism, industry, agriculture, fisheries, and industries, rely on those areas for development. At the same time, coastal regions are increasingly vulnerable to climate change due their exposure to climate-related hazards such as coastal erosion, river mouths flash floods. A situation made worse by the high rate of urbanization in those same areas and making challenging the building of inclusive, safe, resilient and sustainable cities and human settlements in the country. Poor people living in precarious neighborhoods are often the most vulnerable to natural disasters, including floods. The dwellings are also located on land exposed to wastewater or valve water (21%), floods (19.4%), marshy areas (18.9%), 16.4%, erosion (12.7%), and landslides (8.3%). Exposure to all these risks is greater in coastal areas (the highly urbanized regions Estuaire and Ogooué-Maritime).
5. Climate change will increase the variability and intensity of those extreme weather events thereby further compounding the challenges of mitigating and managing these natural disasters. The increase in intensity and unpredictability of natural disasters due to extreme weather has a substantial impact on the economy, on human assets and human lives. Climate change is likely to further exacerbate the situation of coastal communities and the sectors that form the basis of rural livelihoods in Gabon, such as agriculture and fisheries.
6. Gabon's weak agricultural sector is clearly a development challenge, being at the centre of the government's development and economic diversification strategy, growth in this sector has

² [Http://www.worldbank.org](http://www.worldbank.org): World Development Indicators

³ World Bank Report No. 36490-Gabon, Poverty Diagnostics, June 15, 2006.

⁴ World Bank Report: Gabon Economic Update, December 2015

⁵ International Labour Organization, ILOSTAT database. Data retrieved in September 2018

⁶ Marshall Burke, Sol Hsiang, and Ted Miguel. 2015. "Global non-linear effect of temperature on economic production." Nature.

been slow with most of improvements in the economic situation driven mainly by services and trade. But this also recognizes that climate change will impact on the country's economy and will require investment and action to derive opportunity and mitigate risk from this impact. Studies looking at hydro-economics suggest that the major impact of climate change on Gabon's economy will result from more frequent occurrence of extreme hydrologic and weather events, which will cause losses in both the agricultural and non-agricultural sectors. With an average annual loss due to flood estimated at 270 million USD⁷, the findings have serious implications for the agriculture sector in Gabon and also the relative weakness of Gabon's non-agricultural sectors in absorbing surplus labour. There needs to be a strengthening of the forecasting ability to anticipate these extreme weather events and mitigate them.

7. Libreville, as with other cities in Gabon will be affected both directly and through its changing relationship with its hinterland. It is envisaged that there will be a gradual increase in temperature (as indicated above) and minor increase in annual precipitation over the next 50 years but a changing seasonal pattern. It is projected that this will result in: increases in flooding and vulnerability of drainage infrastructure, residents and businesses to flood damage; increases in water borne and insect disease vectors. The ecology of the region is likely to change and within the city itself, management of sensitive catchments will be needed to maintain ecological services that the urban economy depends on – particularly water and sediment management, water quality and quantity, and bio energy resources.

8. It is recognized that women, especially those leading the households, are most vulnerable group to climate change. Despite the fact that the national policies putted women at the center, with a dedicated decade from 2015 to 2025, no changes had been achieved in their living conditions and inclusivity in economic activities. Even more, climate change may affect the socially constructed role dynamics between men and women and may undermine efforts to build more equitable access to development. The project aims to build strengthened climate information and early warning systems and long-term planning capacity, so that severe weather events that can have catastrophic consequences on livelihoods and food security are better forecasted and long-term adaptation to climate change is improved.

9. Climate change and the limited availability of climate information are leading to increased challenges in managing, planning and coordinating the impact of, and response to increased rainfall variability and severe weather events in Gabon. A combination of insufficient coverage of observational infrastructure (both automatic weather stations and hydrology gauging stations) with low capacity to analyse and model the climate and environmental data, leads to inadequate information to support the decision-making processes. The weak observational and analytical capability compounds the difficulty to foresee and manage extreme weather events, and to mitigate long term impacts of climate change on various sectors of the economy. Those difficulties were stressed in the Gabonese National Climate Plan released in 2012.

10. Gabon has a meteorological network inherited from the colonial era composed of 14 synoptic stations, for measuring the parameters of temperature, rainfall, wind strength and pressure. To date, three (3) stations are still active, including those in the cities of Libreville, Port-Gentil and Mvengue in Franceville. The other nine (9) stations are considered obsolete or ineffective because of poor calibration that no longer provides the desired results. To fill gaps in the network, projects partnering the government and NGOs or economic operators are undertaken. One between The Nature Conservancy (TNC) and the Ministry in charge of Water Resources has established two hydro-meteorological stations operating since 2017; Ayem, whose installation began on Thursday, September 21 (replacing an old station which reported pre 1980) and Akelayong, which started on September 26 on the Mbé River (new site for a station). These stations provide the ability to measure water levels, rainfall, air temperature, wind speed, and solar radiation. The first data

⁷ Gabon Risk Profile - Floods & Droughts: <http://africa.cimafoundation.org/documents/968>

collected were satisfactory as a basis for implementing a wider network. However, malfunctions related to sealing, calibration, programming and reception problems have been noted, reducing their effectiveness over time.

11. In addition, the Ministry in charge of Transport, which covers the General Directorate of Meteorology, has two automatic satellite receiving stations, one for the collection of environmental data (AMSD) and another for the collection of meteorological data through the PUMA system. Both were installed in the 2000s. In 2011, the Directorate General of Meteorology received a server through the UNDP Adaptation Program in Africa (AAP-Gabon) whose installation was to be completed by the country but could not be due to a lack of financial resources. This server would have allowed the switch to the MESA system, but of the three servers required for the operation of the entire system for reception, processing and data collection, only the PUMA station is operational. The Directorate also lacks human capacity to carry out all the tasks that are prescribed to it. In international fora, the country has accumulated an arrears of contribution up to 109,523,144 FCFA. The details of this debt are: for WMO, an amount of 103,523,144 FCFA corresponding to 11 years of arrears, for AMCOMET: 10,000 US dollars or 6,000,000 CFA francs remain unpaid to date.

12. To address weaknesses in the monitoring system, the directorate proposes to install 9 automatic weather stations in the cities of Omboué, Gamba, Moulengui, Malinga, Fougamou, Kango, Ndjole, Booue and Boumango. It is also desired to install three automatic agro-climatological stations in the cities of Iboundji, Bélingo and Médoneu (see Figure 1 below). However, given the fragile financial situation of the directorate and the added costs of human resources, technical capacity development and spare parts for these additional stations it is recommended to install a subset and build capacity over time to manage and maintain these stations.

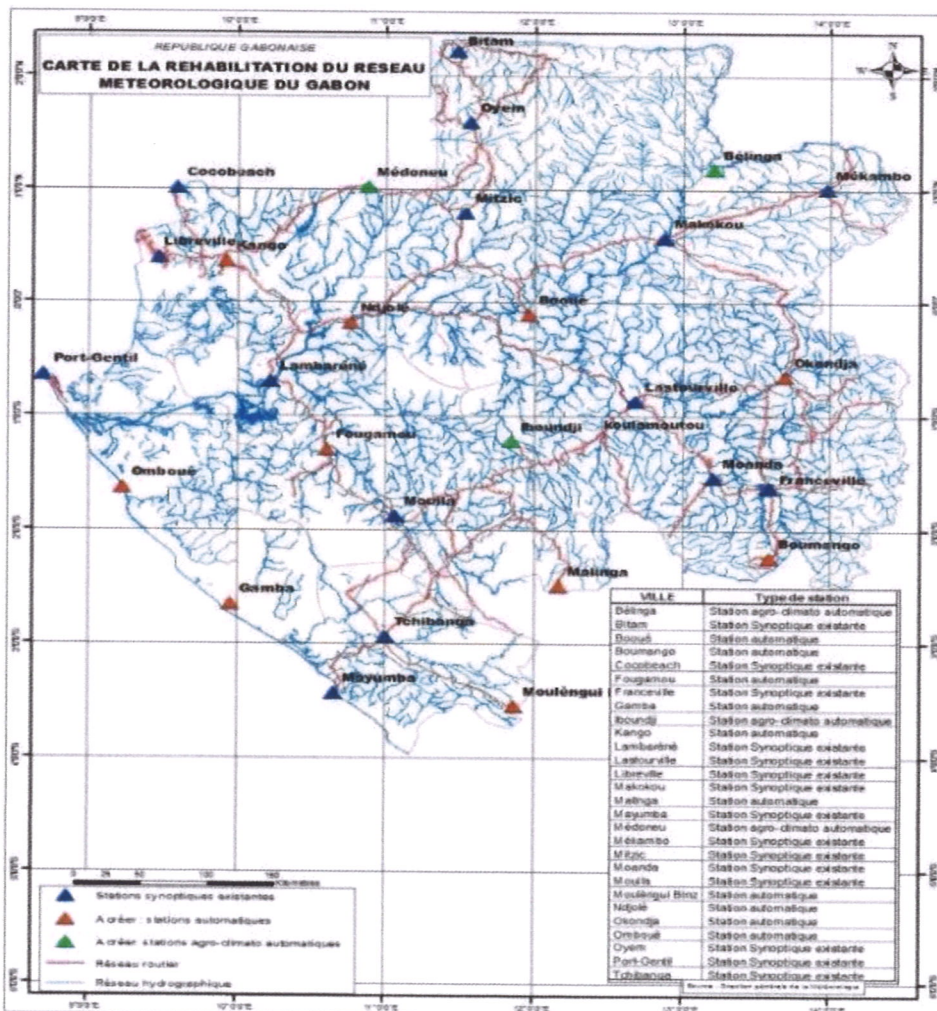


Figure 1: Existing synoptic (manually operated) weather stations and locations for installation of automatic weather and agrometeorological stations.

II. STRATEGY (1/2 PAGE - 3 PAGES RECOMMENDED)

Explain the detailed theory of change (ToC) for this project and what UNDP with partners will do to address the development challenge described above. Identify the approach that has been selected, with a clear rationale backed by credible evidence, integrating gender concerns into the approach. Identify what knowledge, good practices and lessons learned (including from evaluation) have informed the analysis of available choices and the selected strategy.

Detail the project's selected approach and explain how it is expected to lead to change at the output level. Clearly link the project's ToC to the programme/CPD's ToC by stating how the project will contribute to the UNDAF/CPD outcome. State key assumptions about what will change, for whom, and how this will happen. Assumptions should include consideration of internal factors (relating to project design and implementation) and external factors (relating to other partners, stakeholders and context) that will be critical for achieving expected changes. Cite best available evidence which supports these key assumptions in the ToC, including findings from evaluation and other credible research, as well as knowledge, good practices and lessons learned from previous work by UNDP and others, in this country and in other relevant contexts.

It is good practice to include a theory of change diagram in the annex showing the linkages between the development challenge and the immediate, underlying and root causes.

Baseline scenario, referred solution and barriers to address

13. Without investment, the Gabonese population and economy will be facing increasing pressures from more frequent and severe climate-induced natural disasters due to climate change. Losses of lives and economic losses and associated impact on GDP will be increasing. Improvement to the climate information system will not be possible due to the existing financial gap in public finance and investments and whiteout in the mitigation and the prevention of the climate risks

14. The ability of coastal regions in Gabon to respond and adapt to climate change is affected by the absence of proper climate information to forecast and communicate immediate and longer-term climate risks to affected populations and users. The preferred solution to help Gabon become more resilient to climate change needs to improve the country's ability to monitor and forecast extreme weather and long-term climatic changes. To achieve that, the country needs to support the planning authorities to routinely include climate risks into their planning processes.

15. Three critical barriers to the realization of the preferred solution were identified, which the project will aim to overcome:

- (i) insufficient and ineffective hydrometric network for the provision of real-time automatic observations for monitoring, modelling and forecasting climate risks;
- (ii) lack of technical and human capacities within the government to implement and maintain a system for monitoring, registering, predicting and addressing climate-induced natural hazards; gaps in legal, institutional and coordination frameworks for the enhanced use of climate information;
- (iii) ineffective delivery and utilization of climate information for the national, sectoral and local planning, modelling and decision-making.

Adaptation alternative

16. To overcome the barriers cited above and to deal with the climate-induced natural hazards intensified due to climate change, Gabon needs to move towards a more proactive integrated risk-

informed approach centered around early warning, risk reduction, and preparedness. There is a need to support the commitment of Gabon to avoid losses of lives and to reduce economic and infrastructure losses caused by climate-induced natural disasters through the establishment of a climate information system.

17. A climate information system relies on effective forecasting and warning, knowledge of where and when the hazards will occur, engagement of all key players in the response, actions to be taken by individuals and response plans. Accurate and representative measurement of hydrometeorological variables is necessary for the provision of timely warnings to emergency responders and the population at risk. More accurate forecasts of the location and extent of the hazard will result in more effective warnings and response. For accurate forecasts and better strategic assessment of hazards, there is a fundamental need to expand and optimize the hydrometric monitoring by increasing the density of monitoring stations over the targeted areas. At community level, there is a need to improve community resilience and capacity to understand their vulnerabilities, adapt and respond to hazards, through the implementation of community-based early warning schemes.

18. The adaptation alternative will be achieved by: i) establishing a functional network of oceanic, meteorological and hydrological monitoring stations and associated infrastructure to better understand climatic changes, ii) developing institutional and technical capacities; iii) disseminating tailored weather and climate information to decision makers in government, private sector, civil society, development partners and communities; iv) integrating weather and climate information into national models, policies, annual workplans and local development.

19. Capacity building to enhance the analytical skills and capability of hydro-met and disaster-risk management institutions (e.g. National Climate Council) to analyze and package weather, climate and hydrological information is an essential part of this project. It will improve the effective and efficient functioning of these crucial monitoring and forecasting institutions to deliver their mandate, including the timely issuing of forecasts and warnings. Where possible, the intervention will explore and encourage **South-South cooperation for training and capacity development** as much as possible.

Theory of change

20. The project will address three critical barriers described above towards implementing a climate information system centered around early warning and risk reduction. It will provide critical climate risk information that would enable the Government of Gabon to implement transformative policies for reducing exposure and vulnerability of the population, various sectors (e.g. tourism, industry, agriculture, fisheries, industries, and human settlements), critical infrastructure, natural resources and ecosystems to climate-induced hazards. The project will thus catalyze a paradigm shift in the climate-informed national risk reduction and early warning approaches which will catalyze the use of climate-risk information and approaches by key government players. The project interventions are expected to have the following benefits to key sectors:

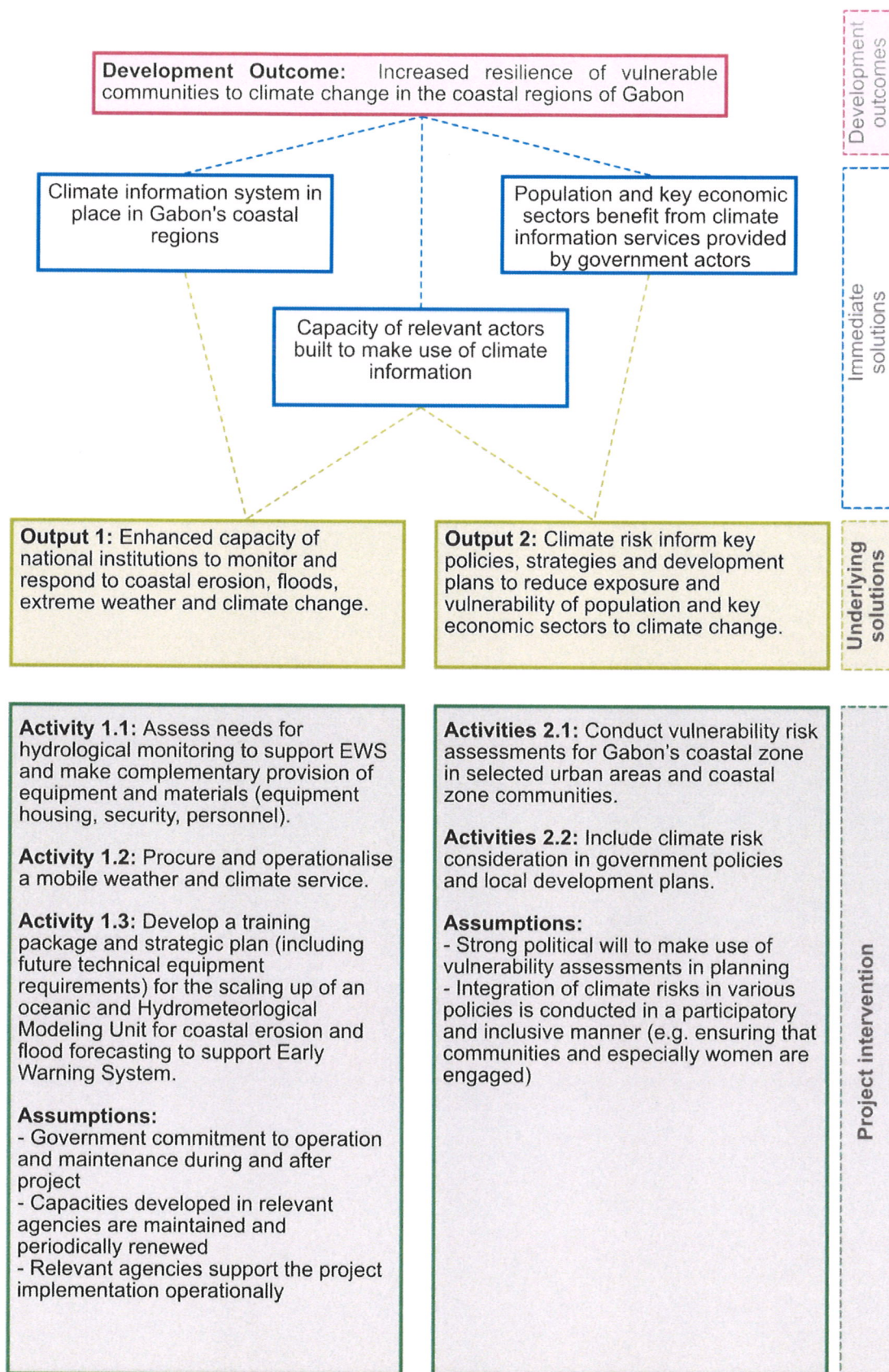
- **Critical Infrastructure:** climate information is critical to enable sector resilience planning for all critical infrastructure impacted by climate hazards. With climate risk information embedded into the planning, design, and construction of critical infrastructure, there will be reduced impacts of hazards, limiting the disruption of essential services resulting from hazards thus increasing efficiency of most sectors relying on critical infrastructure.
- **Agriculture.** climate information and products to be developed can be used to provide improved and climate resilient farming practices which will catalyze efficiencies for subsistence farmers and commercial farming enterprises alike.

- Natural resources and ecosystems: climate information will allow for better protection of land, forest and water resources in the target areas.
- With close to 87% of the population living in urban settlements, Gabon's urban infrastructure will be increasingly impacted by climate risks whose magnitudes are forecasted to escalate dramatically. A better factoring in of the climate risks will lead to more resilient human settlements.

21. Furthermore, this climate information infrastructure will provide information to local populations on weather and weekly risk, especially for the fisheries sector (and artisanal fishermen in particular).

22. The project will target the coastal regions of Gabon, a high priority area due to its vulnerability to climate hazards and its importance for the economic development of the country. There are many other locations where interventions are needed in Gabon, the current project offer potential for scaling up the approach in other areas in the country.

23. The diagram below presents the Theory of Change diagram with project outcomes, immediate solutions, project outputs (underlying solutions), project activities (interventions) and assumptions.



III. RESULTS AND PARTNERSHIPS (1.5 - 5 PAGES RECOMMENDED)

Expected Results

- *The text under this heading should translate the strategy above into the work we will do through the project. Describe the planned interventions of the project and explain why those interventions are best suited to achieve the intended results, linking this to the theory of change. State what change we expect to see that will be attributable to the project. Expected development change should be included in the results framework and monitored regularly by the project. Link the expected results to the relevant higher-level results (i.e., programme outcome, UNDAF, Strategic Plan.)*

24. The project's objective is to reduce exposure of Gabon's communities, livelihoods and infrastructure to climate-induced natural hazards through a well-functioning climate information system. The project will achieve this by investing in hydromet-related infrastructure in the coastal regions and building the capacity of relevant actors to analyse and disseminate weather, climate and hydrological. The results will be attained by delivering 2 concrete outputs and number of activities described below.

25. Output 1: Enhanced capacity of national institutions to monitor and respond to coastal erosion, floods, extreme weather and climate change.

26. The first output will deliver improved national coverage of weather and environmental observational capacity at the infrastructure level, by repairing the dysfunctional existing hydro-met equipment, rescuing as much data as possible and training staff in operations and maintenance of the apparatus. The improved data and information will then feed into the cross sectoral and integrated planning process for disaster risk management and climate change adaptation. It is understood that under this component of the project the Government of Gabon will be able to use the resources to procure, install and/or rehabilitate critical infrastructure required to build and/or strengthen the climate-related observational network. In all equipment purchases an assessment of existing equipment will be made, noting the manufacturer, whether it is still working and whether the NHMS has an interest in continuing with makes/models. This will need to be weighed against the costs of potentially cheaper solutions and the added costs of training personnel to service various products.

27. Much of the value of early warnings (whether a user changes their actions or lives/assets are safeguarded) is dependent on the packaging, communication and dissemination of those warnings. The effectiveness of warnings can be improved either through improving the forecasts/monitoring information, communications or the decision-making process. Specific details on the exact type of weather and climate service (including EWS information and risk management tools) will be determined during the project implementation phase as well as additional actions designed to meet those and other priority needs – such as climate change modelling. The capacity of relevant agencies will be developed to consolidate and customize weather and climate services for government, private sector, civil society and development partners. This will include tailored weather and climate forecasts and information for the agriculture sector and flood, drought and severe weather warnings for vulnerable communities and local farmers.

Activity 1.1: Assess needs for hydrological monitoring to support EWS and make complementary provision of equipment and materials (equipment housing, security, personnel).

Activity 1.2: Procure and operationalize a mobile weather and climate service.

Activity 1.3: Develop a training package and strategic plan (including future technical equipment requirements) for the scaling up of an oceanic and Hydrometeorological Modeling Unit for coastal erosion and flood forecasting to support Early Warning System.

28. Output 2: Climate risk inform key policies, strategies and development plans to reduce exposure and vulnerability of population and key economic sectors to climate change.

29. The project will introduce hazard, risk and vulnerability assessment, modelling and mapping methods and tools in selected coastal zones of Gabon and use it to improve community resilience and capacity to understand their vulnerabilities, adapt and respond to hazards. The methods and tools are meant to support more systematic gender-sensitive socio-economic vulnerability assessment for decision-making for the prioritization of resilience investments. By making use of socio-economic risk and vulnerability models which integrate various spatial socio-economic data with the hazard maps, and producing risk and vulnerability maps, the project can provide a variety of application in terms of planning and to estimate economic losses and damages and loss of life. Vulnerability assessments developed will be used to ensure that climate risk considerations are integrated in key government policies and coastal development plans in the targeted areas.

Activities 2.1: Conduct vulnerability risk assessments for Gabon's coastal zone in selected urban areas and coastal zone communities.

Activities 2.2: Include climate risk consideration in government policies and local development plans.

Resources Required to Achieve the Expected Results

- *Describe what resources are required to achieve the expected results. Thinking about the change pathway in your theory of change, state the key inputs (people, purchases, partnerships, etc.) that are required to deliver the outputs. This should include UNDP staff time from the country, region or HQ level, which must be adequately estimated, costed, and included in the project budget.*

30. Given the baseline situation in Gabon with limited financial and technical capacities to operate and maintain a large network of weather stations it is important to establish a base set of stations which can be used to familiarise and train technicians to be able to operate and maintain these stations in a sustainable manner in the future. Initially a set of 5 stations should be installed at locations where observers are currently available to be trained to operate and maintain (O&M) the equipment. Additionally, a rigorous training programme for the observers is required to bring them up to speed with modern O&M procedures related to the specific equipment which is installed. In order to start a more rigorous hydrological monitoring programme 5 automatic hydrological stations will be installed in key rivers and a similar training programme undertaken for O&M of those stations for both national technicians and local observers. Additional training will also be provided on forecasting techniques for hydrology and coastal flooding, focussing on techniques initially appropriate for existing capacity to undertake such forecasting on a routine basis. This training will be supported through visits to nearby countries which are already successfully issuing similar warnings and forecasts. Training on the use of regionally and globally available data sources will also be undertaken alongside rehabilitation of the MESA station and access to products through EUMETCAST. Furthermore a strategic plan will be developed for DGM to ensure that future investments by donors are strategically guided to build on each other and in line with capacity at DGM; this will also guide development of products and forecasting capacity.

31. In order to communicate with communities, farmers and fishers a mobile-based dissemination service will be initiated, which will start to issue weather forecasts initially based on global forecasts (to ensure reasonable reliability) and can be used to issue locally made forecasts at a later date once confidence in such forecasts have been developed. This will be complemented by assessments/surveys of user requirements and current use of forecasts, which will form the basis for identifying particular regions requiring particular types of climate information. In the long term this will inform where to deploy monitoring equipment and feed into the strategic plan.

32. The development of coastal risk information will also be undertaken through training on how to conduct local risk assessments, focussing on urban areas, as well as assessments of the policy environment which will identify entry points for climate and coastal risk information in planning and long-term development in these areas. This will be underpinned by an assessment of risk in focus areas, as well as identifying the main vulnerabilities which heighten these risks. Adaptive measures and tools will also be identified to help the government keep track and monitor changes in risk in the future.

33. The project is coherent with national priorities regarding the investment in human development (PSGE- 2012-2025) and the sustainable management of resources for future generations (Economic recovery plan – 2017-2019). The project is also aligned with two UNDAF Outcomes: i) the Co Outcome II chosen for the Co CPD for the period 2018-2022, By 2022, the quality of social sector budgeting is significantly improved and people, especially the most vulnerable, have made better use of quality basic social services; It is expected that a strengthening technical capacities of national institutions and local communities to ensure the conservation, sustainable use, adaptation, access and benefit sharing of natural resources, biodiversity, ecosystems, in line with international conventions. ii) The Outcome By 2022, Gabon improves the preservation of biodiversity and the management of natural resources, in particular those from forestry, mining, energy and land, in a manner compatible with environmental sustainability (effect 4, UNDAF Gabon 2018-2022).

34. This project is also oriented towards the implementation of the SDGs and is aligned to the UNDP's strategic plan for the period 2018-2021 in its three objectives: eradicating poverty in all its forms - and keeping people out of poverty; accelerating structural transformations for sustainable development, including innovative solutions that have multiplier effects through the SDGs and building resilience to crises and shocks, to safeguard development gains. The Co will thanks to that project build a plate-form on adaptation to climate changes issues in link with the signatures solutions raised in the 2018-2021 UNDP's strategic plan: Signature solution 1: Keeping people out of poverty; Signature solution 3: Enhance national prevention and recovery capacities for resilient societies.

Partnerships

- *Describe how the project will work with partners to achieve results and briefly map what other stakeholders and initiatives are doing to address the development challenge. This should not be simply a list of partners, it should be linked to the theory of change. For example, what are the assumptions and expected results achieved by partners that are critical for the achievement of results of this project?*

A number of partners have been identified to support and benefit the expected results from this project. They include:

- *National Agency for Spatial Observations and Studies : Projet GMES & Africa, Geo-surveillance of Central African Tropical Rainforests (project in partnership with the AU and EU). Opportunities are actively being explored to supplement the hydromet data generated from the new stations envisaged in this project with geospatial imaging data from GMES.*
- *Institut de Recherche pour le Développement (IRD), UNDP & GEF : prospective project on reinforcement of climate information services and early warning for Francophone Africa. Discussions are ongoing for synergies between the present project and the larger initiative being explored for Francophone Africa.*
- *The Nature Conservancy : follow up activities to UNDP/GEF/TNC project on hydrological modelling of water usage in the Mbe River basin (Gabon/Equatorial Guinea/Cameroon border). The model already developed for water usage around the Mbe River Watershed and associated hydroelectric dam is under consideration for extension to the other dams being contemplated for Gabon. Data generated by the present project can be fed into the new modelling in phase II of the TNC's activities.*

- *African Development Bank: Gabon - Programme De Developpement Du Secteur De L'eau Et De L'assainissement – Premier Sous-Programme Integre Pour L'alimentation En Eau Potable Et L'assainissement De Libreville (Piaepal) – Volet Eau Potable. Discussions are ongoing with AfDB Gabon and the Gabonese presidency to see how to maximize synergies between the two projects.*

Risks and Assumptions

- *Specify the key risks that can threaten the achievement of results through the chosen strategy and the assumptions on which the project results depends. Describe how project risks will be mitigated, especially how potential adverse social and environmental impacts will be avoided where possible and otherwise managed. Refer to the full risk log, which should be attached as an annex.*

Risks	Risk Mitigation Measures
Problems related to involvement and co-operation of stakeholders to work cross-sectorally	Clear commitment of the Ministries and Bureaus to sharing of data and joint programming. Area-based planning approach that promotes cross-sectoral data sharing.
Unavailability of requisite human resources and data	Mitigated by recruitment of international consultants, where necessary, who will work closely with in-country counterparts and by targeted capacity building activities. Training activities of local personnel will be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas.
Insufficient institutional support and political commitments	The proposed project is strongly supported by the Gabonese Government and other key stakeholders (such as the National Climate Council) and development partners. The project, in conjunction with UNDP, will therefore take advantage of this to forge strong partnership with other development partners. Direct linkages to existing and planned baseline development activities implemented by government, securing of the necessary co-financing, as well as local buy-in will also minimize this risk. It will also be important to establish buy in from all government departments early as the project will utilize data and information from a wide range of departments.
Poor co-ordination among implementing and executing agency.	Clear Project Management arrangements (see Section 4).
Local IT and telecommunications infrastructure weak e.g. international bandwidth and local mobile telecommunications networks	Cost-effective solutions for each particular situation will be used e.g. satellite and/or radio communications. Where feasible automatic weather and hydrological stations reporting over the mobile telecoms network will be preferred.
Limited capacity within relevant ministries/ insufficient qualified human capacity.	A major part of the project is to strengthen institutional and technical capacity for planning, designing and implementing local level adaptation actions. Technical and capacity building expertise will be contracted, to work with and train local technical staff. A dedicated Project Manager will be supported with short term national and international specialist support to ensure smooth and timely delivery of project outputs.
Work progresses in a compartmentalized fashion and there is little integration e.g. government departments refuse to share data and information	This risk is always present in a project such as this. By ensuring that capacity is built across a range of departments and implementing 'quick win' measures early (developing products based on internationally available data), these issues can be mitigated.
Non-compliance by primary proponents for the successful implementation of this project	Ensuring that the project is designed and implemented in a participatory and inclusive manner, following established UNDP procedures, will mitigate the risk. Since the activities correspond to the urgent needs as expressed by the primary proponents the risk of non-compliance should be reduced
Climate shock occurring during	Engage with disaster response and recovery as part of adaptation

the design and implementation phase of the project	<p>planning process and incorporation of climate hazard information into planning.</p> <p>There may be some delays as more urgent priorities may need to be addressed by some of the stakeholders (e.g. NHMS or disaster management) but it is unlikely that this will derail the project.</p>
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Stakeholder Engagement

- Identify key stakeholders and outline a strategy to ensure stakeholders are engaged throughout, including:
 - *Target Groups: Identify the targeted groups that are the intended beneficiaries of the project. What strategy will the project take to identify and engage targeted groups?*
 - *Other Potentially Affected Groups: Identify potentially affected people and a strategy for engagement and ensuring they have access to and are aware of mechanisms to submit concerns about the social and environmental impacts of a project (e.g. UNDP's Social and Environmental Compliance Review and Stakeholder Response Mechanism).*

Project Stakeholder	Relationship with the Project
Primary or principal stakeholders - National Government	<p>The principal stakeholders of this project is the National Climate Council, entrusted to support the sustainable development of the nation while combating climate change and preventing species loss and the Gabonese Agency for Study and Spatial Observation. Other stakeholders among government agencies are:</p> <p>(i) Ministry of Transport and Logistics, (ii) Ministry of Environment and Sustainable Development; (iii) Ministry of Agriculture; Fisheries and Rural Development, (iv) Ministry in charge of Decentralisation; (v) Ministry of Forestry, (vi) National Land Use Plan Commission, (vii) National Parks Agency, (viii) Ministry of Homeland; (ix) Ministry in charge of Health; Ministry for Human Settlements (Habitat). (xi) fire brigade.</p>
Multilateral and agencies of the United Nations	<p>The most important first responders to early warning are the multilateral agencies among which are i) the World Food Programme, ii) Food and Agriculture Organisation, iii) Office for the Coordination of Humanitarian Affairs and iv) World Health Organisation, v) the International Organization for Migration, vi) International Children's Emergency Fund and vii) Educational, Scientific and Cultural Organisation. Some of these organisations also gather and analyse climate information. They support the government through participation in committees, projects and programmes dealing with early warnings and disaster relief and resilience.</p> <p>UNDP works closely with those agencies through a broad agreement to coordinate efforts on a national scale to pool efforts and optimise the use of resources, to share climate data and collaborate on developing forecasts and early warnings and to strengthen existing initiatives and infrastructure.</p>
International non-government agencies	<p>The project will coordinate its activities with international and national NGOs involved in early warning and disaster risk reduction, such as the the Red Cross. The project will share climate information and collaborate in the development of forecasts and early warnings. Other international humanitarian agencies will be provided early warning information and a communication protocol and an information management system for the same will be evolved in consultation with them and the National Climate Council.</p>
Media operators telecommunication providers.	<p>The project will engage with telecommunication and media operators in order to build a communications network for climate information and services, but also to seek their partnership.</p>
Indigenous Peoples	<p>The end-user of early warnings and climate advisories will be indigenous peoples who comprise the majority of the rural populations. Identification of vulnerabilities and formulation of early warnings and advisories will need to address their vulnerabilities and requirements. Vulnerability maps will take into account livelihood and resource dependence patterns of indigenous peoples. The project team will gather feedback from indigenous groups to feed into their design and the modes of communication used for their</p>

	<p>dissemination and to guide all activities which involve indigenous peoples as per established guidelines⁸.</p> <p>For instance, in the event of a hydromet installation needing to be on, or in the vicinity of communal lands, prior permissions from local communities and their representatives will be sought. The concerned communities will be informed about the project and the purpose of the equipment and any physical activities will only follow from their explicit consent. If possible, local volunteers will be asked to participate in the operation and maintenance of the equipment and will be trained as needed.</p>
Civil Society Organisations	<p>The project will seek to strengthen and where feasible, further extend the existing hydromet installations of multilateral agencies and international NGOs. Some of these could be managed by local NGOs. This is a cost effective way of widening the hydromet network and at the same time ensuring the protection of equipment and a building of local capacities.</p>

South-South and Triangular Cooperation (SSC/TrC)

- *Describe how the project intends to use SSC/TrC to achieve and sustain results, if applicable.*

35. The project will ensure that valuable results and experience are shared in the region and beyond to benefit other countries looking to strengthen their hydromet network and capacities. The government of Gabon is a member of inter-governmental facilities such as the Economic Community of Central African States (ECCAS) and through which it hosted the 1st African Hydromet Forum of Central Africa in November 2018. This experience triggered the first step necessary to foster greater cooperation among Central African States to take stocks and learn from each other experiences. As much as possible, the project will seek to create partnerships with regional entities and share knowledge where possible.

Knowledge

- *Describe any specific knowledge products, besides evaluations, that will be produced by the project (e.g., publications, databases, media products, etc.) and how the project will create visibility for knowledge and lessons learned generated by the project so others can benefit.*

36. Relevant climate forecasts and warnings will be made available via the mobile weather and climate service, which will be linked to the designated repository of data in Gabon. The information will aim to be presented in an intuitive interface allowing easy access to relevant climate data and warnings.

37. Numerous multilateral agencies as well as international NGOs have their own data bases and GIS and remote sensing facilities and access to international facilities for climate modelling and forecasting. These institutions play a valuable role in generating climate and related information. However, there is often duplication of work and, in some cases, a tendency to withhold data. On the other hand, there is a strong case for collaboration between agencies in the sharing of climate data, its analysis and dissemination of forecasts. The project will seek to institute more open data exchange within Gabon and among members of ECCAS.

Sustainability and Scaling Up

- *Describe how the project will use relevant national systems, and specify the transition arrangement to sustain and/or scale-up results, as relevant. Describe how national capacities will be strengthened and monitored as relevant, and how national ownership will be ensured.*

⁸ UNDP Guidance Note: Social and Environmental Standards: Standard 6: Indigenous Peoples <https://info.undp.org/sites/bpps/SES_Toolkit/SitePages/Standard%206.aspx> and UN-REDD Programme Guidelines on Free, Prior and Informed Consent (FPIC) <<http://www.uncclern.org/sites/default/files/inventory/un-redd05.pdf>>

38. The project will integrate new hydrometeorological and telecommunications equipment and EWSs in existing systems and institutions. These organizations currently have the required capacity to maintain such systems and the project will build additional capacity. For instance, the met department has long-term experience in hydrometeorological monitoring and has various divisions and units to collect, store, process, analyse/interpret data, make forecasts and provide technical maintenance.

39. In terms of maintenance of infrastructure, under suggested project the hydromet department is committed to provide proper O/M to expanded hydrometeorological network and newly created EWS systems during and after the end of the project. Furthermore, new agrometeorological stations will be integrated in existing agrometeorological network operated by the govt who will also take care of its operations and maintenance after the existence of the project.

40. Concerning non-structural measures to be implemented at the community level, local contribution (either in-kind or cash) will be leveraged from target communities to implement on-the-ground activities and to gain greater ownership from their side. Besides, a significant capacity development and awareness raising programmes will be designed and implemented in target communities that will ensure the institutional sustainability of results to be achieved at community level.

41. Various ministries to be engaged in the process, including Ministry of Finance and its specialised agencies have significant experience in working with international donors particularly with UN agencies, including UNDP, and will remain engaged after the implementation of this project.

IV. PROJECT MANAGEMENT (1/2 PAGES - 2 PAGES RECOMMENDED)

Cost Efficiency and Effectiveness

- *Identify how the strategy is expected to deliver maximum results with available resources, with reference to evidence on similar approaches in this country or similar contexts. Include measures based on good practices and lessons learned. Explain why the selected pathway is the most efficient and effective of available options. Possible approaches can include:*
 - i) Using the theory of change analysis to explore different options to achieve the maximum results with available resources*
 - ii) Using a portfolio management approach to improve cost effectiveness by leveraging activities and partnerships with other initiatives/projects*
 - iii) Through joint operations (e.g., monitoring or procurement) with other partners.*

42. Quantifying the cost effectiveness of improved climate information and early warning system investments is acknowledged to be difficult and is therefore not regularly undertaken⁹. Cost-benefit analyses of investments in improved climate monitoring and effective early warning systems are scarce. However, evidence suggests that investment in prevention is more cost-effective than spending on relief¹⁰. In developed countries in general, the benefits of improved weather services to inform severe weather warnings exceed costs by an average of more than 10 times (taken from Tsirkunov and Rogers, 2010)¹¹. There is potential for similar cost-benefits to be

⁹Tsirkunov, V. and Rogers, D. 2010.Costs and benefits of early warning systems.Global Assessment report on Disaster Risk Reduction.The World Bank.

¹⁰Healy, A. and Malhotra, N. 2009.Myopic Voters and Natural Disaster Policy.*The American Political Science Review* 103(3): 387-406.

¹¹Tsirkunov, V. and Rogers, D. 2010.Costs and benefits of early warning systems.Global Assessment report on Disaster Risk

realised through investing in improved climate monitoring and early warnings systems in developing countries. These benefits are expected to be proportional to the: i) population of the country; ii) level of climate-related risk; and iii) exposure to weather due to the state of infrastructure.

43. The objective of the project is to strengthen climate monitoring capabilities through the installation of weather monitoring equipment to inform early warning systems, and for planning for adaptation to climate change. Various approaches could be adopted to achieve this objective. The proposed outputs and procurement purchases of the project were chosen for cost-effectiveness and sustainability of investments (based on available government support) and weighed against alternative approaches. In some instances, investments in technologically advanced equipment and techniques e.g. repairing and installing radar technologies, were considered too expensive to be implemented through the project.

44. Where possible, the project will seek cooperation and partnerships with NGOs and CSOs to expand or implement specific activities in target areas, leveraging and building local knowledge and capacities. Often those activities are also cost-saving as those local partners have found effective ways to implement activities with scarce resources. Based on consultation with the Government, the target areas and scope was reduced to focus on selected coastal areas. This will avoid spreading efforts and concentrate results for greater impact in the targeted areas. The focused approach also opens the door to establish partnership with NGOs and CSOs to replicate the project results outside the scope of this project.

Project Management

Information on the location(s) where the project will be operationalized, the number and location of physical project offices, arrangements for dedicated or shared operations support, how the project will work with other projects, etc. In this section, also describe the audit arrangements, collaborative arrangements with related projects and UNDP Direct Country Office Support Services and direct project costing, if applicable.

45. Existing structures, definition of roles and protocols for coordination between different institutions are weak. This is leading to a duplication of effort, lack of communication between government, multilateral, non-government agencies and private entities which weaken the delivery of early warnings.

46. The project will seek to utilise the institutional arrangement and roles already in place in Gabon which specify that the National Climate Council supports climate change efforts underway in Gabon, and that Ministry of Transport and Logistics is in charge of hydromet activities. The Gabonese Agency for Study and Spatial Observation is the essential technical agency for the operationalization of the hydromet network.

47. The project seeks to strengthen both the communication infrastructure as well as capacities of staff of the relevant hydromet entities. It will strengthen existing institutional collaboration and provide a coordination mechanism and system for sharing climate information and climate information products between government, multilateral agencies as well as international NGOs. This coordination mechanism is expected to help consolidate the collection and sharing of climate data, forecasts and other climate information products. It will lead to a better formulation of early warnings, advisories and other climate information services. The delivery of early warnings to first responders and end users will also be strengthened through this mechanism. It will additionally provide a means to collect crucial climate information from areas identified as data gaps thereby maximising the reach and impact of the project.

48. The project will adhere to monitoring standards and policies, as defined in the Programme Operations and Policy and Procedures (POPP) of UNDP and in the UNDP handbook of planning, monitoring and evaluation. An initial workplan will be included in the project document; it will be refined by the project manager after his recruitment and submitted to the project board for approval. The monitoring of the project progress against the annual workplan will enable the project board to provide an oversight of the project activities and progress towards the achievement of results. Monitoring includes: (a) tracking performance through the collection of appropriate and credible data and other evidence; (b) analysing evidence to inform management decision-making, improve effectiveness and efficiency, and adjust programming as necessary; and (c) reporting on performance and lessons to facilitate learning and support accountability. Evidence from monitoring also serves as a critical input to evaluation and enables evidence-based reporting. The frequency of monitoring activities and the periodicity of progress reports are indicated in section VI on Monitoring and Evaluation of the project document.

49. Additional info on exact locations required

V. RESULTS FRAMEWORK¹²

Intended Outcome as stated in the Country Programme Document Results and Resource Framework for Gabon (2018-2022): By 2022, the quality of social sector budgeting is significantly improved and people, especially the most vulnerable, have made better use of quality basic social services.

Outcome indicators as stated in the Country Programme Document Results and Resource Framework for Gabon (2018-2022), including baseline and targets:
Indicator: Human development index - Baseline: 0.697 / Target: 0.715

Applicable Output(s) from the UNDP Strategic Plan: National institutions and local communities have strengthened technical capacities to ensure the conservation, sustainable use, adaptation, access and benefit sharing of natural resources, biodiversity, ecosystems, in line with international conventions (Output 5)

Project title and Atlas Project Number: Strengthening climate information services for resilient development and adaptation to climate change in Gabon (ATLAS TBC)

EXPECTED OUTPUTS	OUTPUT INDICATORS ¹³	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)			RISKS AND ASSUMPTIONS
			Value	Year	Year 1	Year 2	FINAL	

¹² UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

¹³ It is recommended that projects use output indicators from the Strategic Plan IRRF, as relevant, in addition to project-specific results indicators. Indicators should be disaggregated by sex or for other targeted groups where relevant.

<p>Output 1 Enhanced capacity of national institutions to monitor and respond to coastal erosion, floods, extreme weather and climate change.</p>	<p>1.1 Number of climate/weather and hydrological stations in the target area.</p>	<p>Field inspection of hydromet sites; review of climate monitoring database.</p>	<p>5 (3 Meteorological, 2 hydrological)</p>	<p>2019</p>	<p>9 (5 Meteorological, 4 hydrological)</p>	<p>15 (8 Meteorological, 7 hydrological)</p>	<p>15 (8 Meteorological, 7 hydrological)</p>	<p><u>Risk:</u> Climate shocks occurring during the design and implementation phase of the project result in disruptions to installed equipment and severely affect communities, prior to the EWSSs being established. <u>Assumption:</u> Any climate shocks occurring whilst the EWSSs are being established will not be so severe as to result in a relocation of the communities where the effectiveness of the EWSSs will be tested. <u>Risk:</u> Procurement and installation of hydro-meteorological equipment, including hardware and software, is delayed because of complications with the release of funds and/or procurement difficulties. <u>Assumption:</u> UNDP CO and HQ will coordinate to ensure effective administrative planning meaning the equipment is procured and installed in a timely manner.</p>
	<p>1.2 Frequency and timeliness of climate-related data availability in target areas.</p>	<p>Review of weather, hydrological and climate monitoring databases.</p>	<p>3 weekly, 2 daily</p>	<p>3 weekly, 6 daily</p>	<p>3 weekly, 12 daily</p>	<p>3 weekly, 12 daily</p>	<p>3 weekly, 12 daily</p>	<p><u>Risk:</u> Installed hydro-meteorological equipment fails because it is vandalised or not maintained. <u>Assumption:</u> Communities living nearby installed hydro-meteorological equipment commit to taking active measures to prevent the equipment from being vandalised; and the equipment is adequately maintained by the responsible institution.</p>

<p>Output 2 Climate risk inform key policies, strategies and development plans to reduce exposure and vulnerability of population and key economic sectors to climate change.</p>	<p>2.1 % of coastal population with access to improved climate information and drought, flood and severe storm warnings (disaggregated by gender).</p>	<p>Gender-sensitive field surveys undertaken within identified priority sites, consultant reports.</p>	<p>CO TO FILL</p>	<p>2019</p>	<p>MARK TO FILL</p>	<p>MARK TO FILL</p>	<p>MARK TO FILL</p>	<p><u>Risk:</u> Local information technology and telecommunications infrastructure restricts the transfer of data from installed equipment to necessary recipients, and restricts communication amongst key role players and end-users. <u>Assumption:</u> Information technologies and telecommunications systems implemented or used, where such suitable system already exist, through the project are best suited to the local context and do not restrict the transfer and communication of information.</p>
<p>2.2 Sector-specific policies, annual budgets and development plans that integrate climate information (type and level of development plans).</p>	<p>Review of policies, annual budgets and development plans to validate incorporation of risk, weather and/or climate information.</p>	<p>CO TO FILL</p>	<p>CO TO FILL</p>	<p>CO TO FILL</p>	<p>MARK TO FILL</p>	<p>MARK TO FILL</p>	<p>MARK TO FILL</p>	<p><u>Risk:</u> Lack of commitment from communities where EWS are established undermines the effectiveness of the project demonstrations. <u>Assumption:</u> Awareness raising activities, and the demonstration of the advantages of responding to the information provided through the established EWS, will ensure the commitment of the communities in participating in the project.</p>

VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans:
[Note: monitoring and evaluation plans should be adapted to project context, as needed]

Monitoring and Evaluation Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Responsible parties	Estimated Cost
Track results progress	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.	PM	6,000
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.	PM	6,000
Learn	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.	PM	None
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.	PM	None
Review and Make Course Corrections	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board	PM/PB	None

			and used to make course corrections.		PM	None
Project Report	A progress report will be presented to the Project Board and key stakeholders, consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk log with mitigation measures, and any evaluation or review reports prepared over the period.	Annually, and at the end of the project (final report)				
Project Review (Project Board)	The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.	Specify frequency (i.e., at least annually) Annually	Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.	PB, PM		None
Terminal evaluation	Evaluate the overall results of the projects against the expected outcome and set targets	At the end	Evaluation used to close the project in UNDP's books	UNDP CO		10,000

VII. MULTI-YEAR WORK PLAN ¹⁴¹⁵

All anticipated programmatic and operational costs to support the project, including development effectiveness and implementation support arrangements, need to be identified, estimated and fully costed in the project budget under the relevant output(s). This includes activities that directly support the project, such as communication, human resources, procurement, finance, audit, policy advisory, quality assurance, reporting, management, etc. All services which are directly related to the project need to be disclosed transparently in the project document

¹⁴ Cost definitions and classifications for programme and development effectiveness costs to be charged to the project are defined in the Executive Board decision DP/2010/32

¹⁵ Changes to a project budget affecting the scope (outputs), completion date, or total estimated project costs require a formal budget revision that must be signed by the project board. In other cases, the UNDP programme manager alone may sign the revision provided the other signatories have no objection. This procedure may be applied for example when the purpose of the revision is only to re-phase activities among years.

Outcome/Atlas Activity	Implementing Agent	Activities	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Total (USD)
3022 Output 1: Enhanced capacity of national institutions to monitor coastal erosion, floods and extreme weather and climate change.	Gabonese Agency for Study and Spatial Observation		India-UNDF	72100	Contractual Services- companies	27,000	20,000	47,000
				71300	Local Consultants	13,000	10,100	23,100
				71200	International Consultants	20,000	17,000	37,000
				72300	Materials and Goods	209,000	100,000	309,000
				75700	Training, Workshops and Conferences	20,000	20,000	40,000
				72200	Equipment and Furniture	25,000	10,000	35,000
					Total Output 1			314,000
Output 2 Efficient use of coastal adaptation strategy to climate change and environmental information for making early warnings	Gabonese Agency for Study and Spatial Observation		India-UNDF	72100	Contractual Services	20,000	17,000	37,000
				71200	International Consultants	20,000	30,000	50,000
				74100	Professional Services	25,000	25,000	50,000
				72300	Materials and Goods	20,000	10,000	30,000
				74200	Audio Visual, Print Production Costs, and other Communication services	25,000	20,000	55,000
					Total Output 2			110,000
Project Management	National Council		INDIA-UNDF	61300	Project Manager	65,000	85,000	150,000
				61200	Finance & Admin staff	20,250	27,000	47,250
				71400	Driver	3,375	3,375	6,750
				71600	Travel	5,000	5,000	10,000
				74500	Miscellaneous Expenses	5,000	5,000	10,000
				70000	Monitoring and evaluation	7,500	7,500	15,000
				74100	Audit		5,000	5,000
				70000	Final evaluation		12,000	12,000
				74500	UNDP cost recovery charges Bills	21,000	20,000	41,000
					Total Project Management Cost	127,125	169,875	297,000
	PROJECT TOTAL	551,125	448,975	1 000,100				

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Explain the roles and responsibilities of the parties involved in governing and managing the project. While an example diagram is below, it is not required to follow this diagram exactly. A project can be jointly governed with other projects, for example, through a national steering sub-committee linked to Results Groups under the UNDG Standard Operating Procedures for countries adopting the Delivering as One approach.

Minimum requirements for a project's governance arrangements include stakeholder representation (i.e., UNDP, national partners, beneficiary representatives, donors, etc.) with authority to make decisions regarding the project. Describe how target groups will be engaged in decision making for the project, to ensure their voice and participation. The project's management arrangements must include, at minimum, a project manager and project assurance that advises the project governance mechanism. This section should specify the minimum frequency the governance mechanism will convene (i.e., at least annually.)

50. The financed project will be implemented over a two-year period. UNDP will function as the Implementing Partner for this project. UNDP, as the IP, will be responsible and held accountable for managing the project on a day-to-day basis as per UNDP's DIM procedures. The management arrangements are described in Figure 2 with additional details below.

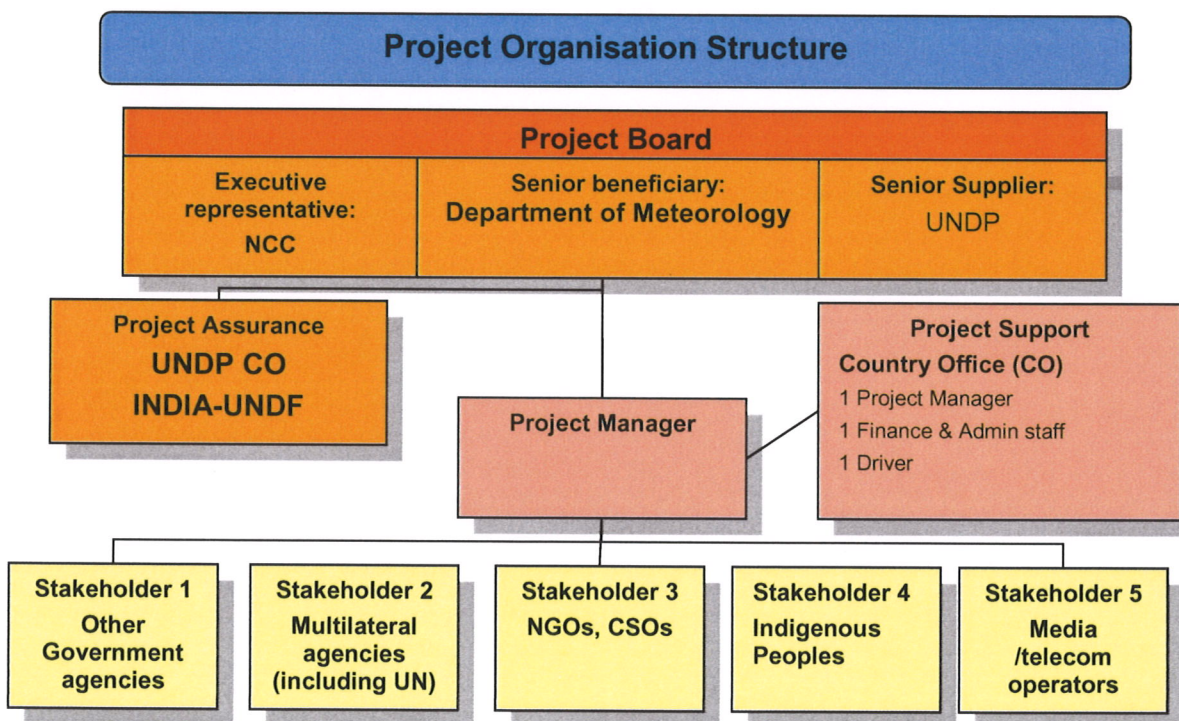


Figure 2: Project organisation structure

51. The Project Board (sometimes referred to as the Project Steering Committee at the local level) will be responsible for making the management decisions of the project and will guide the Project Manager. The Project Board plays a critical role in monitoring progress of implementation and ensuring that recommendations from annual evaluations are adopted for performance improvement, ensuring accountability and adoption of lessons learnt. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager. Based on the approved Annual Work Plan, the Project Board can also

consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

52. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. In cases where consensus cannot be reached within the Project Board, the final decision shall rest with UNDP in its role as the Senior Supplier.

53. Potential members of the Project Board are reviewed and recommended for approval during the PAC meeting. Representatives of other stakeholders can be included in the Project Board as appropriate. The Project Board contains three distinct roles, including:

- An Executive representing the project ownership to chair the group. The Executive for the project will be an individual from the NCC.
- Senior Supplier representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier of the project is UNDP.
- Senior Beneficiary/ies representing the interests of those who will ultimately benefit from the project, i.e. sector and communities vulnerable to the impacts of climate change. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary/ies for the project will be the Department of Meteorology

54. The Project Board will be supported by the following roles:

- The Project Assurance role supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. UNDP CO and the India-UNDP-Fund will provide Project Assurance to the Project Board for the project.
- The Project Manager has the authority to run the project on a day-to-day basis within the constraints laid down by the Project Board. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the Project Document, to the required standard of quality and within the specified constraints of time and cost. The PM will be selected by UNDP in consultation with the NCC
- The Project Support role provides project administration, management and technical support to the Project Manager. Project Support will be provided by an Administrative/Financial Assistant recruited through the project.

55. The Project Manager will be supported by Responsible Parties identified in the stakeholder section of this document. Audits will be conducted in accordance with UNDP financial rules and regulations and applicable audit policies.

IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of the Gabonese Republic and UNDP. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by UNDP, under a DIM (direct implementation) modality.

X. RISK MANAGEMENT

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds]¹⁶ are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/ag_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).
4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
5. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
6. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:
 - a. Consistent with the Article III of the SBAA [*or the Supplemental Provisions to the Project Document*], the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
 - i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
 - ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
 - b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.
 - c. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and

¹⁶ To be used where UNDP is the Implementing Partner

anti-fraud policies are in place and enforced for all funding received from or through UNDP.

- d. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.
- e. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.
- f. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

- g. UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of this Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail any responsible party's, subcontractor's or sub-recipient's obligations under this Project Document.

Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

- h. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

- i. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
- j. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

XI. ANNEXES

- 1. Project Quality Assurance Report**
- 2. Social and Environmental Screening Template** [English][French][Spanish], including additional Social and Environmental Assessments or Management Plans as relevant. *(NOTE: The SES Screening is not required for projects in which UNDP is Administrative Agent only and/or projects comprised solely of reports, coordination of events, trainings, workshops, meetings, conferences, preparation of communication materials, strengthening capacities of partners to participate in international negotiations and conferences, partnership coordination and management of networks, or global/regional projects with no country level activities).*
- 3. Risk Analysis.** Use the standard Risk Log template. Please refer to the Deliverable Description of the Risk Log for instructions
- 4. Capacity Assessment:** Results of capacity assessments of Implementing Partner (including HACT Micro Assessment)

5. Project Board Terms of Reference and TORs of key management positions

Terms of Reference for Project Manager

A full-time **Project Manager** (PM) will be contracted for day-to-day management of the project. The management role of the PM will be to ensure that the project is managed in a transparent and effective manner, and that it is in line with all budget and work plans in accordance with the project document. The PM will liaise with the responsible parties (National Climate Council) and will provide technical and implementation support participating stakeholders.

Responsibilities

The PM will be evaluated in accordance with the successful implementation of project activities.

The responsibilities of the PM will include:

- Oversee and manage project implementation, monitor work progress, and ensure timely delivery of outputs.
- Report to members of the Project Board (PB), through UNDP; PB include NCC, UNDP and the Department of Meteorology regarding project progress.
- Develop and facilitate implementation of a comprehensive monitoring and reporting system.
- Ensure timely preparation of detailed annual work plans and budgets for by PB.
- Assist in the identification, selection and recruitment of staff, consultants and other experts as required.
- Supervise, coordinate and facilitate the work of the Administrative and Financial Officer (AFO) and contracted consultants.
- Control expenditures and assure adequate management of resources.
- Establish linkages and networks with on-going activities by other government and non-government agencies.
- Establish and maintain linkages with national and regional initiatives and institutions in order to realise cost-effective and efficient opportunities for training, information sharing and procurement.
- Provide input to management and technical reports and other documents as described in the M&E plan for the overall project. Reports should contain assessments of progress in implementing activities, including reasons for delays, if any, and recommendations on necessary improvements.
- Inform the PB, immediately, of any issue or risk which might jeopardise the success of the project.
- Liaise and coordinate with UNDP management on a regular basis and inform UNDP of any delays or difficulties faced during implementation.

Qualifications

- Master's degree in a relevant field such as natural resource management, agricultural development, climatology, meteorology, hydrology, water resources management, environmental sciences and disaster management.
- A minimum of 10 years relevant work experience in climate change adaptation and natural resource management; disaster management and/or operational early warning systems, including implementation at national and decentralized levels.
- Demonstrated knowledge and experience in climate change adaptation, early warning systems, and the monitoring and forecasting of climate and weather.
- Experience in the public participation development process associated with the hydro-meteorology, climate change, disaster risk management and natural resources sectors is an asset.
- Experience in working and collaborating with governments is an asset.

- Excellent knowledge of English and French, including writing and communication skills, with analytic capacity and ability to synthesise project outputs and relevant findings for the preparation of quality project reports.
- Skill in negotiating effectively in sensitive situations

Reporting

The PM will report to the PB through UNDP. The PM will work closely with the PB as well as provide implementation support to project personnel such as the AFO and consultants. The PM is responsible for ensuring regular reporting of information on progress and performance in the implementation of the project, including at quarterly and annual intervals as described in the Monitoring Framework and Evaluation.

Terms of reference for Administrative and Financial Officer

Administrative and financial support for the project will be provided by an **Administrative and Financial Officer (AFO)**. The AFO will report to the PM who will subsequently report to the PB through UNDP.

Responsibilities

- Standardise the finance and accounting systems of the project while maintaining compatibility with UNDP financial accounting procedures.
- Prepare revisions of the budgets and assist in the preparation of the annual work plans.
- Comply and verify budget and accounting data by researching files, calculating costs, and estimating anticipated expenditures from readily available information sources.
- Prepare status reports, progress reports and other financial reports.
- Process all types of payments requests for settlement purposes including quarterly advances to the partners upon joint review.
- Prepare periodic accounting records by recording receipts, disbursements (ledgers, cash books, vouchers, etc.) and reconciling data for recurring or financial special reports and assist in preparation of annual procurement plans.
- Undertake project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final revisions, and support professional staff in preparing the terminal assessment reports.
- Assist in the timely issuance of contracts and assurance of other eligible entitlements of the project personnel, experts, and consultants by preparing annual recruitment plans.

Qualifications and competencies

- An appropriate qualification in accounting, book-keeping, administration, office management.
- Demonstrable experience in management and administration of multilateral funding.
- Demonstrable experience and familiarity with administration of funds using UNDP accounting procedures.
- Excellent spoken and written English, including report-writing and communication skills.

Terms of Reference for Project Steering Committee

The **Project Board** (also called the **Project Steering Committee**) will be responsible for making the management decisions of the project, and will guide the Project Manager (PM). The PB plays a critical role in monitoring progress of implementation and ensuring that recommendations from annual report are adopted for performance improvement, ensuring accountability and adoption of lessons learnt. It ensures that required resources are committed and arbitrates on any conflicts within

the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the PM. Based on the approved Annual Work Plan, the PB can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

1. In order to ensure UNDP's ultimate accountability for the project results, PB decisions will be made in accordance to standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. In cases where consensus cannot be reached within the PB, the final decision shall rest with UNDP in its role as the Senior Supplier.
2. Potential members of the PB are reviewed and recommended for approval during the PAC meeting. Representatives of other stakeholders can be included in the PB as appropriate. The PB contains three distinct roles, including:
 - **An Executive** representing the project ownership to chair the group. The Executive for the project will be an individual from the National Climate Council.
 - **Senior Supplier** representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier of the project is UNDP.
 - **Senior Beneficiary/ies** representing the interests of those who will ultimately benefit from the project, i.e. sector and communities vulnerable to the impacts of climate change. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary/ies for the project will be Department of Meteorology.

The PB be supported by the following roles:

- The **Project Assurance** role supports the PB Executive by carrying out objective and independent project oversight and monitoring functions. The UNDP Gabon CO will provide Project Assurance to the PB for the project.
- The **Project Manager (PM)** has the authority to run the project on a day-to-day basis within the constraints laid down by the Project Board. The PM's prime responsibility is to ensure that the project produces the results specified in the Project Document, to the required standard of quality and within the specified constraints of time and cost. The PM will be selected by UNDP in consultation with the NCC.
- The **Project Support** role provides project administration, management and technical support to the Project Manager. Project Support will be provided by an Administrative/Financial Assistant (AFO) recruited through the project.

Terms of Reference for other international and national consultants

Technical support for specialised tasks that cannot be undertaken by government staff, PM, AFO or will be provided by consultants. International technical assistance will be sourced for specialised tasks where insufficient capacity is available among government staff or national consultants. Descriptions of consultant responsibilities are included in the budget notes. The selection of international consultants will be guided by UNDP in conjunction with the PM. Consultants will be hired to collect data, provide advice and monitor interventions.

The international consultants required by the LDCF project will include an international expert in Monitoring and Evaluation (M&E) and an international economic consultant. Local expertise will be sourced where possible in place of international expertise to strengthen in-country capacity. National consultants will be hired by the project to collect data, provide advice and monitor interventions. The national consultants required by the project will include experts in hydrology; meteorology; training and workshop facilitation; communications and ICT; policy and strategy; climate change risk modelling; adaptation, early warning systems and disaster management; and, economics.

The international and national consultants must be experts in their field with an appropriate M.Sc. degree and a minimum of 5 years' experience or an appropriate bachelor's degree and 10 years' experience in their field of expertise. They should also have experience in technical capacity building and information development. The international consultants should have good knowledge and understanding of climate change threats in Gabon and the need for an improved hydro-meteorological monitoring and forecasting system and EWSs. Fluency in spoken and written French and English and excellent report-writing skills are important criteria for all consultants.

The hiring procedures to be followed for both international and national consultants must include a transparent and competitive process based on standard UNDP procedures.