REPUBLIC OF  **GUINEA-BISSAU**

Intended Nationally Determined Contributions (INDC)

September 2015

Development of national goals and priorities, the context of climate change

INTRODUCTION

In his quality of Party Non Annex I (NAI) of the United Nations Framework Convention on Climate Change (UNFCCC), also as a Least Development Country (LDC) and Small Independent Developing State (SIDS), Guinea-Bissau has the great honor to communicate its Intended Nationally Determined Contributions (INDC), as well as all pertinent information aiming at clarity, transparency and understanding of its contributions.

This INDC is inspired on the second generation of the National Poverty Reduction Strategy (PRSP II) aligned with the National Strategic Plan – TERRA RANKA 2015-2025. All they have mainstreamed the priorities of the National Action Plan for Climate Change Adaptation (NAPA, 2006).

NATIONAL CONTEXT

Guinea-Bissau is located in the West African north-western Inter-tropical zone, 10º59 '- 12º20' north latitude and 13º40 '- 16º43' west longitude, with an area of 36,125 km^2. Poverty eradication is one of the key objectives of the Guinea-Bissau Government. The country's population is estimated at 1,548,159 inhabitants (2014) with a growth rate of 2.2% in 1991-2009. According to the results of the Light Survey on Poverty Assessment (ILAP II, 2010) 69.3% of Guineans are poor and 33% are extremely poor. Guinea-Bissau is an integral part of the LDC group. The Gross Domestic Product (GDP) per capita is estimated at USD 750 (2014) with a real growth rate of GDP of 2.9%. According to the United Nations Development Programme Report / Unit of Policy and Strategy (2014) the country was ranked 177 in the world ranking and had a Human Development Index (HDI) of 0.396. It is a country with considerable natural capital. It has significant water resources, translated into 130 km^3/ year of surface water and 445 km^3/year of groundwater, a vast and rich maritime territory (54,000 km^2 in 270 km of coastline), considerable biodiversity within West Africa. Nearly 10% of its territory is covered by mangrove, perhaps the most significant proportion of the world. Currently about 15% of the country's land and maritime territory is a sanctuary for the preservation of biodiversity and this percentage is expected to increase to 26% in 2020.

Guinea-Bissau is also considered a SIDS country, part of the AIMS region of SIDS (Africa, Indian and South China Sea), due to its island characteristics, with an archipelago consisting of over 88 islands and islets.

Guinea-Bissau environment is an exceptional ecosystem and one of the weakest in the world. The main environmental challenges revolve around deforestation/soil erosion and the coastal area, biodiversity conservation and quality of water resources. Forest fires destroy more than 120 hectares of forest per year. On the other hand Guinea-Bissau is an absolute Green House Gas (GHG) sink country, i.e., it is contributing to global climate change mitigation whilst being one of the most affected countries by climate change consequences. This determines the focus of the country on climate change.

Adaptation and risk reduction are priorities. Nevertheless, the country has identified

additional mitigation actions that may constitute contributions (INDC). The implementation of these measures, both for adaptation and mitigation purposes requires financial resources, access to technology and capacity building, to be provided by external partners.

The Guinean state has the organization and legal framework to meet challenges regarding environmental issues: Law 1/2011 of 2 March approved the Basic Environment Law.

In terms of adaptation the country has defined as priorities Food Security, Water Resources, Coastal and Forests in its NAPA (2006).

The mainstreaming of climate change into strategies and development policies is under way to achieve the Millennium Goals for Development, a major lever for sustainable development.

The FAO provided financial support to the government of Guinea-Bissau to integrate the climate change dimension into the National Agricultural Investment Plan - Programme 4.7 – Adaptation of agriculture to climate change.

A wide range of policies, strategies and plans were drawn up and adopted with assistance from development partners including:

- National Environmental Management Plan (2004)
- National Plan for Natural Resource Management
- National Biodiversity Strategy (2004) and 5th National Biodiversity Report (2015)
- Protected Areas Strategy (2007-2011 and 2014-2020)
- Livestock Development Policy Letter (2010)
- Programme of Action to Fight Drought and Desertification (2006, 2011)
- Coastal Zone Master Plan (1993)
- Food Security Strategy
- National Food Security Plan
- Letter of Agricultural Development Policy (2002)
- National Plan for Agricultural Investment (revised in 2014/15)
- Strategy for Water Supply and Sanitation with reference to MDGs (final draft 2010)
- Water Master Plan (1997)
- Integrated Financing Strategy for Durable Land Management (2011)
- Sustainable Financing Strategy of Adaptation to climate change in the short, medium and long term (2013);
- Energy Master Plan 2013)
- Regional Policies on Renewable Energy and Energy Efficiency;
- SE4All (Universal Access to Energy) - 2014
- National Plan for Renewable Energy (NREAP) - 2014
- National Plan for Energy Efficiency (2014)
- Forestry Master Plan
- Management Plan of Cryogenic Fluids (2013)
- Management Plan of HCFC Gazes (2013)
- Forest Management Plan (2013)
- National Action Plan on Persistent Organic Pollutants (2013)

• Letter of Energy Development Policy (2005) • Domestic Energy Strategy (2005) • National Plan for Household Energy (2007	
ADAPTATION CONTRIBUTION	
1. Rationale and process for the development of adaptation in INDCs	The country's environment is increasingly vulnerable to the impacts of global climate change, which further compounds the problem and makes the forest sector vital to environmental protection and to the overall reduction of disaster risk. In the same way as with mitigation, the cost benefit analysis on adaptation at national level has not yet been made. It is expected that with an increase in the area of protected areas from 15% to 26% the capacity of adaptation of national ecosystems through the protection of soil reinforcement against erosion from water and wind order will increase, and the coast's protection against the rising sea level and other types of erosion. The reasons behind the inclusion of the adaptation component in any given national contribution were based on the fact that the country is a sink of greenhouse gases and is highly vulnerable to the impacts of climate change (AR4/IPCCC, Africa's Adaptation Gap Report, 2013, and Germanwatch, 2013) and requires external support to have a resilient development bearing in mind that it is a LDC. Thus, INDCs are seen as a mechanism to raise the national adaptation programme to at an international level in order to attract technical, financial and capacity building support for implementation.
2. Summary of trends of climate change impacts and vulnerabilities.	The National Programme of Action for Adaptation to Climate Change of Guinea-Bissau found that gradual increases in temperature and reductions in rainfall will significantly reduce agricultural productivity and exacerbate water shortages. It is therefore necessary and urgent that the Guinea-Bissau Government take initiatives such as the development of new, more resistant , crops and changes in agricultural systems in order to increase the resilience of its agriculture to climate change, the protection of coastal ecosystems and adopt measures to reduce long term risks, like the integration of climate change into local development plans, forest management plans and soil occupancy and, generally speaking, in development policies and strategies.

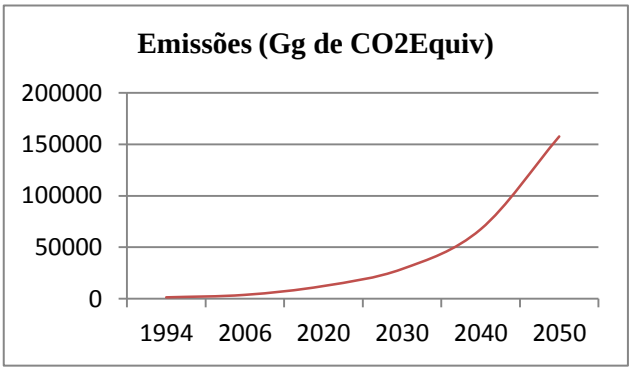
	These changes are intended primarily to increase the food security of populations of rural areas in order to enhance their adaptation capacity, reducing pressure on forest and fishery resources and improving access to safe water for human consumption and livestock. All these trends and impacts have been observed and documented: National Second Communication on Climate Change (NSC); PRSP I and II, PANA, National Action Plan to Combat Drought and Desertification (NAP/CDD) and TERRA RANKA which is a major concern for the country.
3. Reports view of the short and long-term adaptations, objectives and goals.	The country plans in the short term to implement the following actions with financial, technological and capacity building support from the international community: • Increase the percentage of protected areas from 15% to 26% and ensure its management, and an effective implementation of the Forest Act and the moratorium to ban the felling and export of timber over the next five years; • Conduct a nationwide forest inventory; • Develop an agro-ecological zone and forest management; • Strengthen the existing capacity to participate in the REDD+ mechanism and consequently raise the national effort to combat the adverse impacts of climate change. • Increase the adaptation capacity of national ecosystems through soil protection against water and wind erosion, and protecting the coast against rising sea levels and other types of erosion. In the medium and long term Guinea-Bissau undertakes, provided there is financial, technological and capacity building support from the international community starting from the new climate agreement and green fund, to: • Develop a national reforestation and sustainable management of forest and agro forestry ecosystems programme by 2025; • Develop scientific and technical research on adaptation of new productive varieties with broad spectrum tolerance to climate adverse effects by 2025; • Reduce illegal and indiscriminate felling of trees by 2030;

	• Promote forestry/plantation of species resistant to drought and low rainfall by 2030; • Develop an Integrated Management Programme for the Coastal Zone by 2025; • 80% renewable energy in the national energy mix by 2030; • Energy efficiency - reduce energy losses up to 10% in the 2030 time span; • 80% of universal access to electricity by 2030; • As a SIDS draw up a profile of Vulnerability & Resilience to climate change in the country. The long-term objectives embodied in the introduction of "climate proofing" in sectors of activity through outlets/introduction: • Short- cycle and drought resistant seeds; • Hydro-agricultural Planning; • Introduction of farming techniques resilient to the effects of climate change; • Introduction of rapid growth fodder plant for animal feeding; • Preparation of contingency plans for the management of climate risks and natural disasters; • Capture and storage of rainwater (water retention basins and mini-dams) for water management in the dry season; • Construction of grain banks and seeds; • Infrastructure (roads, bridges, houses, etc.
4. Current Report on planned adaptation and support actions.	Guinea-Bissau has made internal efforts to become resilient to the effects of climate change. For greater efficiency, the initiatives taken in the context of climate change should not be isolated efforts, limited to the individual projects of adaptation or mitigation of climate change. These initiatives must be part of a consistent perspective of integration into a broader policy framework, developing strategic and programmatic approaches that integrate climate policy development, planning policy and action at national, regional and local levels, involving all sectors of the national economy and integrating all other dimensions of environmental management and natural resources, including biodiversity conservation, the sustainable management of land and water. These initiatives essentially aim to increase the food security

	of the populations of rural areas in order to enhance their adaptation capacity, reducing pressure on forest and fishery resources and improving access to safe water for human consumption and livestock. The strategy promotes the combination of external financing, internal financing and innovative financing (to be created or existing) and its effective and transparent management in line with national priorities.
5. Gaps and Barriers	In addition to financial, technological and backup capacity building barriers, specific barriers were identified namely: **Human capacities**: The following aspects stand out regarding human capacity mainly: • Poor development of education, training and research on climate change in particular with regard to the vulnerability and adaptation dimensions; • Insufficient scientific training on certain aspects such as vulnerability, adaptation and mitigation of climate impact; • Weak mastery by national stakeholders of climate change issues and challenges; • Poor habit of keeping a documentation and filing system; • Constant political and governance instability. **Skills:** At this level the following constraints should be singled out: • Weak capacity by national institutions in the areas of research and systematic observation in the field of weather and water sciences (meteorological, hydrological and oceanographic services);; • Lack of specialized staff in the field of climate change; • Lack of a national database (hydrological, hydro geological, forest surveys) that is accessible and structured to produce a proper assessment of vulnerability and adaptation; • Low capacity of surveillance and monitoring units of long-term climate parameters; • Lack of coherent, specific and good resolution models for the assessment of vulnerability and adaptation applicable to all sectors; • Lack of effective systems of weather and hydrological

	forecasts; • Lack of a national centre specializing in research on climate change; • Insufficient material resources for collection, filing, analysis and communication (GIS, Remote Sensing, etc.) at national level. **Financial**: The following difficulties in this area are worth mentioning: • Weak financial capacity by the state and research institutions to collect, file and analysis weather and renewable natural resources ; • Shortage of financial resources to purchase certain data and software necessary for an assessment of vulnerability and adaptation; • Insufficient financial resources to build capacity and set up a perennial system of assessment of vulnerability and adaptation; • Weak resource mobilization to fund programs and adaptation strategies.
6. Needs summary	The nationwide adaptation cost-benefit analysis has not been undertaken yet. The Strengthening Resilience and Adaptation Capacity of Agricultural and Water Sectors to Climate Change in Guinea-Bissau Project (PRRCASAHAC-GB) carried out a cost-benefit analysis to adaptation in the Gabu region, east of the country, taking into account as a reference the development trend. This analysis showed that Guinea-Bissau's efforts to adapt to climate change will be considerable. Guinea-Bissau requires approximately USD 42 million for the implementation of adaptation projects in all reference sectors in the two administrative sectors (Pitche and Pirada) in the Gabu region. It should be noted that the country has eight (8) administrative regions and all of them are equally vulnerable. Capacity strengthening has a direct effect on improving decision-making and planning for comprehensive risk management for both public and private actors regarding events associated with climate variability and change in the sectors of forest, water and energy, agriculture and livestock, health, fishing and civil protection. Promoting research and research for development, regional and international exchanges to improve and improve

	applicability of knowledge acquired by participants.
7. Monitoring and progress reports	The country is drafting a proposal for a monitoring system and progress reports that meets national needs and comply with international requirements for monitoring activities and progress of National Determined Contributions (INDC), with different projects implemented and/or ongoing: Example 1: Project of stored carbon quantification and the carbon sink capacity of forest vegetation in Guinea-Bissau - CARBOVEG-GB (2007-2009) - Monitoring and Reporting, funded by the Portuguese Environment Agency - APA), with the overall objective of contributing to assist the forestry sector of Guinea-Bissau in the emerging carbon market, Example 2: Think Global and Local Action Project (2007-2009) - Monitoring and Reporting, funded by the University of Twente (Netherlands), through the UNFCCC Focal Point, TOD / ITC institute in collaboration with Enda Tiers Monde / Enda Energy Program, It aimed at the Quantification of Living Biomass above the soil (BVAS) Stocked Carbon (CO2) and carbon equivalent (CO2 equiv) in community forest reserve Djalicunda.
MITIGATION CONTRIBUTION	
1. Deadline	2020-2030
2. Type of Contribution	The type of Guinea-Bissau mitigation contribution embodied in the implementation of policies and planned actions.
3. Targeted level	Concerning the arguments utilised in the Development of Goals and National Priorities, the context of climate change as part of its economic, social and environmental situation, the contributions of Guinea-Bissau in the area of mitigation are conditioned by financial, technological and capacity building assistance the country receives from abroad.
4. GEE Reduction	According to the GHG inventory (Second National Communication, 2006) and the CARBOVEG-GB Project (2010) Guinea-Bissau is an absolute sink of greenhouse gases, given the high potential for sequestration of its forest sector. It is known, through the above-referenced inventories, that the main responsible for emissions in Guinea-Bissau is the change in the use of land and forests. Deforestation is responsible for emitting large amounts of CO2 into the atmosphere. The estimates show a decline of around 625,000 m^3 of wood per year. Therefore, the main mitigation measure to be adopted by

	the country, which may be a national contribution, is related to reforestation. The second sector that contributes more to GHG emissions is the energy sector. Despite the fact that global average electrification rate of the country is about 12%, Guinea-Bissau was, is and remains one of the countries facing the greatest need of access to modern forms of energy in Africa and the world. In this sector an increase in electric power capacity of at least 90 MW 2020 using petroleum products (diesel and heavy fuel oil) is planned. Combining the development trend described in the two sectors the trend is for increasing emissions, according to the following figure:  The measures that Guinea-Bissau has appraised so far as contributions are as follows: I. Establish and schedule a new forestry policy. The vision is of a sustainable management of forest resources - including through conservation and restoration of forests - to enhance a socio-economic balance that meets the needs of communities and ensures their accountability; II. Conduct studies on the energy potential of the country and set the energy development incorporating the largest possible potential of renewable energies in the energy mix; III. Develop and establish a legal framework through a national strategy for long-term low-carbon development.
5. Means of Implementation	Meeting the recommended goal requires an overall investment not inferior to 200 million USD by 2020 and 500 million between 2020 and 2030 foreign aid. According to the mitigation measures identified, the skills and technologies required are:

	I. Reforestation and forest conservation; II. Electric power generation systems from renewable energies (hydro, photovoltaic systems, wind systems). Capacity building has a direct effect on improving decision-making and planning for integrated management of development that contains a low carbon dimension. The promotion of research for the development, regional and international exchanges leading to the improvement and better applicability of knowledge acquired by participants in mitigation issues.
6. Sectors	Guinea-Bissau's contribution to GHG emission reduction covers the forestry and energy sectors.
7. Gases	CO_2, CH_4, NO_x
8. Calculation methodology	Mitigation measures were selected based on the documents and consultation with stakeholders. Due to the nonexistence of detailed preliminary studies to formulate concrete quantifiable actions, the period until 2020 should be devoted to in-depth studies to enable the implementation of measures in the forestry industry and energy. For example, reforestation, conservation of other forests and a programme for the inclusion of renewable energies sources in the country's energy mix. I.e., it was not possible in the early stage of formulation of the planned contributions of Guinea-Bissau to perform calculations to support our projections due to lack of data. Therefore, it is proposed that the period up to 2020 be dedicated to the development of in-depth and detailed studies in the two sectors (forestry and energy) and of the respective relevant measures. Only then would it be possible to perform calculations that would allow an analysis of the mitigation potential for Guinea-Bissau, allowing at the same time the making of a proposal for an ambitious and fair contribution.
9. Implementation of institutional arrangements	In addition to the legal table on national circumstances, for the mitigation analysis, we took into account: The United Nations Framework Convention on Climate Change and the Kyoto Protocol ratified on 27th October 1995 and 18th November, 2005, respectively. National Poverty Reduction Strategy (PRSP II) and National Strategic Document – TERRA RANKA 2015-2025.
10. How fair and adequate?	Guinea-Bissau is a net GHG sink country, but it is nevertheless willing to make efforts to further reduce their emissions depending on the financial, technological and

	capacity building support that it may receive from the international community.