BORNO STATE
GOVERNMENT

BORNO STATE CLIMATE ACTION PLAN

2024 - 2030

CONTENTS

ACRONYMS

ACRESAL	Agro-Climate Resilience in Semi-Arid Landscapes
AEWs	Agricultural Extension Workers
AHWs	Animal Health Workers
BAY	Borno, Adamawa and Yobe States
BoSCAP	Borno State Climate Action Plan
BoSDMC	Borno State Data Management Centre
BOGIS	Borno Geographic Information Service
BoSADP	Borno State Agricultural Development Programme
BoSDP	Borno State Development Plan
BoSEC	Borno State Executive Council
BOSEPA	Borno State Environmental Protection Agency
BoSMANR	Borno State Ministry of Agriculture and Natural Resources
BoSMARF	Borno State Ministry of Animal Resources and Fisheries
BoSMEnv	Borno State Ministry of Environment
BoSMHAIC	Borno State Ministry of Home Affairs, Information and Culture
BoSMSTI	Borno State Ministry of Science, Technology and Innovation
BoSMTIT	Borno State Ministry of Trade, Investment and Tourism
BoSMWASD	Borno State Ministry of Women Affairs and Social Development
BoSMWR	Borno State Ministry of Water Resources
BoSMWT	Borno State Ministry of Works and Transport
BoSMYSE	Borno State Ministry of Youth, Sports and Empowerment
BoSREB	Borno State Rural Electrification Board
BRTV	Borno Radio and Television
CBDA	Chad Basin Development Authority
CO_2e	Carbon Dioxide equivalent
COP	Conference of Parties
CSA	Climate Smart Agriculture
CSOs	Civil Society Organizations
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FRIN	Forestry Research Institute of Nigeria
FSS	Food Security Sector
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HDPs	Humanitarian and Development Partners
IDPs	Internally displaced persons
ICEED	International Centre for Energy Environment and Development
IPCC	Inter-Governmental Panel on Climate Change
IRC	International Rescue Committee
LGA	Local Government Area
LCRI	Lake Chad Research Institute
MDAs	Ministries, Departments and Agencies
MRV	Monitoring, Reporting and Verification
NAGGW	National Agency for the Great Green Wall
NAIC	Nigeria Agricultural Insurance Commission
NAICOM	Nigeria Insurance Commission

NAMA	National Mitigation Action
NAP	National Adaptation Plan
NASPA-CCN	National Adaptation Strategy Plan of Action for Climate Change in Nigeria
NCCC	National Council on Climate Change
NCCP	National Climate Change Policy
NDC	Nationally Determined Contributions
NEDC	North East Development Commission
NETP	National Energy Transition Plan
NGO	Non-Governmental Organization
NHF	National Humanitarian Fund
NiHSA	Nigerian Hydrological Services Agency
NiMET	Nigeria Meteorological Agency
REA	Rural Electrification Agency
SAFE WG	Safe Access to Fuels and Energy Working Group
SDGs	Sustainable Development Goals
SEMA	Borno State Emergency Management Agency
SMEDAN	Small and Medium Enterprises Development Agency
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UniMaidWS	University of Maiduguri Weather Station
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
YEDC	Yola Electricity Distribution Company

OFFICE OF THE EXECUTIVE GOVERNOR
Government House, Maiduguri, Borno State, Nigeria

OUR COMMITMENT

Borno faces a deepening climate crisis. Over the past decades, above normal average temperatures and declining rainfall have affected agriculture, the mainstay of the economy of our state. The Lake Chad Basin has lost over 90% of its volume leading to declining agricultural productivity. Other economic sectors have also been affected. Our State is pressed by a convergence of climate change and conflicts stemming from more than a decade-long insurgency. The insurgency, coupled with persistent conflicts between herders and farmers, have affected agricultural productivity. In many ways, climate change and violent conflicts reinforce each other, and make the achievement of sustainable development a daunting task for the State.

In response, the Government launched the 25-Year Development Plan in 2020, which seeks to drive stabilization, boost recovery efforts and stimulate growth across all sectors. The climate crisis will be a major risk factor in achieving the goals of the Plan. We are, therefore committed to delivering a response strategy to climate change that promotes the achievement of the pillars of the 25-Year Development Plan and sets the State on the path of sustainable economic growth, peace, security and human development.

Through the Borno State Climate Action Plan, the Government shall mobilize finance, technology, capacity building and good governance in reaching the goals of the 25-Year Development Plan in five priority areas including climate-smart agriculture, sustainable water resources management, transition to clean and sustainable energy access, sustainable forestry as well as creating jobs, empowering women and youth through a sustainable commerce and industrial plan. This Plan has a strategic vision of transforming Borno into a climate resilient and carbon efficient society that is capable of harnessing the benefits of low carbon and resilient development for present and future generations in a sustainable and inclusive manner. The long-term goal of this Plan is to ensure Borno State achieves climate-resilience and pursues a low-carbon growth pathway to support inclusive and sustainable development by 2030.

To ensure sustainability, the Government shall set up an Inter-ministerial Committee on Climate Change to coordinate actions across key MDAs. Subsequently, climate change units shall also be formed within the five priority sectors. All MDAs will be directed to prioritize these sectors in their annual appropriations. Further, the government shall liaise with the State House of Assembly with a view to providing a legislative framework for the effective implementation of the Action Plan.

Finally, we shall actively seek partnership with the Federal Government, the private sector, donors and the humanitarian community in advancing the goals of the Borno State Climate Action Plan and the 25-Year Development Plan. We welcome the support of the European Union and other stakeholders in developing this document and will remain committed to forging strong collaboration in its effective implementation.

Prof. Babagana Umara Zulum (CON, FNSE, MNI)
Executive Governor of Borno State

INTRODUCTION

Climate change has increased the frequency and magnitude of extreme weather events in Borno State. These events have led to loss of lives, diminished livelihoods, reduced crop and livestock production, and damaged infrastructure, among other adverse impacts. The severe flooding witnessed in most parts of Nigeria, including Borno State in 2022, devastated communities, most of which are still struggling to recover.

The Borno State Climate Action Plan (BoSCAP) presents detailed actions that the State Government will embark on to address the increasing challenges of climate change and ensure that these actions support the long-term development aspirations of the state, consistent with national and international commitments.

Recently, Nigeria submitted an updated Nationally Determined Contributions (NDC) to the Paris Climate Change Agreement outlining ambitious mitigation and adaptation measures across seven economic sectors. As the country seeks to implement these commitments, it is clear that no part of the country illustrates the climate and human security crises than its Northeast region. Borno, Adamawa, Yobe and other front-line states are at the epi-centre of these human and climate crises.

The historical trends in temperature and rainfall patterns have led to water bodies drying up and ravaging agricultural lands. Lake Chad, once the farm lifeblood of the region, has lost nearly 90% of its volume since the 1960s while desertification continues to shrink available agricultural land[1]. With increasing population and poverty in the region, the competition over scarce land resources ignites conflicts, especially between herders and farmers. Climate change is already amplifying these existing conflicts, making the Northeast one of the world's climate hotspots. In addition, with armed opposition groups taking over territorial land boundaries and government military forces fencing in affected communities as garrison towns, many families can no longer visit their farms or even leave their communities for neighbouring villages for employment. Displaced communities have to suffer not only the cost of insecurity but also the impact of the climate emergency.

Borno State is emblematic of some of Nigeria's worst exposure to climate change. Alongside other frontline states struggling to cope with desertification, decline in agricultural production, and poverty, global warming has become a multiplier of threats and has worsened the conditions for growth and development. The prevailing insurgency further exacerbates the plight of the State. Borno State hosts over 70% of internally displaced persons (IDPs) and approximately 1.6 million vulnerable and at-risk households across the region. While the government is progressing in restoring the state to its former glory, climate disasters such as flooding, extreme drought, deforestation and desert encroachment are making economic recovery difficult and putting development targets at risk.

The state government has taken necessary steps to address the challenges of climate change with the 25-year Development Plan and 10-Year Strategic Transformation Plan, which recognize the devastating effects of desertification and a shrinking Lake Chad.

On https://www.bbc.com/news/world-africa-43500314

However, while these policy frameworks provide guides to the response of the government, they are not specific and far-reaching enough to address the scale of the problem, especially in meeting the needs of the estimated 1.6 million people who are directly affected by the insurgency and whose resilience to the shocks of climate change are over-stretched.

The Borno State Government seeks to deepen its commitment to economic recovery and sustainable growth expressed through the 25-Year Development Framework and the 10-Year Strategic Transformation Plan by outlining specific initiatives to strengthen the resilience of these policy goals to the added challenges of climate change. These initiatives will further enhance the implementation of the Climate Smart Agriculture Investment Plan developed by the Food and Agriculture Organization. With the support of the European Union, the Borno State Government seeks to strengthen the climate resilience of these priority policy initiatives by developing the **Borno State Climate Action Plan.** This Action Plan will promote adaptation capacity and target low-emission sustainable economic growth through collective action and enhanced cooperation.

The Action Plan is important for many reasons. As the population of Nigeria continues to grow and Borno state is a significant food supplier, the expectation of doubling food production under the climate and humanitarian crises is becoming more challenging. At various fora, both the Federal and State governments have noted the urgent need to address desertification and a shrinking Lake Chad, which are critical environmental challenges caused by a cumulative impact of climate change, deforestation, drought and inappropriate use of land[2]. Borno State urgently needs a coordinated and coherent, locally driven resilience action plan to adapt to the adverse impacts of climate change and mainstream climate action.

The Climate Resilient Plan of Action is in tune with the United Nations Framework Convention on Climate Change National Adaptation Plan Process (UNFCCC NAP), whose core objectives are:

i. To reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience; and
ii. To facilitate the coherent integration of climate change adaptation into relevant new and existing policies, programmes, and activities, particularly development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

In developing the Action Plan, we have defined the key terms of “vulnerability”, “resilience”, and “adaptive capacity” in the following ways:

“Vulnerability” is the propensity or predisposition to be adversely affected (IPCC, 2012). It is a dynamic concept that varies across temporal and spatial scales and depends on economic, social, geographic, demographic, cultural, institutional, governance and environmental factors.

“Resilience” is the ability of a system and its parts to anticipate, absorb, accommodate or recover from the effects of a hazardous event in a timely and efficient manner,

[2] Borno State’s 25-Year Development Framework & 10-Year Strategic Transformation Plan

including through ensuring the preservation, restoration or improvement of its essential basic structures and functions (IPCC, 2012).

“Adaptive capacity”, is a system’s capacity to adapt or to be less vulnerable. It is shaped by the interaction of environmental, social, cultural, political and economic forces that determine vulnerability through exposure and sensitivities and how the system’s components internally react to shock.

NATIONAL AND INTERNATIONAL CONTEXTS

The Borno State Climate Action Plan was developed considering national and international contexts.

At the national level, the Federal Government of Nigeria is working to strengthen its management of climate-related development challenges through appropriate policy, legislative and institutional frameworks.

In 2012, the Federal Executive Council approved a comprehensive policy on climate change: The Nigeria Climate Change Policy Response and Strategy is aiming to promote low-carbon, high-growth economic development and build a climate-resilient society. In 2021, the Federal Ministry of Environment, through the Department of Climate Change, introduced the National Climate Change Policy (NCCP) for 2021 to 2030. The NCCP sets out Nigeria's policy direction, addresses conditions required to attain the country's vision to be a climate-resilient economy, and sectoral measures for mitigating the effects and impacts of climate change with implementation strategies and actions.

During the Conference of Parties held in Glasgow (COP26), Nigeria committed to achieving net-zero emissions by 2060, and barely a week after the conference, Nigeria's President signed the Climate Change Act 2021 into law. The Act provides a framework for achieving low GHG emissions and mainstreaming climate change actions into national plans and programmes. It requires all federal government ministries, departments and agencies (MDAs), and public and private enterprises in Nigeria to develop and implement mechanisms geared towards fostering low carbon emission, environmentally sustainable, and climate-resilient society. Going further on private entities, the Act requires such entities to implement measures to achieve the annual carbon emission reduction targets specified in the Action Plan. A second critical component of the Act is the establishment of a National Council on Climate Change (NCCC). Inaugurated in September 2022, the NCCC is mandated to make policies and decisions on all matters relating to climate change in Nigeria[3].

Nigeria's Nationally Determined Contributions (NDC) is another tool adopted by the government to mitigate against climate change in the country. The NDC is at the heart of the Paris Agreement. It symbolises efforts by each nation to reduce national emissions and adapt to the impacts of climate change. Article 4 Paragraph 2 of the Paris Agreement requires "each Party to prepare, communicate and maintain successive NDCs" that it intends to achieve. It mandates Parties to pursue domestic mitigation measures to achieve the objectives of such contributions. Nigeria's first NDC was published in 2015; an update was made in 2021[4]. The NDC has set ambitious targets for reducing emissions from seven economic sectors by 2030.

On the international front, governments have collectively pledged to slow global warming so it does not exceed 1.5° C by the middle of the century. Since adopting the Paris Agreement in 2015, many of the 195 countries that are party to the Agreement

[3] All about the National Council on Climate Change, https://natccc.gov.ng/about-the-council/#:~:text=Established%20in%202022%2C%20We%20are,the%20impact%20of%20climate%20change.

[Five] https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended-_11222.pdf

have strengthened their climate commitments through the NDCs, albeit more is needed to meet the global target. Efforts to meet these commitments are continually negotiated during the annual UNFCCC Conference of Parties (COPs).

Various international agreements on climate change have been reached prior to the Paris Agreement. There was the Montreal Protocol in 1987, United Nations Framework Convention on Climate Change (UNFCCC) of 1992 that has been ratified by 197 countries, and the Kyoto Protocol of 1997, and the Paris Agreement.

The Paris Agreement 2015 is the most significant global climate agreement to date. It requires all countries to set emissions-reduction pledges known as Nationally Determined Contributions (NDCs), with the goals of preventing the global average temperature from rising two °C (3.6°F) above pre-industrial levels and pursuing efforts to keep it below 1.5°C (2.7°F). It also aims to reach global net-zero emissions, where the amount of greenhouse gases emitted equals the amount removed from the atmosphere in the second half of the century (this is also known as being climate neutral or carbon neutral).

ECONOMIC DEVELOPMENT IN BORNO STATE

Geography and Demography

Borno State, situated in northeastern Nigeria, was created on the 03rd of February, 1976 with 27 Local Government Areas (LGAs) and shares boundaries with Niger Republic, Chad, and Cameroon, as well as three States in Nigeria, namely: Adamawa, Gombe, and Yobe (see figure 1). The State has an estimated population of about 6,111,500 with women constituting about 51% of this number. Borno covers an area of 72,609 km^2 (NBS, 2019) and is characterized by three major ecological zones: Guinea Savanna, Sudan Savanna and the Sahel. Most of the state consists of semi-arid Savannah or sub-desert, with flooded pastures towards Lake Chad and Montane regions in the extreme southeast. The vegetation is primarily light foliage and thorns. Grasses are short, discontinuous, wiry and tussock. The soils in the north-central part of Borno are largely Aeolian sands formed by wind drift from the desert. The annual rainfall ranges from 600 mm in the north to 1,200 mm in the south and extends over a growing season of between 100 and 180 days. Annual precipitation varies from year to year, with decreasing trends over the past two decades. It experiences the north-easterly wind blowing across the country from the Sahara Desert, known as the harmattan wind. The temperature ranges from 13.6 ºC – 31.9 ºC in January and 9.0 ºC - 28.5ºC in August (Quick Projects, 2018).

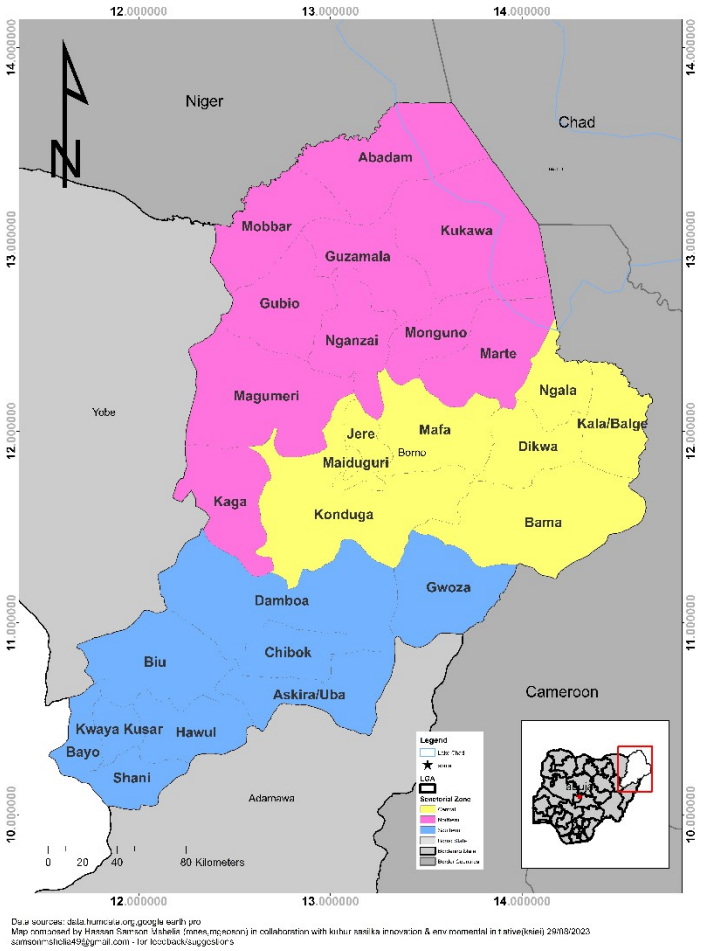


Figure 1: Map of Borno State

Borno State Economy

Borno State is the fifth largest non-oil and gas economy in Nigeria with an estimated Gross State Product of $5.175 billion[5]. The most prominent feature of the economy is the dominance of agriculture and other informal sector activities including agricultural

[5] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://pfm.bo.gov.ng/wp-content/uploads/2023/12/Borno-State-Export-Strategy.pdf

produce & livestock merchandise, small and micro business enterprises, wholesale and retail, and other artisanal trades. According to official estimates, the agricultural sector contributes the bulk of the GDP and engages directly and indirectly with more than 65% of the population[6]

Crop production is the dominant agricultural activity, and Borno is Nigeria's third largest crop producer. Major rain-fed crops grown in the State include millet, sorghum, cowpea, groundnuts, sesame, rice, maize, sweet potatoes, Bambara nuts, watermelon, cassava, and cotton with a combined annual yield in excess of 2 million Metric Tonnes. Dry-season crops cultivated are tomatoes, pepper, onions, wheat, sugarcane, carrots, cabbage, lettuce, maize, and a host of other leafy vegetables. Many farmers also engage in the rearing of livestock. Popular livestock species in the state include goats, sheep, poultry, and cattle with estimated populations of 2.3 million, 1.8 million. 4.2 million and 1.1 million respectively. Out of the State's 2.24 million hectares' total land area, about 1.6 million hectares are estimated to be cultivatable during the rainy season while about 308,000 hectares of the land mass is cultivable during the dry season through irrigation.

Borno also has a vibrant domestic trade sector which is predominantly informal, consisting of thousands of 'subsistence enterprises' but with huge contributions to the state economy. In addition to the hundreds of 'regular markets spread across towns and villages, the State has a number of specialized markets dealing in large-scale agricultural commodities and livestock merchandising. Borno has links with Niger Republic, Chad, and Cameroun which provides opportunities for cross-border trade. The formal wholesale and retail trade sectors remain largely untapped.

Governance structure in Borno State

Borno, like every other state in the federation is administered by an Executive Governor, his cabinet members including the Deputy Governor, and Commissioners for the various Ministries. As state manager, the Governor is responsible for implementing state laws and overseeing the operation of the state executive branch. As state leader, the Governor advances and pursues new and revised policies and programs using a variety of tools, among them executive orders, executive budgets, and legislative proposals and vetoes. As chief of the state, Governor serves as the intergovernmental liaison to the federal government on behalf of the state.

The State House of Assembly is another arm of the government that makes laws for the state and oversights the executive. All the 27 LGAs (shown in table 1 below) are governed by the Local Government Chairmen while their Councilors make byelaws and provides oversight for the local government bosses.

The state has good representation at the federal government. Like every state of the country, it has three elected senators and ten house of representative members at the Federal Legislature. These elected representatives present issues around Borno State development to the federal government.

[6] https://www.investinborno.com/investment_policy.php

Table 1: Senatorial zones and associated LGAs of Borno State

Borno Central	Area in km^2		Borno South	Area in km^2		Borno North	Area in km^2
Maiduguri	137.36		**Askira/Uba**	2,431.83		**Abadam**	4,172.27
Ngala	1,519.82		**Bayo**	985.78		**Gubio**	2,575.09
Kala/Balge	1,962.13		**Biu**	3,423.86		**Guzamala**	2,631.44
Mafa	2,976.99		**Chibok**	1,392.00		**Kaga**	2,802.46
Konduga	6,065.89		**Damboa**	6,426.18		**Kukawa**	5,124.41
Bama	5,158.87		**Gwoza**	2,973.15		**Magumeri**	5,057.61
Jere	900.72		**Hawul**	2,160.99		**Marte**	3,280.02
Dikwa	1,836.89		**Kwaya Kusar**	754.69		**Mobbar**	3,280.02
			Shani	1,238.93		**Monguno**	1,993.20
						Nganzai	2,572.35

Additionally, while not part of the state government structure, traditional leaders play an important role in communal affairs. Within Borno State, there are seven emirates, each headed by a Shehu. The Shehu is appointed by the Governor and presides over an emirate council with four tiers of authority: Shehu (State), Aja / Hakimi (District), Lawan (Ward), and Bulama (Neighbourhood). The Shehu plays a key role in terms of community mobilization, dispute resolution, citizen security, and information dissemination. Bulamas/Lawans are often considered the most influential individuals within communities. Political actors are very deferential to the Ajas and other higher-level traditional leaders.

Key challenges to the development of Borno State

Borno is one of Nigeria's leading states in rice production by harvested area and production quantity due to the conditions in the Jere Bowl and the Lake Chad areas. Rice farming takes place in lowlands, river basins, and highlands. Farmers in the lowlands or near the river basin generally do not use fertilizer because the siltation on their lands by yearly floods keeps them exceptionally fertile (FAO, 2016). Besides rice, the state also produces other grains and cereals in very significant quantities. In addition, like most parts of Nigeria, ruminants, comprising sheep, goats and cattle, constitute the farm animals largely reared by farm families in Borno State (Quick Projects, 2018). However, developments in agriculture have not achieved the desired leap over the years due to a number of reasons. High growth in population and increasing food demand is causing significant pressure on land, intensifying land use. This has led to natural resource scarcity/depletion, such as soil fertility depletion due to intensive and inappropriate land use, overgrazing, extensive tree felling for timber and fuelwood. Further, Poverty and inequality are essential challenges in Borno State. With increased poverty, many farmers are resource-poor to meet their agricultural input requirements (Lawan and Imam 2019). Finally, being in the arid region, climate change puts additional pressure on agriculture in the state. The state has experienced severe droughts and floods that have significantly impacted negatively on its agricultural productivity.

Insecurity is another key challenge mitigating against the development of Borno State. The state is known as the “Home of Peace” and has had peaceful development before the insurgency, except for the Maitasine crisis in the 1980s and a few minor religious and political crises or riots. However, in 2009, the insurgency crisis broke out with its attendant humanitarian crisis[7]. OCHA (February 2024) reported that across the three northeast states of Borno, Adamawa and Yobe (BAY), 8.3 million people are estimated to need humanitarian assistance. Over 80% of internally displaced people in the region are in Borno State.

The insecurity in Northeast Nigeria has led to economic stagnation in Borno State. Transport and trade restrictions and inaccessible areas around Lake Chad have impeded economic activity. The insurgency and road insecurity have affected the flow of people, goods and raw materials in the state. Movements and economic activity were further restricted due to counter-insurgency operations. Security in the state started improving from 2016 which offered some respite to businesses, but some areas remain unstable. Goods are transported and people move around the region at great risk to their safety. Till date, there are a good number of roads to smaller towns in Borno that are blocked by the military, greatly restricting economic flows. New economic activity has emerged due to the displacement crisis, with local markets growing around IDP camps. The presence of international humanitarian actors has increased demand for day labour in construction, transport and the procurement of supplies.

The economy in Borno State remains characterized by a high unemployment rate, particularly among young people. The high number of displaced persons has strained the mainly informal labour market in the state. The situation is further exacerbated by the collapse of large-scale industries especially within Maiduguri metropolis. While there are no official recent statistics or labour market assessments, most estimate that most young people are unemployed. The National Youth Council of Nigeria estimates that about 1.4 million out of the two million youths in Borno state are unemployed[8]. The IRC 2016 Urban Context Analysis indicated that youth unemployment is one of the biggest issues facing Maiduguri, the State capital.

Universal basic education remains a mirage in Borno State. The literacy rate is about 14.5%, implying that about 85.5% are illiterate. The situation is further exacerbated by the insurgency which has led to most schools being shut down for an extended number of years. Several humanitarian and development partners are supporting the restarting of education in most LGAs, however, these efforts are inadequate.

Universal health care has also remained a mirage in Borno State. The state belongs to a zone with one of the worst mortality indices in the country. Infant mortality stands at 109/1000LB, while under-five mortality is 222/1000LB. The mortality ratio is taken as 545/100000LB. The state is also prone to epidemic attacks of bacterial and viral origin, such as meningitis, cholera and measles. Further, it has contributed to the 2 - 6% North East range of HIV/AIDS prevalence rate (Lawan and Imam, 2019). NGOs have

[7] Boko Haram orchestrated the insurgency. This nickname was labelled to a militant group which means "Western education is a sin” It is a jihadist militant movement operating in northeast Nigeria, Northern Cameroon and Niger Republic.

[8] https://dailytrust.com/1-4-million-borno-youths-unemployed-youth-leader/

complemented the state government in providing health services to internally displaced persons and other residents in the state by providing vaccines, drugs, health workers, etc. This has assisted in minimizing the malnutrition rate and other related illnesses to improve the health indices.

Gender inequality remains one of the prevailing hindrances to human development that can streamline developmental efforts in Borno state. Statistics show the state has the lowest cumulative rates of empowerment for women aged 15 to 49, with only 41% educational attainment, 47.8% employment, 22.5% participation in decision-making, 12.5% ownership of a bank account, and 0.3% ownership of land and house assets[9]. In addition, Borno has one of the highest cases of sexual and gender-based violence in Nigeria. Economic activities are segregated by gender, with women participating primarily in the informal economy. They work from home, making caps, running small shops, and roasting traditional delicacies. Some also rely on their daughters to hawk for additional income, undermining girls' education and putting them at potential risk of sexual exploitation and abuse.

Humanitarian support has been quite critical to the post-insurgency recovery of Borno State. It has contributed to the recovery of significant percentage of the population that had lost their livelihoods as well as provision of much needed food and other basic interventions to vulnerable and at-risk groups. However, the humanitarian interventions as currently being delivered has a couple of flaws. First, the aid-dependency syndrome has further complicated the situation of a large population of the productive group. Most of them are no longer taking the initiative to engage in productive activities that will generate income and ultimately contribute to the State's economic development. Secondly, most humanitarian interventions are not built on a solid foundation that will eventually result to effective post-insurgency development of the state.

VULNERABILITY TO CLIMATE CHANGE

Borno State experiences extreme conditions due to the changing climate. These extreme conditions are detailed below:

Drought and desertification - These are twin severe challenges facing Borno State. Because of its proximity to the Sahara Desert, Borno experiences one of the lowest average rainfalls in the country. This, coupled with desert encroachment, results to severe cases of drought and desertification. Many areas, particularly in the northern region including Abadam, Kukawa, Mobbar, Guzamala, Monguno, Gubio, Magumeri and Nganzai LGAs, are experiencing these conditions.

The effects and impacts of drought were quite pronounced in 2023, as the state witnessed one of the worst agricultural harvests in recent years. The Nigeria Meteorological Agency (NiMET) had predicted that Borno state would have a delayed onset of rainfall and early departure. The agency also advised farmers on measures to take such as moisture preservation in farms, practicing zero tillage, and using supplementary irrigation. However, many farmers in the ravaged state said they were

[9] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.alignplatform.org/sites/default/files/2021-11/wee_borno_state_brief_final.pdf

unaware of the agency's prediction, hence their reason for investing in farming without considering the climate change factors[10].

Reducing precipitation and attendant drought are also impacting livestock production. Livestock mortalities are increasing due to reducing fodder and water bodies. The state is beginning to witness increased farmer-herder clashes. An example is a report on how climate change has compelled Fulani herders in Borno State to seek alternative methods for feeding their cattle. As a result, they have migrated to Kwajaffa, an agrarian community in the southern part of the state, leading to conflicts between local farmers and the Fulani herders[11].

Drought and desertification are also creating another humanitarian crisis angle. Prolonged drought and ever-increasing threat of desertification has led to increased climate migration crisis. This has led to a significant number of climate refugees in the state. A research by Adam M. Abbas (2017) on climate change and forced migration detailed how many inhabitants of Ngala and Kala-Balge LGAs were forced to migrate to Cameroon's Darrak, Bullaram, Lake Doi, Lake Chad, and Mayo-Mbund for fishing and petty trading or South-Western Nigeria especially Lagos, Oyo States, etc.

Flooding – According to NiMET, Borno was one of the states that witnessed above normal rainfall in 2021. In 2022 the Agency released a flood risk map that clearly showed Borno as one of the high-risk states. (see figure 2)[12]. The country experienced its worst floods in over two decades in 2022, affecting 4.4 million people. The Borno State Emergency Management Agency (SEMA) reported that over 16,000 persons were displaced by the 2022 flooding in 14 LGAs of the state.

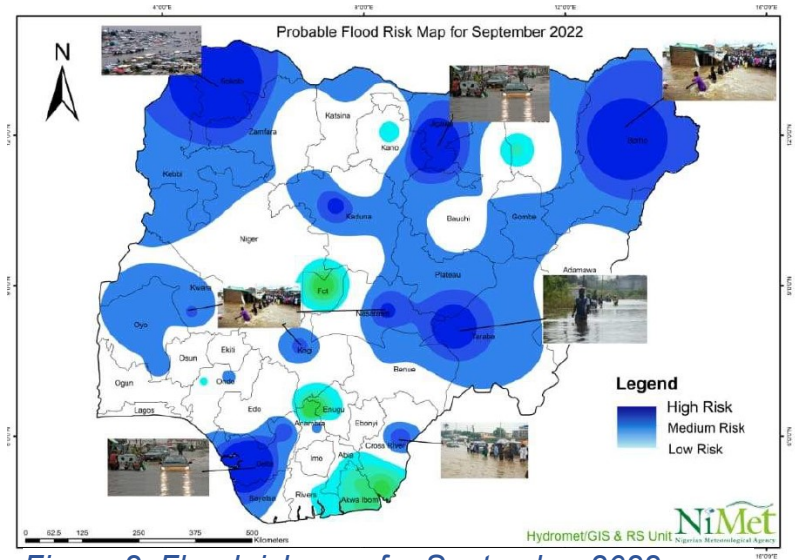


Figure 2: Flood risk map for September 2022

Between June 1 and August 31 2022, the International Organization for Migration's Displacement Tracking Matrix programme assessed the level of damage sustained in IDP and host community sites due to heavy windstorms, rainfall and flood. Overall, 72 host community locations, 11 camps and nine collective settlements were assessed. The worst-hit of the assessed sites was Banki, a host community location in Buduwa/Bula Chirabe ward of Bama LGA, where heavy rainfall alongside the opening

[10] https://humanglemedia.com/borno-farmers-recount-losses-as-climate-change-worsens-food-insecurity-in-nigeria/
[11] https://humanglemedia.com/farmer-herder-crisis-in-nigerias-borno-state-is-taking-a-different-turn/
[12] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.un-spider.org/sites/default/files/nimet-presentation.pdf

of the dam gates in Cameroon led to the flooding of the community affecting an estimated 7,389 individuals. In total, 4,989 shelters/houses were damaged by the flood, leaving 8,181 households (4,645 in Borno State, 962 in Adamawa State and 2,574 in Yobe State) in immediate need of shelter. Three hundred and thirty-four casualties were reported due to rainstorms and floods[13].

Besides threat to human lives, flooding is also causing havoc on other sectors of the Borno economy. The agricultural sector is the most impacted. A report by Environews Nigeria (September 2022) stated that 150,000 hectares of farmlands estimated to worth 30 billion naira was destroyed by the 2022 flood in the northeastern states of Borno, Adamawa, Yobe, Bauchi and Gombe[14].

Flooding affects other sectors of the Borno economy including the washing away and degradation of physical infrastructure, land degradation, and loss of livelihoods.

Heat wave - Weather projections released by NiMET in for 2024 shows air temperatures have reached 41^{o}C in Northern Nigeria and 39^{o}C in the south. In 2023, heat intensity peaked at over 40°C in some days of March through May in Borno State, especially in Mafa and Aba Khalli communities, including Maiduguri, the state's capital. Similarly, the temperature increased as one approached the state's northern region. Various reports of mortalities in Borno State attributed to heat waves have continued to feature in headline news. As far back as 2002, there were reports of mortalities due to heat stroke[15]. This situation has steadily increased over the years as the climate changes.

Most farmers in Borno State engage in dry-season farming. Increasing heat waves affect their agricultural productivity because most water bodies that power irrigation farming are drying up. While some farmers have access to deep well boreholes, an increasing majority forced to abandon their farms because the surface water they rely on are drying up due to increasing heat waves. This situation also affects livestock production as it can cause sudden mass death of livestock and great loss to farmers.

Heat waves also affects other sectors of the Borno economy. For instance, the increase in pressure on the power grid can lead to the explosion of transformers, which is a common phenomenon in the state. Road infrastructure often suffer deterioration partly due to prolonged exposure to heat waves.

Pests and diseases – An increase in pest and diseases is closely associated with increase in other climatic conditions. Flooding has led to increases in diseases over the years. For instance, the 2022 flooding was a significant contributor to the spread of cholera that killed 390 people in Borno State. Increased heat waves have also resulted in increased cases of meningitis with varying degrees of mortalities over the years. These effects and impacts are not limited to humans alone but also extend to agricultural production and other sectors of the Borno economy.

[13] https://dtm.iom.int/reports/nigeria-flood-flash-report-borno-adamawa-and-yobe-states-june-august-2022
[14] https://www.environewsnigeria.com/farmers-count-losses-as-flood-ravages-150000ha-farmlands-in-north-east-nigeria/
[15] https://www.thenewhumanitarian.org/news/2002/06/11/least-60-die-heat-stroke-maiduguri

Erosion – While Borno is not in the ecological region with severe erosion problems, However, it does suffer a great deal of soil erosion especially in the southern parts and the areas surrounding the couple of rivers in the state. An appraisal of gully erosion along River Ngaddabul flood plain revealed that, among other factors, rainfall amount, runoff taking advantage of footpaths and the annual floods contribute towards gullying (processes) by deepening the channels, leading to the initiation of new gullies on the slopes[16]. Also, an assessment of soil erosion in Biu LGA conducted by Abdullahi Ahmed (2019) showed that the area is majorly affected by rill and gully type of erosion due to high level of rainfall, low infiltration capacity of the soils, sparse vegetation and slope steepness of the area. The study also revealed that the effects of soil erosion in Biu LGA is paramount as roads are being washed away, buildings are gradually degraded, bridges been collapsed and farmlands been leached.

BORNO STATE RESPONSE TO CLIMATE CHANGE

Since its creation in 1976, Borno State has never had a dedicated environmental or climate change policy. However, several government policy initiatives, international donors, and NGOs shape the Borno State's response to climate change.

The government commissioned the development of the 25-Year Development Plan. One of the components is to reduce desertification rate and deliver a net gain of least 1 km per annum. To support the achievement of this objective, the government banned the sale of charcoal and firewood in Maiduguri in 2021[17]. This is in addition to annual tree-planting campaigns. Other interventions in the plan include investments in climate smart agriculture, climate smart information services for farmers and water conservation and management practices. Below are the pillars and drivers of the plan.

[16] https://www.semanticscholar.org/paper/GULLY-DEVELOPMENT-ALONG-RIVER-NGADDABUL-FLOODPLAIN-Mala-Nyanganji/57ac5508b985b94b26d3022ac7adacd72a1a7d33

[17] https://web.facebook.com/96160950863/posts/borno-government-barns-charcoal-firewood-sale-in-maidugurihttpowlytawl50f3k0x/10160065852950864/?_rdc=1&_rdr

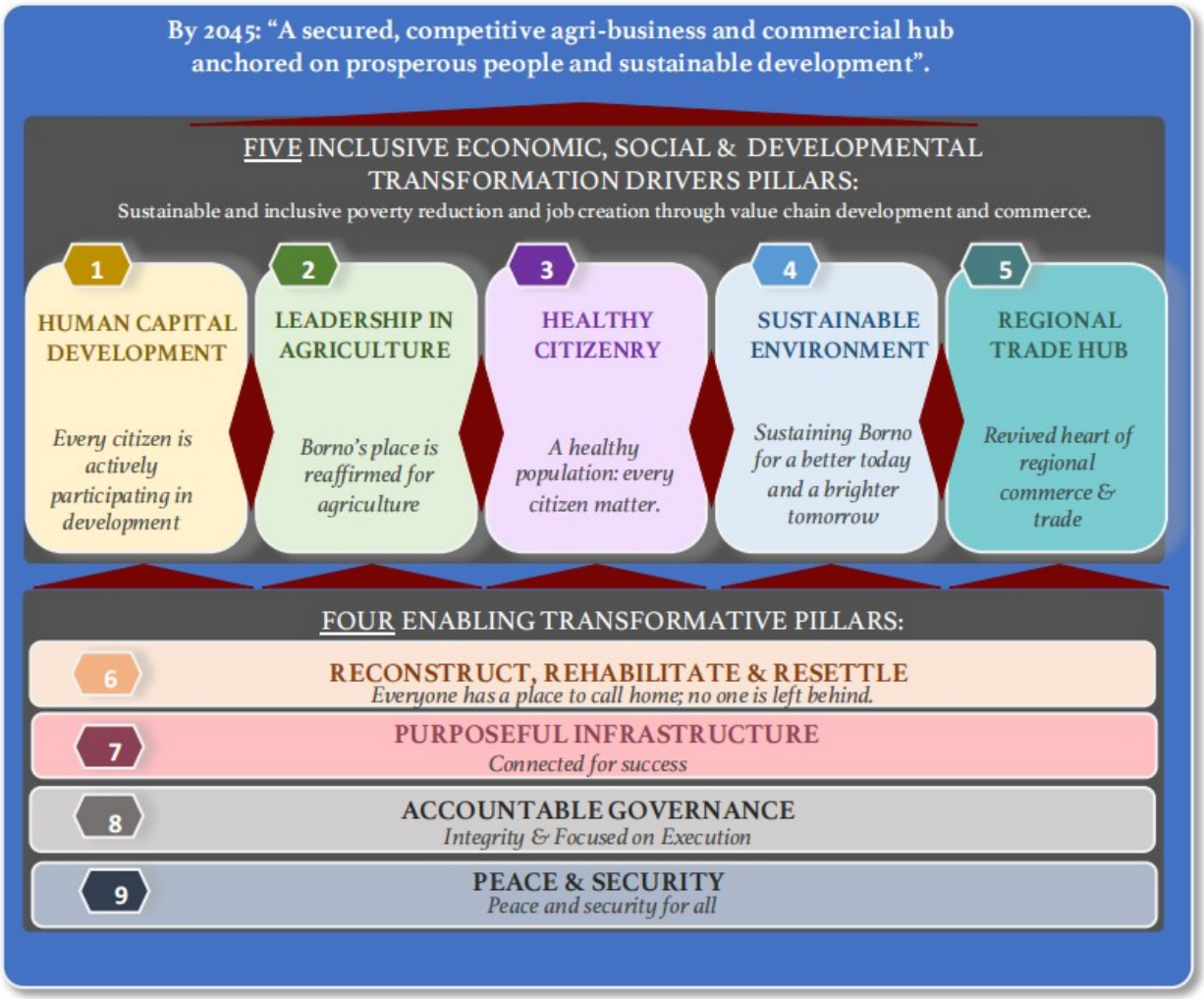


Figure 3: Five drivers and four enabling transformative pillars of the Borno State 25-year Development Plan (Culled from BoSPD)

Beyond the environment and climate change components in the 25-Year Development Plan, Borno State does not have a specific environment and/or climate change policy.

Much of the Borno State Government's climate-related activities is concentrated on increasing vegetation and reducing the overreliance on solid biomass for cooking. The Forestry Department of the State Ministry of Environment is perhaps the most active department that implements actions on agroforestry and the regeneration of degraded lands. Their efforts aim to mitigate the effects of deforestation and promote sustainable land use practices that will benefit both the environment and people.

While Borno State focuses much of its effort on agroforestry, it has programmes that seek to support climate smart agriculture being implemented by the Borno State Agricultural Development Programme (BOSADP). BOSADP emerged following the merger of the Borno Accelerated Development Area Programme and Southern Borno Agricultural Development Programme in 1988. Among its activities, BOSADP agricultural extension services department provides grassroot information and education to farmers including climatic factors such as rain range and desertification problems.

Besides BOSADP, the State Ministry of Agriculture and Natural Resources conducts other activities and programmes that seek to increase food production while promoting climate smart agriculture. The 25-Year Development Framework provides for increased use of deep well irrigation methods for dry season farming. The Ministry is primarily focused on this development. The Ministry also seeks to complement deep well irrigation by exploring the creation of water reservoirs and small lakes to harvest water during the rainy season. This has been piloted in a couple of locations with significant success.

Beyond the activities, there are no other coordinated government-driven efforts at climate actions. The state government's main priority is on rebuilding communities and towns destroyed by the insurgency. The Department of Climate Change in the Ministry of Environment is a little over two years old and yet to gain traction to effectively govern the climate change space. This low level of governance is particularly concerning given that Borno is one of the states in Nigeria most vulnerable to the impacts of climate change.

Humanitarian support for climate actions has been quite significant. The Food and Agricultural Organization (FAO) has been supporting the state on climate smart agricultural practices including dry season farming, improved crop varieties, assessments and reports highlighting the impacts of climate change on food security and opportunities to reverse the trend. FAO is also leading the way in promoting safe access to fuels and energy in the Northeast and has established fuel-efficient stove and briquette production centres in various locations in the state. These centres have continued to deliver fuel-efficient stoves and briquettes to the markets. Further, FAO supported the Borno State Government to develop a climate investment plan specific for the agricultural sector. This document provides an overview of the investment framework needed to ensure domestication of climate smart agriculture in the state.

The European Union (EU) is one of the highest funders of climate actions in Borno State. Since it started funding interventions in Borno State, the EU has spent over 300 million Euros in Northeast Nigeria including funding climate actions. In 2018, the EU launched the 123 million Euros Borno MAIDA project which was implemented in several intervention areas including sustainable electricity, clean cooking solutions and vocational training on clean energy services[18].

The National Humanitarian Fund (NHF) is another funding source for climate actions. Established in 2017 and managed by UNOCHA, the fund receives contributions from the governments of Belgium, Canada, Germany, Ireland, the Republic of Korea, the Netherlands, Norway, Qatar, Sweden and Switzerland for urgent actions. Over the years, the fund has financed a good number of actions that support climate resilience among crisis-affected persons in Borno State.

Many organizations are also supporting climate actions in various sectors in the state. Some of them are presented in the table below:

[18] https://www.eeas.europa.eu/node/38615_en

Table 2: Organizations finding and implementing climate actions in Borno State

Organization	Category	Climate actions								
		Climate Smart Agriculture	Sustainable energy	Agroforestry	Water resources mgt	Information / awareness	Capacity building	Climate advocacy	Research & innovation	Access to finance
EU	Donor	X	X	X	X	X	X	X	X	X
USAID	Donor	X				X		X		X
NHF	Donor	X	X			X	X			
GIZ / implementer	Donor	X	X			X	X	X	x	
FAO	Implementer	X	X	X	X	X	X	X	x	X
UNDP	Implementer	X				X	X			
IOM	Implementer		X			X	X	X		
WFP	Implementer	X	X			X				
Mercy Corps	Implementer	X	X			X	X	X		X
ICEED	Implementer	X	X			X	X	X	x	X
ACF	Implementer	X	X			X	X			
DRC	Implementer		X			X				
ZOA	Implementer	X			X	X	X	X		
Caritas	Implementer		X			X				
Greencode	Implementer		X			X	X	X		
ACTED	Implementer		X							
SCI	Implementer	X	X							
DEC	Implementer	X				X	X	X		X
FEWSNET	Implementer					X				
LOCDIN	Implementer	X	X			X	X	X		
Others (Norway, Canada, Kuwait, etc)	Donor	X	X	X	X	X	X	X	x	X

Until recently, multi-stakeholder climate change governance and programming platforms were non-existent in Borno State. In June 2023, the EU funded Borno Climate Change Programme supported the establishment of the Borno State Climate Change Coalition. With a membership strength of over 50 organizations drawn from the government, private sector, humanitarian and development partners, civil society organizations, the academia and the media, the Coalition primarily engages in multi-tier advocacy for implementing climate actions in the state.

The Safe Access to Fuels and Energy (SAFE) Working Group (WG), under Food and Security Sector is another platform that promotes climate actions albeit at sectoral level. The WG has stakeholders drawn from government, private sector, humanitarian and development partners. The group actively promotes safe access to fuels and energy for crisis-affected persons in Northeast Nigeria. Specifically, the group promotes increased access to renewable electricity and clean cooking solutions. The group was established in 2016 to address the severe household energy poverty being faced by displaced persons in the Northeast.

The Food Security Sector (FSS) is another sectoral platform that coordinates activities to promote food and nutrition security including implementation of climate smart agricultural practices. The sector is led by the Borno State Government and co-chaired by Food and Agriculture Organization and the World Food Programme. The sector has members drawn from government, private sector, humanitarian and development partners.

BARRIERS TO EFFECTIVE STATE-LEVEL RESPONSE TO CLIMATE CHANGE

Borno State has made some efforts to domesticate national climate change policies, including the Agricultural Promotion Policy, the National Policy on Climate Change and Response Strategy and the Sustainable Development Goals. Also, the state launched the 25-Year State Development Plan to drive stabilization, boost recovery efforts and stimulate growth across all sectors, including climate change and the environment. The SDP was founded alongside a 10-year Transformation Strategy that sets out key priorities and action plans for the short and medium term.

While the state has made some progress to mainstream climate actions in its developmental plans, there are many barriers that hinder effective response. Some core barriers were identified from a capacity assessment conducted by the International Centre for Energy, Environment and Development (ICEED), opinions expressed by relevant public agencies and stakeholders as well as documented literature. These barriers are presented below:

- *Lack of policy framework*: Borno State lacks a specific environmental or climate change policy or programme framework local to it, leaving it relying mainly on federal policies and programmes. The Food and Agriculture Organization has recently produced a Climate Smart Agriculture Investment Plan for Borno State. However, this plan has not been officially adopted, and as a result, it is challenging to establish an agenda for climate resilience and monitoring.

- *Weak governance and institutional support:* The competency and number of staff anchoring environment and climate change activities in the State is inadequate. This is a serious challenge as it affects the confidence-building and sustainability of programmes. The Climate Change Department in the Ministry of Environment is in its early stages of development, understaffed and lacks a clear framework for climate change response. On the political front, the State Government has demonstrated commitment to implement the 25-Year Development Plan which contains some climate actions. However, beyond the 25-Year Plan, the state

government has not initiated any integrated move to have a holistic climate response plan.

- *Inadequacy of data*: The data required for planning is grossly inadequate. The National Bureau of Statistics maintains data on key economic and human indicators for every state of the federation but most of the data are not up to date. Also, various humanitarian and development actors have generated some data over the years, but there's no central database to access them.

- *Poor awareness*: Community level awareness on the effects and impacts of climate change is quite rudimentary in Borno state. In addition, though some of the political leadership and various government agencies understand the effects and impacts of climate change, there is very little effort to spread the awareness. Most humanitarian and development partners like FAO, Mercy Corps and ICEED have undertaken community-level awareness campaigns while implementing their interventions. However, these are time-bound project-specific outreaches with limited number of target audience.

- *Weak capacity for climate change long-term planning:* Long term planning on multi-dimensional climate change matters needs to be improved. The current political leadership has demonstrated capacity for long term planning with the 25-Year Development Plan. This capacity should also be extended to include a holistic long-term plan for climate actions.

- *Weak coordination*: Until recently, the frameworks for environmental and climate change coordination was almost non-existent in Borno state. The Borno State Climate Change Coalition, launched in June 2023 and coordinated by the Ministry of Environment, has taken up the responsibility of advocacy and coordination on climate actions. The Coalition is still at its teething stage and is yet to achieve significant traction. The Coalition will require multi-stakeholder support to ensure its sustainability.

- *Low capacity to undertake community-level climate actions:* This is very low among local communities. The capacity of community members, especially farmers, to adjust to climate change, cope with the consequences of moderate potential changes, and take advantage of opportunities is abysmally low. This is because awareness and understanding of the issue of change is low at the individual, community and the State level.

- *Low Resource Mobilization*: Understanding the trade-offs around building resilience is compelling to make the State Government and private sector commit the necessary funds to this approach. Resource mobilization is imperative to building climate resilience could be better.

- *Low technological deployment*: Various technologies exist that can be deployed as part of climate change mitigation and adaptation. However, these are often not explored or underexplored. For instance, fuel-efficient cooking technologies can support the drive to slow down deforestation, but beyond a few isolated projects by humanitarian and development actors, there is no integrated effort to explore this

solution. Also, sustainable irrigation technologies have been in existence for decades but have been underutilized in the state.

- *Partnerships and linkages:* Over the past decade, the government and humanitarian partners have explored partnerships and linkages to support the rebuilding of the state. Some of these partnerships have resulted in finance mobilization to implement project-specific climate actions. However, there is no integrated drive for partnerships and linkages that specifically targets climate resilience in the state.

PRIORITY SECTORS AND CLIMATE RESILIENCE ACTIONS

This section presents the goal and objectives of this Borno State Climate Action Plan. It provides details on the priority climate resilience sectors as identified by stakeholders in an extensive consultative process. It also makes references to documented literature in arriving at the priority sectors. Further, it provides comprehensive details on priority actions in key thematic areas across the sectors, key enablers for achieving success, and how the sectors, and actions are interlinked with the ongoing humanitarian support in the state.

STRATEGIC VISION, GOAL AND OBJECTIVES OF THE BORNO STATE CLIMATE ACTION PLAN

Strategic vision

To ensure Borno can continue to develop and maintain the conditions for the wellbeing and safety of its people, the State has adopted "**a strategic vision to transform into a climate resilient and carbon efficient society that is capable of harnessing the benefits of low carbon and resilient development for present and future generations in a sustainable and inclusive manner".** With this vision as a beacon, Borno State shall organize and maximize the efforts of its institutions, local communities, public and private sectors and civil society.

Goal

In line with the vision above, Borno aims to become a climate-resilient State, while also contributing to national efforts to reduce GHG emissions. The State shall develop in a sustainable way to ensure it does not deplete its rich environmental capital beyond its capacity, and to create economic opportunities for everyone in an inclusive manner. **The long-term goal of this Climate Action Plan to achieve this vision is: By 2030, Borno State has achieved climate-resilience and pursued a low-carbon growth pathway to support inclusive and sustainable development.**

Objectives

To achieve its goal as set out above, Borno State shall direct its development actions along two strategic pathways:

One pathway is **building resilience** so that communities, the economy and all assets are adapted to current and projected climate change, in a way that allows them to continue to perform and thrive under the adverse climate change impacts already being felt and those that are projected to intensify in the coming decades.

The second pathway is **making development choices that are low-carbon** whereby development opportunities are pursued in line with national and global efforts to combat climate change and provide the correct balance between development and environmental sustainability.

These two pathways reflect the parallel adaptation and mitigation requirements where Borno State needs to concentrate its efforts to ensure it is a climate-resilient nation pursuing a low-carbon development pathway by 2030. They are expressed as two

separate but parallel objectives the State needs to achieve the following long-term objectives:

I. Increase the adaptive capacity of vulnerable communities and sectors so that they are resilient to the adverse impacts of climate change; and
II. Create and maximize opportunities for sectors to pursue a low-carbon growth pathway by ensuring development benefits to communities and all economic sectors.

PRIORITY CLIMATE RESILIENCE SECTORS

Building climate resilience involves all actors (governments, communities and businesses) being able to anticipate climate risks and hazards, absorb shocks and stresses, and reshape and transform development pathways in the longer term. The United Nations Framework Convention on Climate Change (UNFCCC) proposed six steps that sectors and actors need to take in developing climate resilience:

i. Awareness-raising and advocacy – Be clear that the future will not resemble the past; base this on science and examine different scenarios and their impacts.
ii. Carry out climate risk assessments at national, local, sectoral or organizational levels and use a systems approach.
iii. Develop and implement appropriate actions and interventions.
iv. Mobilize resources – Build capacity and scale up actions.
v. Monitor and track progress.
vi. Share knowledge, experiences and solutions.

The development of this Borno State Climate Action Plan has followed these steps and, largely, integrated these basic principles.

Identification of the priority sectors was done through a comprehensive stakeholder consultation process with members of the Borno State Climate Change Coalition, a desk review of issues around climate change in Borno State, and consultations with national and international experts. In identifying the priority sectors, all the stakeholders consulted and recommendations from desk reviews emphasized the following guiding principles:

i. People-centred and gender transformative
ii. Conserving and restoring natural capital
iii. Aligning local and national plans and priorities
iv. Evidence and practice
v. Whole-of-economic approach
vi. No-regret approach

These principles perfectly align with the primary objectives of the Borno State 25-Year Development Plan. They also align with the 17 Sustainable Development Goals of the United Nations.

The identification of priority sectors was based on the level of vulnerability to the critical climate hazards and impacts and those with the most mitigation potential and capable of

influencing the state's economic growth. The sectors considered as priority for achieving climate resilience in Borno state as weighted by the stakeholders and reported by literature are shown in the chart below:

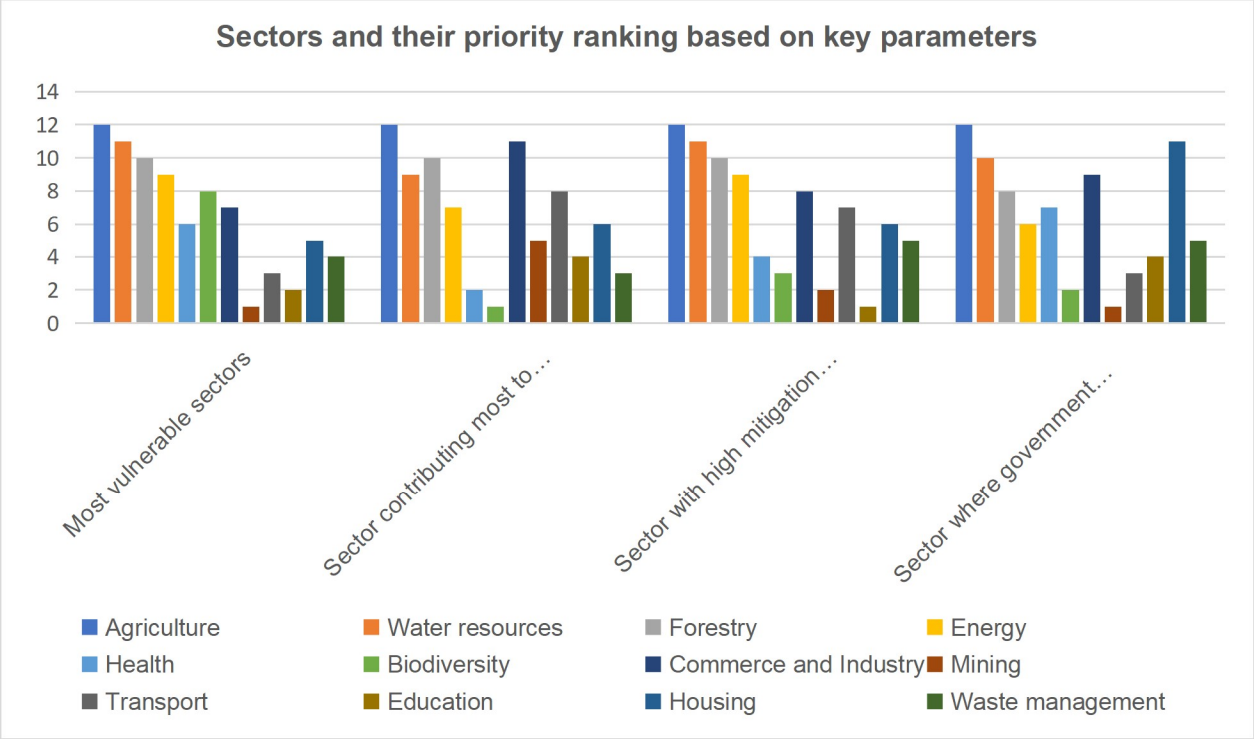


Figure 4: Criteria and rating process for selecting the five priority sectors

From the chart above, the top five priority sectors based on their top five frequency of occurrence across the parameters are detailed below:

I. *Agriculture* – Agriculture contributes more than 65% to Borno's GDP and employs more than 70% of the population. However, it but suffers the most from climate change. Drought and desertification, flooding, pests of agriculture, heat waves and erosion all disproportionately affect the sector. The entire consultation process identified the sector as the number one priority for climate actions. This ranking perfectly aligns with the 25-Year Development Plan, which identified the sector as one of the transformation driver pillars.

II. *Water resources* – According to literature and stakeholders consulted, this sector suffers a major impact due to climate change. Drought, desertification and heat waves lead to drying up of water bodies and grave reduction in surface and ground water levels. The shrinking Lake Chad amply depicts the devastating impact of these occurrences. Flooding results to contamination of fresh water sources, which increases water borne diseases that are injurious to human and livestock. Also, flooding results to inundation of farmlands and human settlements resulting to loss of farm produce, human displacements, loss of livelihoods and sometimes loss of lives. The importance of the sector is quite amplified in the 25-Year Development Plan. The document highlighted the need for massive investments in this sector and provides for: the restoration of the Lake Chad; access to safe water supply for domestic and livestock consumption;

enhanced development of water harvesting techniques; and efficient and effective water draining measure.

III. *Forestry* – This sector suffers similar fate with the agricultural sector as acknowledged by stakeholders consulted. In fact, most stakeholders held that much of the climate crisis being experienced in the state would be eliminated with massive investments in the forestry sector. The 25-Year Development Plan shares this sentiment so it committed to deliver a net gain of at least 1 km of forest cover annually. Some federal government initiatives like the Great Green Wall Project and the World Bank-funded Agro-Climate Resilience in Semi-Arid Landscapes complement the state government efforts.

IV. *Energy* – Issues around access to energy and climate are closely interlinked. Most stakeholders and literature consulted held to loss of forest cover is largely attributed to the quest for household cooking energy. Recognizing the menace of the quest for cooking fuel on the forests, the state government announced a ban on the sale of firewood and charcoal in Maiduguri in 2021[19]. Besides the loss of vegetation, inefficient use of biomass for cooking results to emission of thousands of tons of greenhouse gases from Borno homes every day. Available data from the National Bureau of Statistics indicates that more than 90% of Borno homes depend primarily on solid biomass for cooking using traditional stoves. Therefore, the scale of emissions is quite huge. The changing climate also affects access to lighting and other energy services. Heat waves and flooding have routinely disrupted the performance of electricity supply infrastructure over the years. The use of diesel and petrol generators by households and businesses have become quite rampant and are contributing to intensifying the already hot climate of the state. Therefore, investments in clean energy will not only contribute to the socioeconomic growth of the state, it will also result to significant reduction in greenhouse gas emissions, restoration of the forests, and make households and businesses in the state part of climate change mitigation.

V. *Commerce & Industry* – This sector is the third highest contributor to Borno GDP after agriculture and services. Climate impacts in the above four sectors have varying degrees of impact on this sector. Climate shocks in the agricultural sector has had telling impact on commerce and industry. Many agro-allied industries in the state have closed shop due partly to lack of agricultural feedstock. A good example is the Maiduguri Flour Mills, which, in its glory days, employed over 400 persons and produced 400 metric tonnes of wheat flour daily. The flourmill, described by some economists as the untapped goldmine in the desert, has remained moribund over the past few years. Available reports indicate that though other factors contributed to its waning, inadequate access to agricultural feedstock also contributed to a decline in its operations. A good number of agro-allied industries have suffered similar fate. Smallholder farmers, wholesalers and retailers who constitute the bulk of the players in the commercial sector in the state suffer losses due to flooding, drought, pests and diseases of agriculture.

[19] https://dailytrust.com/borno-government-barns-charcoal-firewood-sale-in-maiduguri/

The 25-Year Development recognized the role of commerce and industry in the State's socioeconomic development. One of its pillars is facilitating economic development through massive investments in commerce and industry and repositioning Borno as a regional trade hub. The plan provides for: investments in the agricultural value chain; sustainable green growth; revitalization of industrial parks and estates; among others. This will create new jobs and empower small and medium sized companies.

PRIORITY ACTION IN KEY THEMATIC AREAS

From the foregoing, priority actions are relevant to achieving resilience in the five priority sectors. The priority actions are interventions meant to address underlying vulnerability causes and maximize mitigation potentials in the sectors. They will seek to address issues in key thematic areas identified by members of the Borno State Climate Change Coalition in the consultation process including: **1) Strengthening policy; 2) Capacity development; 3) Technology and value chain development; 4) conservative and restorative initiatives; and 5) Partnership and collaboration.** The stakeholders identified interventions in these key thematic areas as offering the best potential for climate resiliency. They are considered "no-regret options" that offer co-benefits even without the impact of climate change. The necessity for prioritizing actions in these thematic areas is detailed below:

Strengthen Policy

Borno State needs to have climate policies that align with local circumstances. Most of the policies driving development in different sectors of the State are envisioned from the corresponding national policies and frameworks. Thus, the policy frameworks in Borno State are insufficient to safeguard the State's long-term development programs against climate-related shocks. The agenda-setting process needs updating to position the priority sectors to be responsive to address emerging threats, such as the impact of climate change, and for effective monitoring. Some policies available in the various sectors that could support resilient development are rather dispersed and lack the needed focus.

Similarly, the sectoral policies in Borno state need to be aligned with national policy approaches and targets such as the Nationally Determined Contributions (NDC). Also, cross-cutting issues recognized barriers to successfully implementing the development agenda, such as gender dimensions, social inclusiveness, community participation, and finance, which must be adequately reflected in building a resilient action plan. This necessitates an overhaul of its policy priorities to fully integrate resilience approaches into existing planning systems.

Capacity Development for Institutions and Communities

It would be incomplete to overlook the state of the institutional mechanisms for climate change governance and adoption in Borno State. The ability of the institutions to coordinate and collaborate needs to be strengthened. The competencies and number of staff with climate change knowledge require urgent enhancement. These could include

recruitment, data management, mobilization of the relevant MDAs and communities involved or affected, and implementation of the agenda. Again, the capacity of the institutions and the governance architecture to monitor and report on the policy implementation process, as well as adequate information sharing to foster progress and accountability, needs to be enhanced. Further, local institutions' capacity to identify and review relevant climate change plans and enable effective implementation corresponding to the landscape peculiarities should be improved.

Technology and Value Chain Development

Across all the priority sectors, a lack of competitiveness limits the opportunities and choices for development. This must be addressed to achieve the economy's and people's resilience. The economy of Borno State needs to be opened up in a climate-compliant manner to meet global standards, as this will promote increased productivity, generate better jobs, and increase incomes, which are features that reduce the system's vulnerability. Developing business-oriented climate solutions will attract greater involvement from the private sector and mobilize finances to tackle climate change and build resilience.

Conservation and Restorative Initiatives

The pathway to building a climate resilience action plan will be challenging to attain if the sustainability of the natural resources, which is the backbone of the economy of Borno state, is neglected. Earlier surveys have shown that the state's priority sectors primarily rely on natural resources. The state's economy needs to be transformed towards a green development pathway that will enhance the provision of ecosystem services and reduce trade-offs. Part of the incentives for this approach is that it advances the pursuit of low-emission pathways and aligns with the NDC.

Partnerships and Collaboration

Partnerships and collaboration are needed to achieve protection and early recovery from shocks and stresses and to enhance their climate mitigation capacities through shared responsibility and ownership of the process. Workable and equitable partnerships need to be built in the programming and activities of these sectors. This partnership is necessary across government agencies, the private sector, communities, civil society, researchers, and international development partners to align efforts and effectively implement the resilient action plan. Currently, the state benefits from several federal governments and donor-supported climate change projects. Borno State has boundaries with three neighbouring countries (Chad, Cameroon and Niger), making the State a trans-regional ecosystem with several transboundary issues. The State needs to acquire the capacity to offer the opportunities as an international route and be protected from the exposure to challenges arising from them. It needs to liaise with the Federal Government to build a regional coalition to acquire resilience and hold the potential for sustainable public good.

ACTIONS ACROSS THE PRIORITY SECTORS

Comprehensive actions across the priority sectors based on the above key thematic areas can ensure climate resiliency in Borno State. The comprehensive actions are presented below based on the priority sectors

SUSTAINABLE AND CLIMATE-SMART AGRICULTURE PLAN FOR BORNO STATE

One of the goals of the Borno State 25-Year Development Plan is to promote sustainable agriculture to improve productivity, achieve income and food security, end hunger and improve nutrition for all by 2030. The strategic objectives are: i) attainment of food security and promoting the production of commodities with comparative advantage along the value chain having considerable potential for foreign exchange earnings and meeting the targeted growth of an expanding industrial sector and increasing population size; ii) modernization/mechanization of agricultural production, processing, storage and distribution through the infusion of improved technologies and management, leveraging the value chain development strategy; iii) provision of appropriate institutional thrust covering human resource, finance, markets, standardization and quality control as well as a legal framework; and iv) to create abundant job opportunities and attainment of income security in Borno state through agricultural value chain. Achievement of these objectives will promote agricultural productivity and agroindustry, improve the socioeconomic situation of the state and ultimately contribute to environmental sustainability.

FAO has developed a climate-smart agriculture investment plan for Borno State. The document clearly noted that agricultural sector's vulnerability to climate change will require Borno State to re-orient its approach towards climate-smart agriculture (CSA). Together, the three CSA pillars of Productivity, Adaptation, and Mitigation as identified by the document, bringing about sustainability, resilience, and lower emissions (as represented in the figure below, will enable farmers to increase their productivity and, subsequently, their income. The pillars will improve the agricultural sector's ability to cope with climate change and its associated extreme weather events, reduce emissions, and increase carbon sequestration by producing fewer GHGs per unit of agricultural produce.

Figure 5: Climate-smart agriculture: The triple-win of sustainability, resilience, and lower emissions
CREDIT: CLIMATE-SMART AGRICULTURE INVESTMENT PLAN: BORNO STATE, NIGERIA (FAO 2022)

Based on the contents of the 25-Year Development Plan and the Climate-Smart Agriculture Investment Plan developed by FAO, the Borno State Government shall

undertake the following actions in the key thematic areas in the short, medium and long term:

Table 3: Actions for sustainable and climate-smart agriculture in the thematic areas in the short, medium and long term

Thematic areas	Actions and targets			Indicators for success	Implementing Entities
	Short term – 2024 – 2025	**Medium term – 2025 – 2027**	**Long term – 2027 – 2030**		
Strengthen Policy	Domesticate the agricultural components of the Borno State 25-Year Development Plan; Adopt and domesticate the Climate Smart Agriculture Investment Plan developed by FAO; develop a Climate Smart Agriculture Toolbox for Borno State	Monitor implementation of the policies and toolbox	Develop policies that integrate adaptation capacity and low-emission sustainable growth in agricultural sector Monitor implementation of the policies and toolbox	Number of policies and toolbox developed, adopted and implemented	Ministry of Agriculture and Natural Resources (BoSMANR); Ministry of Environment (BoSMEnv); State Executive Council (BoSEC); Humanitarian and Development Partners (HDPs)
Capacity Development	Information and sensitization on climate change reach at least 1,000,000 persons across all the LGAs	Information and sensitization reach at least 300,000 new and additional persons across all the LGAs	Information and sensitization reach at least 300,000 new and additional persons across all the LGAs	Number of persons reached	Borno Radio and Television (BRTV); Ministry of Home Affairs, Information and Culture (BoSMHAIC); HDPs, National Orientation Agency (NOA)
	Climate change education in all Borno secondary and tertiary schools	Continued climate change education in all Borno secondary and tertiary schools	Continued climate change education in all Borno secondary and tertiary schools	Number of schools undertaking climate change education	Ministry of Education; Universal Education Board; RAMAT Polytechnic; Borno State University; Mohamet Lawan College of Agriculture; College of Education Waka-Biu; Borno State College of Health Technology; Federal College of Forest Resources management; HDPs
	At least 50 Agricultural Extension Workers (AEWs) trained and mobilized on CSA and data collection in each LGA	Further support to existing AEWs and at least 50 new and additional AEWs trained and mobilized in each LGA	Further support to existing AEWs and at least 200 new and additional AEWs trained and mobilized in each LGA	Number of extension workers trained and mobilized	Borno State Agricultural Development Programme (BoSADP); BoSMANR; HDPs
	At least 20 Animal Health Workers	Further support to existing AHWs and	Further support to	Number of extension	Borno State Agricultural

	(AHWs) trained and mobilized on good husbandry practices, basic animal healthcare procedures and surveillance activities in each LGA	at least 30 new and additional AHWs trained and mobilized in each LGA	existing AHWs and at least 30 new and additional AHWs trained and mobilized in each LGA	workers trained and mobilized	Development Programme (BoSADP); Borno State Ministry of Animal Resources and Fisheries (BoSMARF); BoSMANR; HDPs
	Training-of-trainers on alternative livestock fodder production, value addition, and feed formulation using locally sourced raw materials	At least 60 extension workers trained who will step down the training to at least 1800 livestock keepers	At least 60 extension workers trained who will step down the training to at least 1800 livestock keepers	Number of ToTs and stepdown trainings conducted	Ministry of Agriculture and Natural Resources (BoSMANR); BoSADP Universities Colleges of Agriculture LCRI
	At least 150 farmer Field and Business School Facilitators (FFS) trained on mainstreaming Participatory Integrated Climate Service for Agriculture (PICSA) approach	Further support to Farmer Field School Facilitators trained by FAO in 2018 and 2022	Further support to existing FFS facilitators to mainstream climate information among 150 groups or 3750 to 4500 individual farmers	Number of FFS facilitators trained	BoSADP, Lake Chad Research Institute, Nigerian Meteorological Agency (NeMIT), . CAZS- University of Maiduguri,
	At least 300 extension agents and Farmer Field School Facilitators trained on post-harvest loss reduction	Further support to extension agents and FFS facilitators to disseminate post-harvest loss techniques and reduce post-harvest losses	Further support to existing trained extension agents and FFS facilitators	Number of extension agents and FFS facllitators trained	Nigerian Stored Products Research Institute (NSPRI), Bo SADP, Lake Chad Research Institute,
	At least 20 Extension Aquaculturists on sustainable fishery and aquaculture in each of the LGAs	Further support to existing Extension Aquaculturists and at least 30 new and additional ones trained and mobilized in each LGA	Further support to existing Extension Aquaculturists and at least 30 new and additional ones trained and mobilized in each LGA	Number of Extension Aquaculturists trained and mobilized	BoSADP; BoSMARF; BoSMANR; HDPs
	At least 60 farming cooperatives trained on sustainable irrigation techniques, production of organic manure, sustainable land management; use of digital technology to monitor the health of crops and soil conditions. 20 in each zone	At least 90 new and additional farming cooperatives trained, 30 in each zone of Borno State	At least 90 new and additional farming cooperatives trained, 30 in each zone of Borno State	Number of farming cooperatives trained	BoSADP; BoSMANR; HDPs

	At least 5 pastoralist groups trained on good husbandry practices, basic animal healthcare procedures and surveillance activities in each LGA	At least 5 new and additional pastoralist groups trained in each LGA	At least 5 new and additional pastoralist groups trained in each LGA	Number of pastoralist groups trained	BoSADP; BoSMARF; BoSMANR; HDPs
	At least 10 fishing and fish farming cooperatives trained on sustainable fishery and aquaculture in each LGA	At least 20 new and additional fishing and fish farming cooperatives trained in each LGA	At least 20 new and additional fishing and fish farming cooperatives trained in each LGA	Number of fishing and fish farming cooperatives trained	BoSADP; BoSMARF; BoSMANR; HDPs
	Capacity building for at least 100 communities and pastoralist groups on sustainable co-usage of resources, peace building and conflict management	Capacity building for at least 200 new and additional communities and pastoralist groups	Capacity building for at least 200 new and additional communities and pastoralist groups	Number of communities and pastoralist groups trained	BoSADP; BoSMANR; HDPs
	Collaborate with NiMET and University of Maiduguri Weather Station (UniMaidWS) to produce and disseminate climate information of all the LGAs at least once every month	Further collaboration with NiMET and (UniMaidWS) to produce and disseminate climate information	Further collaboration with NiMET and (UniMaidWS) to produce and disseminate climate information	Number of climate information produced and disseminated	NiMET; (UniMaidWS); BRTV; (BoSMHAIC); AEWs
Technology and value chain development Initiatives	Support at least 60 farming and fishing cooperatives with post-harvest equipment and infrastructure	Support at least 90 new and additional farming and fish farming cooperatives with post-harvest equipment and infrastructure	Support at least 90 new and additional farming and fish farming cooperatives with post-harvest equipment and infrastructure	Number of cooperatives supported	BoSADP; BoSMANR; HDPs
	Support at least 60 farming cooperatives with sustainable irrigation infrastructure	Support at least 90 new and additional farming cooperatives	Support at least 90 new and additional farming cooperatives	Number of cooperatives supported	BoSADP; BoSMANR; HDPs
	Support at least 5 pastoralist groups in each LGA on sustainable livestock production equipment and infrastructure	Support at least 5 new and additional pastoralist groups in each LGA	Support at least 5 new and additional pastoralist groups in each LGA	Number of pastoralist groups supported	BoSADP; BoSMARF; BoSMANR; HDPs
	Support at least 10 fishing and fish	Support at least 20 new and additional	Support at least 20 new	Number of fishing and fish	BoSADP; BoSMARF;

	farming cooperatives in each LGA with sustainable fish production equipment and infrastructure	fishing and fish farming cooperatives in each LGA	and additional fishing and fish farming cooperatives in each LGA	farming cooperatives supported	BoSMANR; HDPs
	Construction of at least 9 earth ponds to harvest water for fish farming, dry season farming and water supply for livestock in agricultural clusters	Construction of at least 12 new and additional earth fishponds	Construction of at least 12 new and additional earth fishponds	Number of earthen fishponds constructed	BoSADP; BoSMANR; HDPs
	Construct at least 3 mini dams in agricultural clusters	Construct at least 3 new and additional mini dams in agricultural clusters	Ongoing maintenance of all the dams	Number of dams constructed and maintained	Borno State Ministry of Works and Transport (BoSMWT; BoSMANR BoSADP
	Provision of pest and drought resistant seedlings to at least 300 farming cooperatives	Provision of pest and drought resistant seedlings to at least 600 new and additional farming cooperatives	Provision of pest and drought resistant seedlings to at least 600 new and additional farming cooperatives	Number of farming cooperatives supported	BoSADP; BoSMANR; HDPs
	Support at least 60 farming cooperatives to produce organic manure	Support to at least 90 new and additional farming cooperatives	Support to at least 90 new and additional farming cooperatives	Number of farming cooperatives supported	BoSADP; BoSMANR; HDPs
	Establish a digital agric hub in each of the 3 zones to serve as centres of learning and innovation	Continued support to the digital agric hubs	Continued support to the digital agric hubs	Number of agric hubs established and supported	Ministry of Science, technology and Innovation (BoSMSTI); BoSADP; BoSMANR; HDPs
	Establish a climate index insurance scheme for farmers in the state in collaboration with Nigerian Agricultural Insurance Corporation (NAIC)	Implement the climate index insurance scheme	Implement the climate index insurance scheme	Number of farmers enrolled in the climate index insurance scheme	BoSMANR; BoSDAP; NAIC; HDPs
	Commence engagement with the Nigeria Agricultural Quarantine Service to standardize agro products from the State to meet export requirements	Continued engagement with the Nigeria Agricultural Quarantine Service	Continued engagement with the Nigeria Agricultural Quarantine Service to standardize at least three agro products	Number of agro products standardized	Ministry of Trade, Investment and Tourism (BoSMTIT); BoSMANR; BoSADP; HDPs
	Develop at least 2 market hubs in each of the 3 zones	Ongoing support to the market hubs	Ongoing support to the market hubs	Number of hubs established	(BoSMTIT); BoSMANR; BoSADP; HDPs

	for improved seeds and other agro-inputs			and supported	
Conservation and restorative initiatives	Support farmer managed natural regeneration and agroforestry in at least 100 hectares of degraded land	Support farmer managed natural regeneration and agroforestry in at least 200 hectares of degraded land	Support farmer managed natural regeneration and agroforestry in at least 200 hectares of degraded land	Number of hectares of land restored	BoSMEnv; BoSMANR; BoSADP; HDPs
	Support at least 100 farming cooperatives on crop diversification practices	Support at least 300 new and additional farming cooperatives	Support at least 300 new and additional farming cooperatives	Number of farming cooperatives supported	BoSMANR; BoSADP; HDPs
	Support at least 10 pastoralist groups on agro-pastoralism	Support at least 20 new and additional pastoralist groups on agro-pastoralism	Support at least 20 new and additional pastoralist groups on agro-pastoralism	Number of pastoralist groups supported	BoSMANR; BoSADP; HDPs
	Train and support 10 pastoralist groups to promote controlled grazing	Train and support 20 new and additional pastoralist groups	Train and support 20 new and additional pastoralist groups	Number of pastoralist groups trained and supported	BoSMANR; BoSADP; HDPs
Partnership and Collaboration	Engagement with the Borno State Climate Change Coalition (BoSCCC)	Continued engagement with BoSCCC	Continued engagement with BoSCCC	Reports of successful engagements	BoSG, HDPs, MDAs, PS, Academia and Media
	Collaborate with research institutions including Lake Chad Research Institute (LCRI), National Institute for freshwater Fisheries Research (NIFFR), Federal College of Freshwater Fisheries Technology (FCFFT, Baga) Centre for Arid Zone Studies, University of Maiduguri among others on R&D	Ongoing collaboration with the research institutions	Ongoing collaboration with the research institutions	Number of collaborations initiated and maintained	BoSMEnv; BoSMANR; BoSADP; HDPs
	Engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Amount of finance mobilized	All stakeholders

The 25-Year Development Plan recognized the critical need for investments in the water resources sector to make it climate resilient. The restoration of the Lake Chad is one of the critical focus of the government. The state government is already engaged in multi-stakeholder partnerships with the Chad Basin Development Authority and Lake Chad Research Institute to restore the lake.

Besides the state government efforts, regional partnerships are ongoing to restore the lake. The Lake Chad Basin Commission is one such partnership. The Commission has the primary objective of sustainable and equitable management of the Lake Chad and other shared water resources, the preservation of ecosystems, the promotion of integrating and preserving of peace and transboundary security in the Lake Chad Basin[20]. In February 2024, the Commission signed a Memorandum of Understanding with the African Development Bank to restore the lake[21].

Other plans of the Borno State Government to ensure sustainable and climate resilient water resources infrastructure include: Restoration of existing water facilities; Improved access to safe water supply for domestic use, fisheries and aquaculture, and livestock consumption; and enhanced water supply for agricultural production.

Based on its plans as contained in the 25-Year Development Plan, national and regional efforts, the Borno State Government shall undertake the following actions in the key thematic areas in the short, medium and long term:

Table 4: Actions for sustainable water management in the thematic areas in the short, medium and long term

Thematic areas	Actions and targets			Indicators for success	Implementing Entities
	Short term – 2024 – 2025	**Medium term – 2025 – 2027**	**Long term – 2027 – 2030**		
Strengthen Policy	Domesticate the National Water Resources Policy	Monitor implementation of the policy	Develop policies that integrate adaptation capacity and low-emission sustainable growth in water management Monitor implementation of the policies	Number of policies adopted and implemented	Ministry of Water Resources (BoSMWS); BoSMANR; BoSMEnv; BoSEC; HDPs
Capacity Development	Information and sensitization on the causes, effects and impacts of water scarcity, drought, flooding and ways of building resilience to	Information and sensitization to reach at least 300,000 new and additional persons across all the LGAs	Information and sensitization to reach at least 300,000 new and additional persons across all the LGAs	Number of persons reached	BRTV; BoSMHAIC; BoSMWS; Borno State Rural Water Supply and Sanitization Agency (RUWASSA); HDPs, NOA

[20] The Commission was founded in 1964 and is headquartered in N'Djamena, Chad. The founding members include Nigeria, Cameroun, Chad and Niger. Other members include Central African Republic and Libya

[21] https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-group-lake-chad-basin-commission-sign-mou-restore-lake-chad-basin-68811

	reach at least 1,000,000 persons across all the LGAs				
	Training for 810 ToTs across all the LGAs on water harvesting and storage techniques, water recycling techniques and natural ways of water purification (i.e 30 per LGA)	Conduct gender and age disaggregated training for 20 communities in each LGA on water harvesting and storage techniques, water recycling techniques and natural ways of water purification, i.e 540 communities	Conduct gender and age disaggregated training for 40 new and additional communities in each LGA on water harvesting and storage techniques, water recycling techniques and natural ways of water purification, i.e 1,080 communities	Number of persons and communities trained	BoSMWS; RUWASSA; HDPs; BoSADP
	Adopt the Water Supply Needs assessment of 24 LGAs produced by RUWASSA and NHISA	Update the water resources needs assessment report	Update the water resources needs assessment report	Number of assessments updated	BoSMWS; RUWASSA
	Collaborate with NiMET and UniMaidWS to produce and disseminate information on rainfall and drought pattern for all the LGAs at least once every month	Further collaboration with NiMET and UniMaidWS	Continued collaboration with NiMET and UniMaidWS	Number of climate information produced and disseminated	NiMET; UniMaidWS; BRTV; (BoSMHAIC); BoSMWS; RUWASSA
Technology and Value Chain Development Initiatives	Install solar powered boreholes for households, aquaculture and livestock in at least 270 distressed communities based on the assessment and mapping report	Install solar powered boreholes for households, aquaculture and livestock in at least 810 new and additional distressed communities based on the assessment and mapping report	Install solar powered boreholes for households, aquaculture and livestock in at least 810 new and additional distressed communities based on the assessment and mapping report	Number of communities provided with solar powered boreholes	BoSMWS; RUWASSA; Chad Basin Development Authority (CBDA); HDPs; Northeast Development Commission (NEDC)
	Construct at least 2 engineered earth fishponds for water harvesting in each LGA	Construct at least 4 engineered earth 2fishponds for water harvesting in each LGA	Construct at least 4 engineered earth fishponds for water harvesting in each LGA	Number of engineered earth fishponds constructed	BoSMWS, RUWASSA; CBDA; HDPs; NEDC
	Establish at least one supply chain in each of the 3 zones of the state for water purification products, tools, business solutions, etc	Maintain supply chain in each of the 3 zones of the state	Maintain supply chain in each of the 3 zones of the state	Number of supply chains established and maintained	BoSMWS, RUWASSA; CBDA; HDPs; NEDC; private sector

	Rehabilitate existing canals and begin construction of new ones to collect flood water and terminate into the Lake Chad	Ongoing rehabilitation of existing canals and construction of new ones	Ongoing rehabilitation of existing canals and construction of new ones	Number of canals rehabilitated and constructed	BoSMWS, Chad Basin Development Authority (CBDA); HDPs, NEDC
Conservation and restorative initiatives	Support at least 20 communities in each LGA with water conservation technology	Support at least 40 new and additional communities in each LGA	Support at least 40 new and additional communities in each LGA	Number of communities supported	BoSMWS; RUWASSA; HDPs, NEDC
	Initiate programme for the restoration of the Lake Chad	Launch a programme for the restoration of the Lake Chad	Ongoing programme for the restoration of the Lake Chad	Number of programmes launched	Borno State Government, Federal Government; CBDA; Lake Chad Basin Commission (LCBC)
Partnership and Collaboration	Forge internal and external partnerships with Yobe, Kano, Adamawa States, LCBC and CBDA to explore ways of recharging the Lake Chad	Ongoing partnerships	Ongoing partnerships	Number of partnerships confirmed	Borno State Government, Federal Government; LCBC; CBDA
	Collaborate with research institutes including LCRI, NIFFR, FCFFT, Baga, Nigerian Hydrological Services Agency (NIHSA) among others on sustainable water resources development	Ongoing collaboration with LCRI, NIFFR, FCFFT, and NIHSA	Ongoing collaboration with LCRI, NIFFR, FCFFT, and NIHSA	Number of collaborations forged	Borno State Government, LCRI, NIFFR, FCFFT Baga NIHSA, HDPs
	Engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Amount of finance mobilized	All stakeholders

SUSTAINABLE FORESTRY PLAN

The Borno state government has laws that govern the use of forest resources and prohibit acts like cutting down trees to ensure environmental sustainability. However, the legislation was made about three decades ago and has not been reviewed to reflect

current realities. The 25-Year Development Plan recognized the critical role the forest and its resources play in ensuring environmental sustainability. One of the strategic objectives of the document is to "secure the quality of the environment for health and well-being of the population and ensuring the conservation of the environment and natural resources for the benefit of present and future generations". Some of the plans in the document include: i) combat deforestation and desertification by curbing illegal logging and other types of forest degradation; ii) promote agroforestry and community-based conservation schemes; iii) promote tree planting and reforestation programmes; and iv) enforce legislation to protect the environment by limiting indiscriminate cutting of trees, etc. Further, the state government plans to reclaim deforested lands and increase vegetation cover by 1 km annually.

Over the past couple of years, the state government has tried to match words with action. In 2020, the state flagged off a 10 million tree-planting campaign[22], and other tree-planting programmes have followed suit over the years.

National level efforts aimed at increasing vegetation cover and reverse desertification in northern Nigeria including Borno State are currently being implemented. One of such efforts is the Great Green Wall Project Nigeria (GGW Nigeria) which was launched in 2015 following the Africa Union-led Great Green Wall Initiative to address land degradation and desertification, boost food security and support communities adapt to climate change. GGW Nigeria stated that it has established 1,460 kilometers of shelterbelts in addition to other climate resilient and clean energy actions across northern Nigeria including Borno State[23]. The World Bank funded Agro-Climate Resilience in Semi-Arid Landscapes (ACRESAL) is another federal government initiative. Launched in 2022, the project is being implemented in the 19 northern states including Borno. It seeks to increase the implementation of sustainable landscape management practices in northern Nigeria and strengthen the country's long-term enabling environment for integrated climate-resilient landscape management[24].

In furtherance of the key objectives of the 25-Year Development Plan, the policy thrust of the state regarding sustainable forestry and to support federal government efforts, the Borno State Government shall undertake the following actions in key thematic areas in the short, medium and long term:

Table 5: Actions for sustainable forestry in the thematic areas in the short, medium and long term

Thematic areas	Actions and targets			Indicators for success	Implementing Entities
	Short term – 2024 – 2025	**Medium term – 2025 – 2027**	**Long term – 2027 – 2030**		
Strengthen Policy	Strengthen existing forestry laws and domesticate the National Forest Policy	Monitor implementation of the policy	Policies developed integrating adaptation capacity and low-emission sustainable growth in the forestry	Number of policies adopted and implemented	BoSMEnv; BoSMANR; BoSEC; HDPs

[22] https://humanglemedia.com/desertification-borno-state-to-begin-first-phase-of-10-million-trees-project/
[23] https://ggwnigeria.gov.ng/
[24] https://acresal.gov.ng/

			sector Monitor implementation of the policies		
Capacity Development	Capacity building and mobilization of relevant MDAs on administration of forestry laws and regulations	Ongoing mobilization of relevant MDAs	Ongoing mobilization of relevant MDAs	Number of MDAs trained and mobilized	BoSMEnv; BoSMANR; Federal College of Forest Resources Management (FCFRM); HDPs
	Information and sensitization campaigns in at least 20 communities per LGA on agroforestry, natural regeneration, and sustainable fuelwood harvesting	Information and sensitization campaigns in at least 60 new and additional communities per LGA	Information and sensitization campaigns in at least 60 new and additional communities per LGA	Number of communities reached	BoSMEnv; BoSMANR; HDPs; BRTV; (BoSMHAIC), NOA
	Produce forest cover map of Borno State using digital technology	Update forest cover map of Borno state using digital technology to be used to measure progress on reforestation efforts	Update forest cover map of Borno state using digital technology to be used to measure progress on reforestation efforts	Number of maps produced and updated	BoSMEnv; BoSMANR; Borno Geographic Information Service (BOGIS)
	Train at least 20 farming cooperatives per LGA on farmer-managed natural regeneration and agroforestry practices	Train at least 40 new and additional farming cooperatives per LGA	Train at least 40 new and additional farming cooperatives per LGA	Number of farming cooperatives trained	BoSMEnv; BoSMANR; HDPs; BoSADP; FCFRM
Technology and Value Chain Development Initiatives	Work with the Forestry Research Institute of Nigeria (FRIN) to develop and standardize non-timber forest products for export	Continued standardization of non-timber forest products	Continued standardization of non-timber forest products	Number of products standardized	BoSMEnv; BoSMANR; HDPs; FRIN.
	Support at least 5 farming cooperatives in each LGA to establish forest nursery businesses	Support at least 10 new and additional farming cooperatives	Support at least 10 new and additional farming cooperatives	Number of farming cooperatives supported	BoSMEnv; BoSMANR; HDPs
	Establish Forest Products Laboratory to promote healthy forests and forest-based economies	Ongoing support to the laboratory	Ongoing support to the laboratory	Number of laboratories established and supported	BoSMEnv; BoSMANR;
Conservation and restorative	Support farmer managed natural regeneration and	Support farmer managed natural regeneration and	Support farmer managed natural regeneration and	Number of hectares of land restored	BoSMEnv; BoSMANR; BoSADP; HDPs

initiatives	agroforestry in at least 100 hectares of degraded land	agroforestry in at least 200 hectares of degraded land	agroforestry in at least 200 hectares of degraded land		
	Work with the National Agency for the Great Green Wall (NAGGW) to stabilize at least 50km of sand dunes in northern Borno	Work with NAGGW to stabilize at least 50km of additional sand dunes	Work with NAGGW to stabilize at least 50km of additional sand dunes	Number of kilometers of sand dunes stabilized	BoSMEnv; BoSMANR; BoSADP; HDPs; NAGGW
	Work with the NAGGW to increase shelter belt by at least 20 km	Work with NAGGW to increase shelter belt by at least 100 km	Work with the NAGGW to increase shelter belt by at least 100 km	Number of kilometers of shelter belt restored	BoSMEnv; BoSMANR; BoSADP; HDPs; NAGGW
	Work with the Chad Basin National Park (CBNK) to preserve games and wildlife in the Chad Basin	Continued engagement with CBNK	Continued engagement with CBNK	Reports of successful engagement	BoSMEnv; BoSMANR; CBNK; HDPs
	Train, inaugurate and equip forest guards in each of the LGAs	Ongoing support to the forest guards	Ongoing support to the forest guards	Number of forest guards trained and supported	BoSMEnv; BoSMANR; HDPs
Partnership and Collaboration	Establish partnerships with NAGGW, CBNK, FRIN and others to promote forest resources development	Ongoing partnerships	Ongoing partnerships	Reports of successful partnerships	BoSMEnv; BoSMANR; HDPs; NAGGW, CBNK, FRIN
	Engage with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Amount of finance mobilized	All stakeholders

ENERGY TRANSITION PLAN FOR BORNO STATE

Presently, Borno State does not have an energy transition plan. However, the 25-Year Development Plan promotes clean energy solutions. The strategic objective for the energy sector is to ensure sufficient energy supply to meet the requirements in the state for domestic and industrial use. Some of the initiatives in the document include: rehabilitation and replacement of power supply equipment and infrastructure; and facilitate the establishment of renewable energy independent power plants.

Some of the policy initiatives in Borno State are reflected in the broader objectives of the National Energy Transition Plan (NETP). The NETP provides for universal access to modern energy services that will contribute to lifting most Nigerians out of poverty.

Therefore, in line with key objectives of the Borno State 25-Year Development Plan and the NETP, the Borno State Government shall undertake the following actions in the key thematic areas in the short, medium and long term:

Table 6: Actions for energy transition in the thematic areas in the short, medium and long term

Thematic areas	Actions and targets			Indicators for success	Implementing Entities
	Short term – 2024 – 2025	**Medium term – 2025 – 2027**	**Long term – 2027 – 2030**		
Strengthen Policy	Domesticate the Nigeria Energy Transition Plan (NETP)	Ongoing implementation of the NETP	Policies developed integrating adaptation capacity and low-emission sustainable growth in the energy sector Ongoing implementation of the policies	Number of policies domesticated and implemented	BoSMHE; BoSMEnv; HDPs; NEDC
Capacity Development	Awareness on the negative implications of inefficient light and cooking energy technologies and fuels and the co-benefits of sustainable light and cooking energy solutions in at least 20 communities in each LGA	Awareness to reach at least 40 new and additional communities per LGA	Awareness to reach at least 60 new and additional communities per LGA	Number of communities reached	BoSMHE; BoSMEnv; HDPs, NOA
	Capacity building and mentorship on the design and installation of solar PV electricity systems for at least 100 young men and women in each LGA	Capacity building and mentorship for at least 200 new and additional young men and women in each LGA	Capacity building and mentorship for at least 200 new and additional young men and women in each LGA	Number of young people trained and mentored	BoSMHE; Borno State Ministry of Youth, Sports and Empowerment (BoSMYSE); Borno State Ministry of Women Affairs and Social Development (BoSMWA&SD); HDPs
	Capacity building and mentorship on the design and production of fuel efficient cookstoves for at least 100 young men and women in each LGA	Capacity building and mentorship for at least 200 new and additional young men and women in each LGA	Capacity building and mentorship for at least 200 new and additional young men and women in each LGA	Number of young people trained and mentored	BoSMHE; BoSMYSE; BoSMWA&SD; HDPs
	Create a database of renewable and clean energy technologies being deployed and promoted in the	Continuous update of database	Continuous update of database	Number of databases created and updated	BoSMHE; Borno State Data Management Centre (BoSDMC), HDPs

	state				
	Work with the Rural Electrification Agency (REA) and Federal Ministry of Power (FMP) to identify and map unserved and underserved communities in all the LGAs	Continuous update of electricity access map	Continuous update of electricity access map	Number of mappings conducted and updated	Borno State Rural Electrification Board (BoSREB); BoSMHE; FMP; REA; HDPs
	Work with other partners to develop a database of cooking energy vulnerable and at-risk households in all the LGAs	Continuous update of the database	Continuous update of the database	Number of databases created and updated	BoSMEnv; BoSDMC; BoSMHE; BoSMWA&SD; HDPs
Technology and Value Chain Development Initiatives	Establish innovative digital renewable energy hubs within state-owned vocational institutions as centres of learning and innovation	Ongoing support to the centres	Ongoing support to the centres	Number of centres established and supported	BoSMHE; BoSMYSE; HDPs
	Development and installation of smart solar PV off-grid mini grids in at least 2 communities per LGA	Development and installation of smart solar PV off-grid mini grids in at least 4 new and additional communities per LGA	Development and installation of smart solar PV off-grid mini grids in at least 4 new and additional communities per LGA	Number of smart solar PV off-grid mini grids installed	BoSREB; BoSMHE; NEDC; HDPs
	Work with Yola Electricity Distribution Company (YEDC) to ensure climate proof electricity infrastructure	Ongoing collaboration with YEDC to ensure climate proof electricity infrastructure	Ongoing collaboration with YEDC to ensure climate proof electricity infrastructure	Number of measures taken to ensure climate proof infrastructure	BoSREB; YEDC; BoSMHE; BoSMEnv; HDPs
	Establish at least 3 multi-purpose clean cookstoves development and production centre in each LGA	Ongoing support to the centres	Ongoing support to the centres	Number of centres established and supported	BoSMHE; BoSMEnv; NEDC; HDPs
	Produce and disseminate at least 54,000 fuel efficient cookstoves to vulnerable and at-risk households in all the LGAs	Produce and disseminate at least 135,000 fuel efficient cookstoves to new and additional vulnerable and at-risk households in all the LGAs	Produce and disseminate at least 135,000 fuel efficient cookstoves to new and additional vulnerable and at-risk households in all the LGAs	Number of vulnerable and at-risk households reached	BoSMHE; BoSMEnv; BoSMWA&SD; NEDC; HDPs
Conservation and restorative initiatives	Establishment of at least 10 hectares of woodlot for sustainable fuelwood harvesting in each	Maintenance of the woodlots	Maintenance of the woodlots	Number of woodlots established and maintained	BoSMEnv; BoSMANR; HDPs

	LGA				
	Pilot implementation of biofuels (biomass briquettes and liquid biofuels) utilization in at least 10 communities	Pilot implementation of biofuels utilization in at least 10 new and additional communities	Pilot implementation of biofuels utilization in at least 10 new and additional communities	Number of pilots completed	BoSMEnv; BoSMANR; BoSMHE; NEDC; HDPs
	Collaborate with YEDC and the private sector to promote LED bulbs dissemination	Collaborate with YEDC and the private sector to promote LED bulbs	Collaborate with YEDC and the private sector to promote LED bulbs	Number of LED bulbs disseminated	BoSMHE; HDPs; YEDC
Partnership and Collaboration	Collaborate with the private sector to establish a supply chain for renewable energy parts and materials	Ongoing collaboration with the private sector	Ongoing collaboration with the private sector	Number of existing collaborations	BoSMHE; BoSREB; BoSMEnv; private sector
	Engage with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Amount of finance mobilized	All stakeholders

SUSTAINABLE COMMERCE AND INDUSTRIAL PLAN

The Borno State 25-Year Development Plan devoted a whole section on creative ways of developing the commerce and industry value chain. This is primarily aimed at reestablishing the State as a regional trade hub. There are strategies for growing the agriculture value chain, improve trade and commerce, promote the growth of micro, small and medium enterprises, and resuscitate and expand the manufacturing value chain.

To complement the initiatives in the 25-Year Plan, the state government developed an Export Strategy Plan in 2023. The document focuses on growing the export potentials of the agriculture value chain, enhance regional and cross-country trade, among others. It envisions a collaborative framework that will harness the expertise of key entities such as the Network of Practicing Non-Oil Exporters of Nigeria, the Nigerian Export Promotion Council, and skilled consultants to bolster export capacity within the state.

To complement the strategies of the 25-Year Development Plan and the Export Strategy Plan and make the growth of the sector climate resilient, the Borno State Government shall undertake the following actions in the key thematic areas in the short, medium and long term:

Table 7: Actions for sustainable commerce and industry in the thematic areas in the short, medium and long term

Thematic areas	Activities and targets			Indicators for success	Implementing Entities
	Short term – 2024 – 2025	**Medium term – 2025 – 2027**	**Long term – 2027 – 2030**		
Strengthen Policy	Implement existing state government policies	Implement the policy	Policies developed integrating adaptation	Number of policies domesticated and	Ministry of Trade, Investment and Tourism (BoSMTIT);

			capacity and low-emission sustainable growth in commerce and industry Implement the policies	implemented	BoSEC; HDPs; Private Sector
Capacity Development	Information and sensitization on the effects and impacts of climate change on business and opportunities for climate resilient business infrastructure	Continued information and sensitization campaigns	Continued information and sensitization campaigns	Number of information and sensitization meetings	BoSMTIT; Small and Medium Enterprises Development Agency Borno State Office (SMEDAN) HDPs; private sector, NOA
	Develop database of business hubs in the state and their climate risks	Update database of business hubs in the state and their climate risks	Update database of business hubs in the state and their climate risks	Number of databases developed and updated	BoSMTIT; SMEDAN, BoSDMC, HDPs; private sector
	Conduct capacity building for business hubs on energy efficiency and cleaner production	Continued capacity building for business hubs	Continued capacity building for business hubs	Number of business hubs trained	BoSMTIT; SMEDAN HDPs; private sector
	Conduct capacity building for business hubs on environmental standards and regulations and compliance	Continued capacity building for business hubs	Continued capacity building for business hubs	Number of business hubs trained	BoSMTIT; SMEDAN Borno State Environmental protection Agency (BOSEPA) HDPs; private sector
	Establish and enforce environmental standards and regulations for business hubs	Continued enforcement of standards and regulations	Continued enforcement of standards and regulations	Number of business hubs complying with standards and regulations	BoSMTIT; BOSEPA; SMEDAN HDPs; private sector
Technology and Value Chain Development Initiatives	Reinforce existing business hubs and build new ones to be climate resilient	Maintenance of business hubs to be climate resilient	Maintenance of business hubs to be climate resilient	Number of business hubs that are climate resilient	BoSMTIT; SMEDAN; HDPs; private sector
	Work with REA to initiate the Energizing Economies Initiative in Borno State	Work with REA to initiate the Energizing Markets Initiative in Borno State	Work with REA to initiate the Energizing Markets Initiative in Borno State	Number of business hubs provided with sustainable electricity	BoSMTIT; SMEDAN; REA; private sector
	Promote the use of clean cooking solutions for institutional and commercial cooking and also in agro-processing	Continued promotion of the use of clean cooking solutions for institutional and commercial cooking and also in agro-processing	Continued promotion of the use of clean cooking solutions for institutional and commercial cooking and also in agro-processing	Number of institutions and businesses employing clean cooking	BoSMTIT; SMEDAN; private sector; HDPs

	Support manufacturers and fabricators to apply energy efficiency and cleaner production	Support manufacturers and fabricators to apply energy efficiency and cleaner production	Support manufacturers and fabricators to apply energy efficiency and cleaner production	Number of manufacturers supported	BoSMTIT; SMEDAN; Private Sector; HDPs
	Ensure climate resiliency in associated business infrastructure including transport infrastructure, storage infrastructure, etc	Ensure climate resiliency in associated business infrastructure including transport infrastructure, storage infrastructure, etc	Ensure climate resiliency in associated business infrastructure including transport infrastructure, storage infrastructure, etc	Reports of successful integration of climate considerations in business associated infrastructure	Ministry of Works and Transport (BoSMWT); BoSMTIT; SMEDAN; NEDC; Private Sector
	Establish climate liability insurance scheme for MSMEs in the state	Implement climate liability insurance scheme for MSMEs	Implement climate liability insurance scheme for MSMEs	Number of MSMEs enrolled in the climate liability insurance scheme	BoSMTIT; SMEDAN; National Insurance Commission (NAICOM)
Conservation and restorative initiatives	Establish products recycling plants in Maiduguri, Biu and Bama	Maintain the products recycling plants	Maintain the products recycling plants	Number of products recycling plants established and maintained	BoSMTIT; SMEDAN; Private Sector; HDPs
Partnership and Collaboration	Forge partnerships and collaborations with relevant stakeholders	Maintain partnerships and collaborations with relevant stakeholders	Maintain partnerships and collaborations with relevant stakeholders	Number of partnerships forged and maintained	BoSMTIT; SMEDAN; Private Sector; HDPs
	Engage with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Continued engagement with humanitarian and development partners on mobilization of finance	Amount of finance mobilized	All stakeholders

KEY ENABLERS FOR ACHIEVING SUCCESS

Achieving the contents of the Borno State Climate Action Plan would require abiding by a couple of success enablers. The government has demonstrated commitment to restore the glory of the state and is set to ensure the following success enablers are sustainably deployed:

Good governance – The government has demonstrated political will and accountability to ensure the restoration of the state is sustainably achieved. The Borno State 25-Year Development Plan is an initiative of the government that is currently being implemented. The State is also promoting other restorative initiatives.

The State's political leadership is championing climate change issues. The government has embarked on an aggressive tree planting campaign, and is collaborating with other stakeholders to promote climate actions in the state. To ensure institutional capacity is

built, the government recently established the Department of Climate Change under the State Ministry of Environment.

The state government shall sustain its political will and provide increased institutional support to ensure successful implementation of this Action Plan.

Inclusive participation – Presently, the state government applies various levels of participation in decision-making and implementation of programmes and projects. For instance, during the production of the 25-Year Development Plan, over one hundred stakeholders drawn from the government, private sector, NGOs, CSOs, development partners, academia and the media were consulted and actively participated in the process. Currently, the state government consults with humanitarian and development partners in the process to rebuild the state. Local government authorities are also undertaking community-level engagements.

In addition, over 64 institutions drawn from the government, NGOs, development partners, CSOs, academia and media were consulted and actively participated in the development of Borno State Climate Action Plan. Also, community-level consultations were held with the authorities of some LGAs, including Jere and Konduga, and a good number of communities.

The state government shall sustain and enhance its inclusive participation implementing this Action Plan.

Participatory monitoring – The state government has demonstrated its commitment to ensuring that developmental programmes and projects are adequately monitored by establishing the Department of Monitoring, Evaluation and Special Project directly under the Governor's Offices with zonal offices in each LGA. Beyond the government representatives, the zonal offices of the department also include community leaders, humanitarian and development partners.

The state government shall sustain these participatory monitoring efforts in implementing the Action Plan by implementing the monitoring and evaluation mechanism contained herein.

Adequate funding – Funding is very critical to the implementation of the Climate Action Plan. While the scale of climate actions to be undertaken is quite enormous, the government has limited resource mobilization capacity. Finance from humanitarian and development partners have complemented the government finance for the recovery of the state over the past decade. Federal government support for overall Borno recovery has been quite significant in the past few years.

Recognizing the scale of funding required, the state government shall mobilize a significant proportion of its resources to implement the Climate Action Plan. The state shall also deepen engagements with the federal government, humanitarian and development partners on funds mobilization. Other sources of finance, such as various climate funds, shall be extensively explored.

Linkages with humanitarian support

Borno State faces multiple humanitarian crises triggered by conflict, insecurity and climate change. This major factor made humanitarian support significant in building resilience in Borno State. In the long term, the uncertainty surrounding climate change, along with other multiple interacting risks, is likely to cause more displacements and provide additional impetus for serious attention to it for resilience building[25].

The State may have to remobilize resources for other development priorities into humanitarian support for crisis-affected persons and different responses to disasters due to the impact of climate change. Because victims of repeated shocks are better supported when humanitarian action targets the underlying vulnerabilities, the Borno Climate Action Plan made humanitarian support an issue that cuts across all the five identified priority sectors. As resilience solutions are implemented in agriculture, water resources, forestry, energy, commerce and industry, this offers a “no-regrets” approach because humanitarian actions in Borno State are intertwined with other development programmes and longer-term initiatives such as improvement of resilience.

Effective deployment of the success enablers across the five thematic areas in the five priority sectors will not only ensure a climate resilient Borno State, it will also ensure that host of the humanitarian problems being faced by the state are solved. This is illustrated in the chart below:

[Seven] https://www.news.uct.ac.za/article/-2022-10-20-what-sa-must-do-to-build-climate-resilient-development

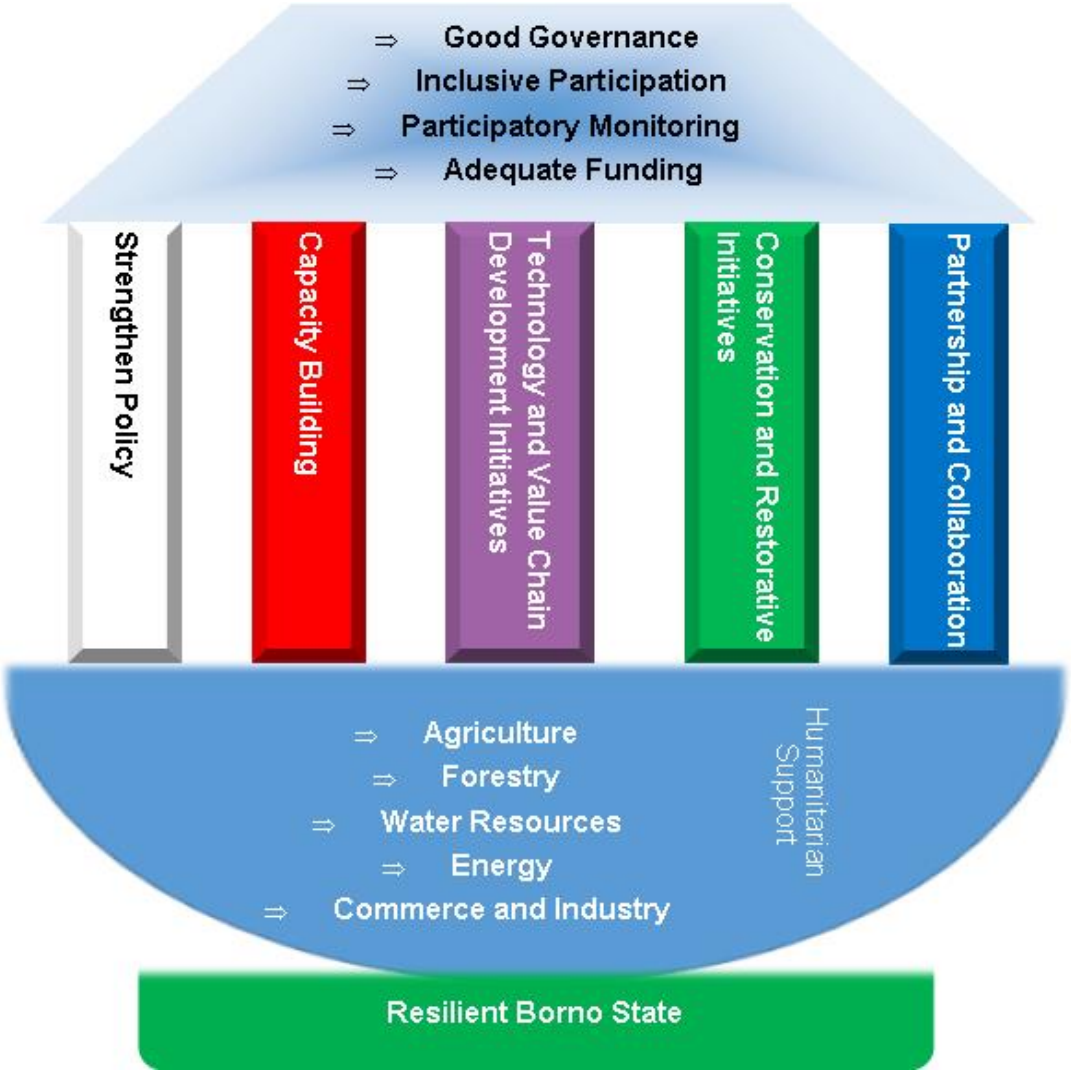


Figure 6: How success enablers applied across the five thematic areas in the identified five priority sector and closely interlinked with humanitarian support leads to a climate resilient Borno State

BENEFITS OF STRENGTHENING CLIMATE ACTIONS

Borno is currently grappling with several humanitarian and developmental challenges. Implementing the climate actions contained in this document will not only support efforts towards addressing the challenges being faced by the state, they will also support the achievement of the 25-Year Development Plan, Sustainable Development Goals and ultimately promote the general wellbeing of the state. Some of the co-benefits of implementing this Action Plan are detailed below:

Food security – The Government acknowledges that most inhabitants of Borno State are food insecure. This situation is partly caused by the insurgency and worsening economic situations and is further exacerbated by the massive climate crisis being faced by the state. The 25-Year Development Plan placed more emphasis on agricultural development as the chief driver of Borno's economic growth. This is also prominently amplified in this Action Plan. Therefore, investing in climate smart

agriculture will not only improve agricultural productivity, it will also enhance the resilience of Borno households. It will help meet the growing demand for food which will eventually lead to universal food security in the state.

Poverty reduction and socioeconomic development – The Government is not relenting to reduce the poverty rate in Borno State which, according to available statistics, stands at about 70%[26]. This is further accentuated by the insurgency, present economic conditions and rising climate crisis. Notwithstanding these conditions, the state government has made remarkable progress to reduce the poverty rate in the state. Reconstruction and rehabilitation programmes and projects are currently being implemented at very large scale with complementary efforts by humanitarian and development partners. Implementing the contents of this Climate Action Plan will not only ensure food security, it will also create massive direct, indirect and supply chain green jobs, which will ultimately lead to poverty reduction.

Socioeconomic development of the state will be greatly accelerated through implementation of this Climate Action Plan. As previously stated, Borno GDP is largely dominated by agriculture and its associated supply chain. Other sectors like commerce and industry, water resources and forestry also contribute significantly to the state's GDP. Climate smart investments will be pursued in agriculture, commerce, industry, water resources and forestry sectors to boost the socioeconomic development of the state. Every sector of the economy will benefit from such boost including improvements in safe access to fuels to energy, health services, education, skills development and job creation. This can also lead to ending the humanitarian crisis being faced by the state.

Greenhouse gas emissions reduction potentials and benefits - Emissions from unsustainable agricultural practices, loss of forests, energy production and consumption, unsustainable water management practices and carbon-intensive commerce and industry are quite significant in Borno State. For instance, a report by Global Forest Watch stated that from 2001 to 2022, an average of 50.3 tons CO_2e per year was released into the atmosphere due to tree cover loss in Gwoza LGA[27]. Therefore, the scale of emissions from forest loss alone across all the LGAs over the same timeframe will be quite significant. In summary, total emissions from all the five priority sectors will be enormous.

Through this Climate Action Plan, the government shall support mitigation efforts towards reducing Borno CO_2e emissions. Emissions reductions from all the five priority sectors through faithful implementation of this plan have been estimated as shown below:

- Climate smart agriculture = 121,434 tons of CO_2e per annum
- Sustainable water management plan = 78,300 tons of CO_2e per annum
- Sustainable forestry plan = 104,625 tons of CO_2e per annum
- Energy transition plan = 671,772 tons of CO_2e per annum

[26] https://www.researchgate.net/publication/339630738_Alleviation_of_Poverty_in_Borno_State_The_Missing_Link

[27] https://www.globalforestwatch.org/dashboards/country/NGA/8/11/?category=climate

- Sustainable commerce and industrial plan = 65,500 tons of CO_2e per annum[28]

The estimated total emissions reduction through implementing of this Climate Action Plan is approximately 1,041,000 tons of CO_2e per annum. This represents about 1.5% of Nigeria total voluntary emissions reduction target by 2030[29]. Therefore, implementation of this Climate Action Plan will support in achieving Nigeria's emissions reduction commitments.

Beyond meeting national commitments, the emissions reduction can be traded in the Voluntary Carbon Market[30] to generate much needed income for the state. Presently, the price of carbon in the Voluntary Market for Nature and Technology based solutions is averagely USD 1 per tonne of carbon saved. Borno state could, therefore, earn very significant income from the carbon market by implementing the Climate Action Plan.

Environmental sustainability - Borno environment have been significantly degraded over the years due to climate change. As earlier stated, the Lake Chad has lost most of its water, forest cover has been in rapid decline, agricultural output is decreasing steadily and all these are having telling impacts on the environment. Implementing this Climate Action Plan will support in restoring the environment of the state to near original quality and quantity.

Aligning the Action Plan with National Priorities - The Borno Climate Action Plan is a sub-national attempt to systematically strengthen the capacity of the state to recover from shocks and promote low-carbon development pathways that align with national climate change aspirations. The Nationally Determined Contributions and the Climate Change Act 2022 are all options for promoting and building adaptation capacity and reducing national emissions. Interestingly, agriculture, forestry, water resources and energy are among the key sectors identified by these climate policies as avenues to meet adaptation and mitigation targets. Also, the National Policy on Climate Change recognizes the need for sub-nationals and sectors to pursue additional measures against climate change. The alignment of the goals and the approach for the Borno Climate Action Plan with national policies is an advantage in seeking to mobilize national and international finances for implementing the Plan.

[28] These are rough conversative estimates. Detailed emissions reduction modelling needs to be carried out to ascertain real potential savings which can be much higher

[29] Nigeria NDC of 2021 estimates that Nigeria's emissions by 2030 will be 453 million tonnes of CO_2e per annum. 20% voluntary reduction amounts to 90.6 million tonnes tons of CO_2e per annum

[30] The Voluntary Carbon Market gives companies, non-profit organizations, governments, and individuals the opportunity to buy and sell carbon offset credits**.** A carbon offset is an instrument that represents the reduction of one metric tonne of carbon dioxide or GHG emissions

MEANS OF IMPLEMENTATION

To ensure the effective implementation of the Borno State Climate Action Plan, the following measures will be undertaken:

INSTITUTIONAL ARRANGEMENT

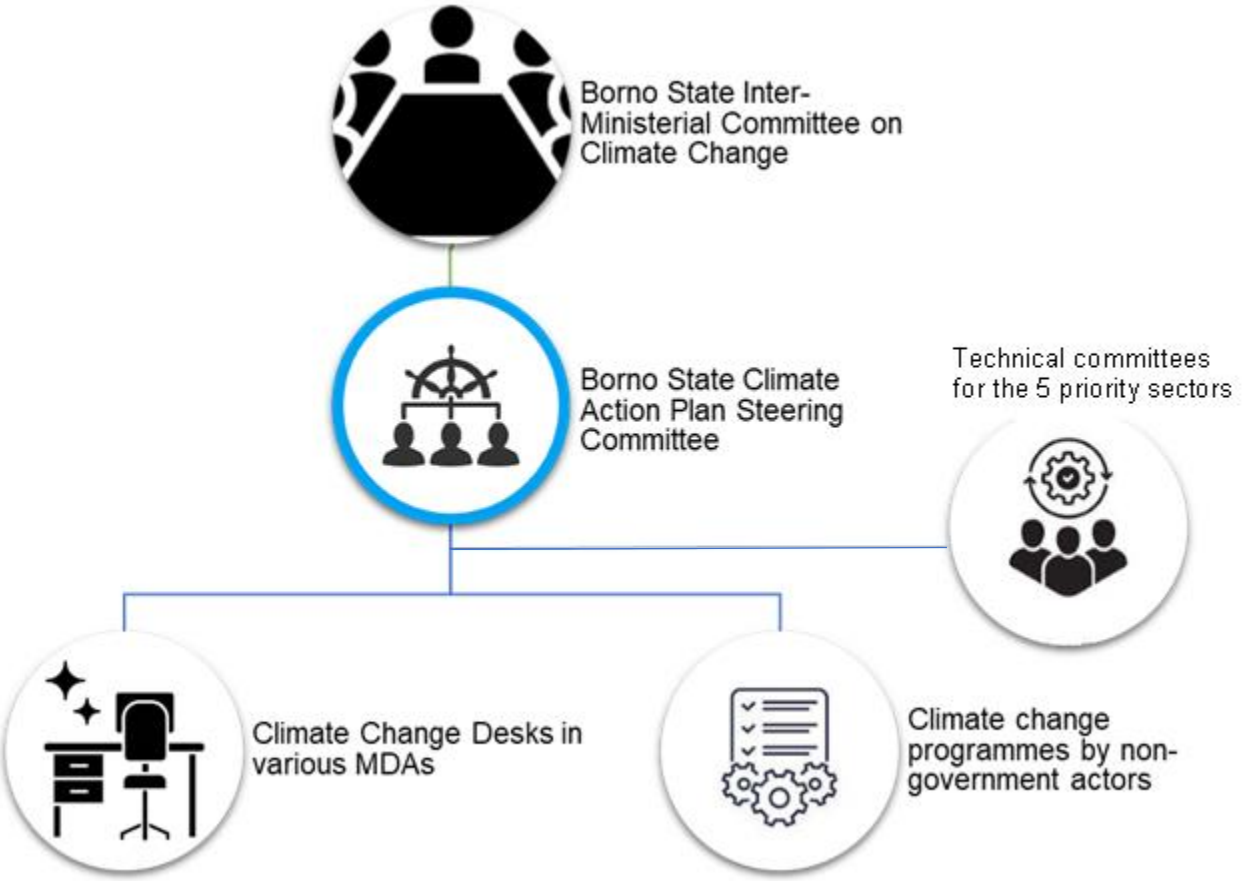
To enhance interagency collaboration, the government shall constitute a Borno State Inter-Ministerial Committee on Climate Change. This committee shall provide overall coordination on the implementation of the Action Plan.

Additionally, the Borno State Ministry of Environment shall lead a Steering Committee that shall coordinate and monitor implementation of the Borno State Climate Action Plan by government and non-government actors. The steering committee shall include representatives from government, private sector, civil society, NGOs, development partners, academia, association of local government authorities, community heads and selected leadership of community level cooperatives and associations. This Committee shall report directly to the Inter-Ministerial Committee. To ensure the Ministry of Environment is effectively able to head the committee, the Department of Climate Change shall be equipped and strengthened in the following areas: provision of adequate office space and staffing; provision of needed operational equipment; comprehensive capacity development for staff of the department on climate change governance; among others.

Further, the state government shall mandate all its Ministries, Departments and Agencies to establish climate change desks. These desks shall serve as focal contacts and shall oversee the day-to-day implementation of climate actions in their various institutions. They shall report directly to the Steering Committee,

Finally, technical committees shall provide backstopping support in implementing actions across the five priority sectors. The following technical committees shall be constituted: Technical Committee on Climate Smart Agriculture; technical Committee on Sustainable Water Management Plan; Technical Committee on Sustainable Forestry Plan; Technical Committee on Energy Transition Plan; and Technical Committee on Sustainable Commerce and Industrial Plan. Membership drawn from relevant MDAs, the private sector, humanitarian and development partners and the academia.

The institutional arrangement is shown in the chart below:



FUNDING OF THE PLAN

The level of funding the Climate Action Plan attracts will significantly impact the success of its implementation. The urgency to address climate change's impact on the economy, people and environment of Borno State is considered sufficient to generate the political will and enable mobilization of funds. Implementing the Action Plan is capital-intensive because climate change affects every sector and demands inter-sectoral collaboration to realize success. On a positive note, such inter-sectoral cooperation has been credited for promoting more robust institutional arrangements and public-private partnerships that enable the mobilization of funds.

The indicative cost of funding implementation of the Borno State Climate Action Plan across the priority sectors is detailed below:

- **Climate-smart agriculture = NGN 31,348,300,000**
- **Sustainable water management plan = NGN 24,544,600,000**
- **Sustainable forestry plan = NGN 14,160,000,000**
- **Energy transition plan = NGN 26,036,000,000**
- **Sustainable Commerce and Industrial Plan = NGN 18,240,000,000**[31]

[31] This indicative costing was made in January 2024. Actual cost may vary during implementation

This scale of funding requires collaborative effort among all stakeholders. The government shall provide initiatives to foster a conducive environment for public-private investment. Secondly, the Climate Action Plan also presents a veritable opportunity to mobilize funds from various climate finances available by UNFCCC and multilateral funding agencies. The state shall strengthen cooperation with the National Council on Climate Change and other relevant Federal agencies to enhance its chances of accessing these climate finances.

Funding for the Action Plan shall be mobilized from the following sources:

Domestic sources

Borno State Annual Budgets: Borno State has committed to undertake climate actions by embedding climate-related activities in the 25-Year Development Plan. Consistent with the financial requirements of this Action Plan, the State Government shall vigorously ensure annual budgetary allocations to ensure its implementation. The government is committed to transparency and accountability for all funds allocated to climate change projects and will ensure effectiveness and efficiency of spending.

Ecological Fund – Established in 1981, the fund constitutes 1% of the Federation Account and is known as Derivation and Ecology Fund. The Fund's primary objective was to have a pool to finance ecological projects to mitigate severe environmental problems. All the states and LGAs receive their share of the fund as part of their monthly allocations.

Through this Action Plan, the Borno State Government shall utilize its share of the Ecological Fund to implement critical components of the Borno State Climate Action Plan.

North East Development Commission (NEDC) - The Commission is the focal organization charged with the responsibility to assess, coordinate, harmonies and report on all intervention programmes and initiatives by the Federal Government or any of its Ministries, Departments and Agencies (MDAs), States; and other Development Partners and for the implementation of all programs and initiatives for the North East States; Adamawa, Bauchi, Borno, Gombe, Taraba, Yobe, respective. Through this Action Plan, the Borno State Government shall liaise with NEDC to devote a proportion of its interventions in Borno State to climate actions.

Commercial banks – The Borno State Government shall encourage commercial banks to lend to green businesses, and increase their Corporate Social Responsibility budgets for climate actions in disadvantaged communities.

International sources

Carbon market – Stakeholders in Borno State have noted the increasing role of the carbon offset market in financing climate actions in several developing countries. This could assist poor households in increasing resilience. The State Government shall liaise with the federal government to explore opportunities in the carbon market.

Various climate finance funds – The Borno State Government shall continuously identify sources of climate finance such as the Green Climate Fund, NAMA Facility, Global Environment Facility, Adaptation Fund and Clean Technology Fund. The State Government shall deepen collaborations and explore opportunities to use these climate finance opportunities to fund climate actions in the State.

Bilateral and Multilateral support - Borno State has received many bilateral and multilateral support for various programmes and projects. Some of these sources include the European Union, USAID, UKAID, GIZ, UNDP, the Governments of Canada and Norway, the Kuwait Fund, and FAO, among others. Through this Action Plan, the state government shall deepen engagements with these institutions and agencies and encourage them to increase funding to the climate change sector in the state.

TECHNOLOGY AND INNOVATION

The overall objective is to support the various sectors in promoting appropriate technologies and innovations to support adaptation and mitigation actions.

First, this document provides for Climate Information Services, including information to help farmers manage risk, inform early warning systems, and inform decision making for organizations, businesses and households. Beyond provision of climate information, climate related database shall also be maintained in some of the sectors.

Secondly, this Climate Action Plan shall promote gender-responsive climate technologies and innovations in agriculture, water resources, energy and commerce & industry through financing, capacity building, and start-up/scale-up of services.

Further, the government shall encourage youth innovation through outreach programmes with primary, secondary and tertiary schools, as well as the vocational and skill acquisition centres.

Finally, through this Climate Action Plan, the government shall identify policy and fiscal incentives to promote the uptake of climate-friendly technology (such as tax incentives, reduced tariffs, low-interest loans, and public-private partnerships).

CAPACITY DEVELOPMENT AND KNOWLEDGE MANAGEMENT

Capacity development enhances the ability of institutions and communities to effectively carry out climate change actions, while knowledge management is concerned with curating and sharing of climate change knowledge. Activities under this enabler are expected to facilitate implementation of this Climate Action Plan.

First, the state government shall liaise with the Borno State Climate Change Coalition to establish and operate a publicly accessible Climate Change Resource Centre within the Ministry of Environment. This centre shall also include a robust and updated knowledge management system, and an updated climate change information portal with platforms for children, youth, women, and vulnerable and at-risk minority communities. The centre shall use knowledge harvesting techniques to capture and share information, including climate change-based traditional knowledge, especially from women and the elderly.

Secondly, as earlier detailed, the government shall liaise with other stakeholders to strengthen the capacity of all state government institutions to implement this Action Plan including:

- Training of staff of climate change units on reporting and climate finance;
- Support to the Inter-Ministerial Committee on Climate Change;
- Training on the climate change-gender nexus; and
- Supporting the steering committee in its coordination.

Further, the state government shall build the capacity of all the local governments, including:

- Support in establishing local-level Climate Change Units;
- Coordination of climate change programmes across the LGAs;
- Mobilization and tracking of climate finance using gender-disaggregated data; and
- Monitoring and reporting on the impact of climate change programmes.

To ensure grassroots awareness creation, the state shall develop and operationalize a gender and inter-generational responsive public awareness and engagement strategy that highlights outreach to various strata of the society.

Finally, as earlier detailed, the state government shall integrate climate change in the education system curriculum. This is with a view to ensuring that awareness of climate change issues form part of mainstream school curriculum.

GENDER MAINSTREAMING

Gender equality is critical to ensuring inclusive and socially just climate action and disaster risk reduction (DRR). Gender-blind climate change and DRR-related interventions can further exacerbate structural gender inequalities that put women and girls' rights at risk by limiting their access to resources and opportunities and creating new types of exclusions.

Gender inequalities are deeply entrenched in Borno State, as in other states in the Northeast of Nigeria[32], particularly in the control of resources, division of labour and involvement in decision-making.

The effects of climate change and disaster risks do not affect all individuals and groups in the same way but are shaped by intersecting vulnerabilities and social differences in socio-economic status, sex, gender identity, age, ethnicity and dis(ability), among others. Vulnerable and marginalized people with limited access to and control over assets and essential resources as well as to social security, services and credit will find it harder to mitigate, adapt to and recover from climate shocks. The goals of developing this Climate Action Plan may be unrealistic without integrating measures to reverse gender inequalities reinforced by climate change. Gender integration in climate resilience is important to ensure gender appropriate responses and support to climate change

[32] UN Women Nigeria, CARE Nigeria, Oxfam in Nigeria 2020. Rapid Gender Analysis, Northeast Region Nigeria

impacts. Careful consideration of differentiated gender impacts should prevent the deepening of inequality in climate change and address the structural factors that cause or uphold the discrimination of women.

Consequently, this Plan will deliberately address the matter of women's under-representation, limited access to resources, and poor participation in training and capacity development initiatives. Evidence shows that when meaningfully engaged, women can contribute significantly to co-creating resilience and adaptation strategies and solutions, given their understanding of the environment and their role as custodians of ancestral and traditional knowledge. The state government shall propagate the following gender equality measures through this Climate Action Plan:

a) Build institutional and individual capacity for mainstreaming gender into climate action and DRR

- Ensure that women, young girls and marginalized groups have equal access to training and skills-development programmes to promote their full participation and leadership in climate change and DRR.
- Strengthen the capacity of women organizations to participate in crucial policy-making fora in agriculture, forestry and land-use sectors, energy, finance, climate change and DRR.

b) **Improve data for informed decision-making and better monitoring**

- Ensure that age and sex-disaggregated data on climate change and DRR are collected, analyzed and used systematically in policy, programming, implementation, monitoring and evaluation.
- Involve women in the development and dissemination of high-quality information about climate hazards, vulnerability assessments and review of the effectiveness of early-warning systems.
- Utilize local and traditional knowledge and involve primary users of the land, natural resources and the environment, including women, indigenous groups and marginalized communities, in data collection and analyses to inform local and national climate action and DRR programmes and strategies.

c) **Improve women's access to information and technologies**

- Ensure that communication on climate change and disasters is culturally appropriate and allows for feedback from both men and women.
- Use appropriate communication tools, particularly for women at grassroots level for whom information technologies are not easily accessible. Promote the use of low-cost, easy-to-use media that does not require literacy nor interfere with women's work.

d) Increase women's leadership and decision-making in climate change action

- Support and promote women's participation in decision-making processes in DRR and climate action, and in climate change including climate change mitigation and adaptation and disaster risk mapping and solutions.

To ensure the above gender transformative initiatives are attained, the state government shall prepare and implement a Gender Inclusion Strategy as an addendum

to this document. The Borno State Ministry of Women Affairs and Social Development shall spearhead the implementation of the gender strategy with support from other government and non-government actors.

MONITORING, REPORTING AND VERIFICATION (MRV) PLAN

The MRV system is meant is to generate information to support local, national and international level reporting requirements. At the level, the MRV will help assess and track the implementation of planned actions including the status of implementation and progress achieved toward the Climate Action Plan goals. At the national level, the MRV will help assess and track progress towards achieving some of Nigeria's climate goals and commitments contained in the Nationally Determined Contributions and Climate Change Act. Internationally, the MRV system supports the State in meeting reporting requirements that can enhances its chances of accessing international climate finance.

This Borno State Climate Action Plan shall be subjected to periodic monitoring and review. The following table provides a guide to effective monitoring and evaluation of the results of this Action Plan:

Table 8: Details of the MRV plan

Monitoring and evaluation activity	Contents of activity	Frequency of review	Conducted by who?	Report forwarded to who?
Technical committees meetings	The Technical Committee to be established by this plan shall meet at least once every quarter to review progress based on the implementation plan	Every quarter	Technical Committees	Steering committee
Coordination meetings	Steering Committee shall meet at least once every six months to review progress in implementation and map out next steps	Every six	Steering Committee	Inter-Ministerial Committee on Climate Change
Annual review meetings	The Inter-Ministerial Committee on Climate Change shall organize annual meetings to take stock of progress in the implementation of the Action Plan	Annually	Inter-Ministerial Committee on Climate Change	Borno State Executive Council
Review of the Borno State	This plan shall be reviewed periodically to ensure it	Once every four	Steering and Inter-	Borno State

Climate Action Plan	remains an effective document for enhancing the goals of the Borno State Government on climate change.	years	Ministerial Committees	Executive Council

Reporting Plan

The Borno State Climate Action Plan is not an end but creates a platform for upscaling, engagement and cooperation. Consequently, the framework also consists of a mechanism for reporting to national and multinational entities having opportunities to expand the gains of the action plan**.**

- The Borno State Climate Framework shall be communicated to all government agencies, including the State House of Assembly, LGAs, civil societies, academia, local communities and the private sector. These are co-owners and implementers of the Action Plan.
- The Climate Change Act of 2022 mandates the Director General, National Council on Climate Change to function as the Designated National Authority. Consequently, the coordinating agency of the Borno State Climate Action Plan shall report on the framework's performance level for possible integration into the National Communication to the UNFCCC.

STAKEHOLDERS CONSULTED

Government	NGOs/INGOs	CSOs	Development partners	Academia	Media
1. Borno State Ministry of Environment 2. Borno State Ministry of Agric and Natural Resources 3. Borno State Ministry of Housing and Energy 4. Borno State Ministry of Water Resources 5. Borno State Ministry of Higher Education, Science, Technology and Innovation 6. Borno State Ministry of Women Affairs and Social Development 7. Borno State Ministry of Home Affairs, Information and Culture 8. Borno State Ministry of Education 9. Borno State Borno Geographic Information Service 10. Borno State Ministry of Reconstruction, Rehabilitation and Resettlement 11. Borno State Ministry of Health and Human Services 12. Borno State Ministry of Women Affairs and Social Development 13. Borno State Agency for Coordination of Sustainable Development and Humanitarian Response	26. Mercy Corps 27. Neem Foundation 28. Save the Children International 29. Danish Refugee Council 30. Herwa Community Development Initiative 31. ActionAid Nigeria 32. Action Against Hunger 33. Green Concern for Development 34. International Centre for Energy, Environment & Development 35. Local Communities Development Initiative 36. Afrocentric Masterclass Maiduguri 37. Save Yerwa Community 38. Development Exchange Centre 39. Professor Emeritus William Richard Foundation 40. Ambassadors of Dialogue, Climate and Reintegration (DCR) 41. Smiling Heart Initiative 42. Albarka Health Spring Foundation	48. Network of Civil Society Organizations in Borno State 49. Borno State Youth Progressive Association 50. Borno Agricultural Village 51. National Youth Council of Nigeria 52. Nigeria Young Farmers Network 53. We Cleaners 54. Technology Empowerment Agricultural Initiative	55. Food and Agriculture Organization 56. World Food Programme 57. United Nations Development Programme 58. World Health Organization 59. International Organization for Migration	60. Borno State University (Faculty of Agriculture) 61. University of Maiduguri (Centre for Disaster Risk Management and Development Studies, Centre for Arid Zone Studies, Faculty of Agriculture) 62. RAMAT Polytechnic (School of Environmental Studies) 63. Federal College of Forest Resources Management	64. Daily Trust Newspaper 65. Guardian Newspaper 66. Media trust Newspaper 67. Borno Radio and Television 68. Channels TV 69. Nigeria Television Authority Maiduguri Regional Station

14. Borno State Ministry of Finance, Budget and Economic Planning 15. Borno State Ministry of Animal Resources and Fisheries 16. Borno State Ministry of Poverty Alleviation 17. Borno State Ministry of Youth and Sports 18. Borno State Environmental Protection Agency (BOSEPA) 19. Borno State Emergency Management Agency 20. Borno State Agricultural Development Programme 21. Borno State Delivery Support Unit 22. Nigeria Hydrological Services Agency Zonal Office Maiduguri 23. Lake Chad Research Institute 24. Jere Local Government Area Council 25. Konduga Local Government Area Council	43. Kubur Sasilka Innovative and Environmental Initiative 44. Future Resilience and Development Foundation 45. Global Environmental Responds Initiative 46. Concern on Climate Change for the Community Initiative (FOURCi) 47. Borno Women Development Initiative				