Enviromental &
Economic Resource
Centre

Building a Climate Resilient Future

2024 Annual Report

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EERC Governing Body

Janice Olawoye
Chairperson, EERC Governing Body

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Chairperson's Remarks

Esteemed Colleagues, Partners, and Friends:

It is with heartfelt gratitude and joy that we present this year's annual report, marking another significant chapter in our collective journey toward resilience and sustainable development. This year has been a blend of accomplishments and challenges as we navigated complex landscapes to drive forward impactful initiatives addressing critical issues of climate change and agriculture-led economic growth. In line with the Environmental and Economic Resource Centre's mandate to promote environmental conservation, sustainable livelihood, and inclusive agriculture, we leveraged shocks and opportunities in 2024 to make our vision a reality.

We have made significant progress in climate resilience, food security, and capacity building through evidence-based research, creative initiatives, and new partnerships. Our interventions in Northeast Nigeria are already producing notable results, as you will read in this report. The tales of farmers like Mrs. Ummulkhair Bashir and Mr. Urbanus Gayawan, who adopted creative, climate-smart techniques to enhance their livelihoods, demonstrate the effect of our work, fostering resilience against climate change. These testimonials highlight how effective locally-led solutions can be in tackling global issues. Our efforts have significantly raised awareness of climate change among smallholder farmers across several rural communities in Adamawa and Gombe states, fostering improved carbon sequestration.

We led a campaign to establish a foundation enabling communities to economically benefit from carbon credits, resulting in the planting of 30,000 economic trees involving over 3,000 farmers in Gombe State. Additionally, EERC trained and supported more than 7,000 local farmers in Adamawa State in producing biogas and biofertilizers from organic waste. These efforts exemplified our belief in the transformative potential of teamwork and innovation. We continue to be steadfast in our commitment to capacity building through collaborations with prestigious organizations such as Michigan State University (MSU) and the International Institute of Tropical Agriculture (IITA).

We are making investments in the future of Africa's agricultural and environmental sectors either by assisting researchers in leveraging evidence-based research for policy formulation or teaching farmers how to build resilience to climate change: through training on biogas, biofertilizer, and climate smart practices. The road ahead appears clear, yet it is not without obstacles. Coordinated action is required due to the increasing effects of climate change, rising food insecurity, and the need for more equitable policies. We at EERC are unwavering in our commitment to tackling these problems and using our knowledge and alliances to create a resilient and prosperous future for all.

I want to express my sincere gratitude to our team members, partners, and donors whose steadfast commitment and support have been the foundation of our success. By working together, we are not just addressing issues but also creating inclusive, and sustainable future.

We appreciate your companionship and ongoing support towards achieving our goals.

Sincerely,

Prof. Janice Olawoye.
Chairperson, EERC Governing Body

Executive Director's Remarks

2024 was an exciting and inspiring year for us at EERC. It is a testament to our collective commitment to advancing sustainable development through research, innovation, and impactful collaborations. It was a year, we achieved remarkable milestones via groundbreaking studies on climate-smart agriculture, sustainable land use, and renewable energy integration, contributing vital insights to the global dialogue on impact of climate change.

At EERC, we have remained steadfast in our mission to bridge the gap between science, policy, and practice to address environmental and economic challenges. The dedication of our team has been instrumental in achieving these successes. Their expertise and unwavering passion for creating positive change have driven our programs forward, even in the face of unprecedented challenges. We have also expanded our networks, forging meaningful partnerships with academic institutions, government agencies, private sector leaders, and grassroots organizations to amplify the impact of our work.

We deeply thank our donors and partners for their trust and partnerships. Your unwavering support empowers us to pursue our vision of a world where economic growth and environmental stewardship go hand in hand. Looking ahead, we are energized by the opportunities that lie before us. Together, let us build on our shared successes and advance sustainable solutions that will shape a better future for future generations.

Thank you all for your support, dedication, and belief in our mission.

Dr. Oluwatoyin Adeyanju.
Executive Director

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BUILDING A CLIMATE RESILIENT FUTURE

2024 Annual Report

List of Acronyms

ADP	Agricultural Development Program
ACReSAL	Agro-Climatic Resilience in Semi-Arid Landscapes
AGRA	Alliance for a Green Revolution in Africa
APHRC	African Population and Health Research Center
AWITA	Association of Women in Trade and Agriculture
BMGF	Bill & Melinda Gates Foundation
CBN	Central Bank of Nigeria
CSO	Civil Society Organizations
CBSE	Community-Based Seed Entrepreneur
CBSS	Community-Based Seed System
CURE	Consortium for Unfavourable Rice Environments
CGIAR	Consultative Group for International Agricultural Research
CPO	Core Partner Organizations
EERC	Environmental and Economic Resource Centre
FMAFS	Federal Ministry of Agriculture and Food Security
FUNAAB	Federal University of Agriculture, Abeokuta
FTF	Feed the Future Nigeria Agriculture Extension and Advisory Services Activity
FRIN	Forestry Research Institute of Nigeria
3G	Gombe Goes Green
GAP	Good Agronomic Practices
ICRISAT	International Crops Research Institutes for the Semi-Arid Tropics
IITA	International Institute for Tropical Agriculture
JONAPWD	Joint National Association of Persons with Disability
KWASU	Kwara State University
MC	Mercy Corps
MSU	Michigan State University
MDA	Ministries, Departments and Agencies
NASC	National Agricultural Seeds Council
NBS	National Bureau of Statistics
NOA	National Orientation Agency
NDC	Nationally Determined Contributions
NiMet	Nigeria Meteorological Agency
NCCC	National Council on Climate Change
NGO	Non-Governmental Organizations
PSEG	Policy Support for Economic Growth
PO	Program Officers
RRA	Rural Resilience Activity
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
SEMA	State Emergency Management Agencies
SEPA	State Environmental Protection Agencies
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
USAID	United State Agency for International Development
UCL	University College, London
Uni-Jos	University of Jos

Foreword

Since its establishment in 2019, the Environmental and Economic Resource Centre (EERC)'s journey toward reaching its goal has undoubtedly been met by diverse challenges. However, this journey has also been shaped by strategic vision, commitment, and relentless efforts. The pursuit of our goal has been the driving force that has united the implementation of our programmes on agriculture and environmental management, livelihood and economic development, human resource & capacity building and natural resource management. EERC's vision of catalyzing and developing inclusive agriculture, sustainable livelihoods, natural resource conservation, and environmental management is built on supporting African countries on a pathway to sustainable development.

Climate change poses a significant risk to global food security, especially in regions and nations such as Nigeria, where agriculture is the mainstay of the economy. With agriculture supporting over 70 percent of the country's workforce and contributing more than 20 percent to the gross domestic product (Central Bank of Nigeria, 2023), the challenges of droughts and floods worsened by climate change are becoming severe. Over the years, we have intervened in climate change adaptation and mitigation within local communities.

Specifically, in recent months, we have engaged and partnered with the Ministries of Agriculture and Environment, the National Orientation Agency, Agricultural Development Agencies, Nigerian Meteorological Agencies, State Environmental Protection Agencies, State Emergency Management Agencies, and civil Society Organizations.

In addition, the organization has conducted capacity-building workshops on carbon farming, carbon markets, trading mechanisms, and climate resilience. These interventions have resulted in increased awareness among selected local communities, the building of a database of smallholder farmers and expanded activities revolving around rural resilience against climate change.

The food crisis in Nigeria is soaring, owing largely to food inflation and a significant increase in the number of food-insecure Nigerians. In the 2024 Global Hunger Index, Nigeria ranked 110th out of 127 countries with sufficient data to compute indices of global hunger, classifying it as a country with a serious level of hunger. EERC acknowledges that food insecurity has far-reaching consequences on individuals, communities, states, and the nation.

Thus, in the communities, local government areas, and states where we have intervened, we recognize that food security is essential for safeguarding human health, improving economic stability, fostering social peace, and ensuring environmental sustainability.

We embrace a comprehensive approach that advocates government policy, international cooperation, sustainable agricultural practices, and social programs aimed at protecting vulnerable populations. Ensuring that everyone has access to sufficient, safe, and nutritious food is a crucial step towards building a more stable and prosperous world.

Program Lead

INTRODUCTION

1.1 Building Resilience to Climate Change: What works?

Climate change is a pressing global concern, with varying regional impacts. In Nigeria, it poses significant threats to the ecosystem, economy, and human well-being of North Eastern Nigeria. The region comprising Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe states, is particularly vulnerable due to its semi-arid climate and limited adaptive capacity. North-East Nigeria experiences relatively high temperatures, with an average daily maximum of 36 degrees. The weather remains warm throughout the year, characterized by minimal humidity fluctuations. The combination of rising temperatures, changing rainfall patterns, and more frequent extreme weather events worsens the existing developmental issues.

1.1.1 Impact of Climate Change in Northeast Nigeria

In 2023, several states in the Northeast were severely affected by floods. In Borno State, there was an increasing disruption resulting in 400,000 individuals registered as Internally Displaced Persons. Within a week, 37 persons were reported dead and 53 were reported injured during the September flood in Maiduguri (OCHA, 2024). Flooding has further worsened the situation, increasing the already existing vulnerability of the 3.6 million persons displaced due to conflict or violence in Nigeria. Children are disproportionately affected, representing 60% of the 1.9 million displaced people by conflict in the northeast of the country. In Rann and Damasak areas in Borno state, flooding has reportedly restricted road access to communities, leaving many displaced families, women, and children who are in immediate need of humanitarian assistance unattended (Climate Change, Disasters, Insecurity, and Displacement: The Environmental Migration Portal, 2024).

Climate change is exacerbating food insecurity in Northeastern Nigeria pushing millions of people into poverty despite government efforts to reduce poverty through policies and programs. The impacts of climate change are more pronounced on women, particularly in the northeast who engage in rainfed agriculture and are the sole heads of their households (Umar, 2024).

PROJECT IMPLEMENTED IN 2024

2.1 Building Climate Resilience and Carbon Market Opportunities

2.1.1 Climate Adaptation and Mitigation Practices

Northeast Nigeria is highly vulnerable to the impacts of climate change, including increasing temperatures, erratic rainfall, desertification, and resource scarcity. These challenges exacerbate existing socio-economic issues, such as food insecurity and conflict over diminishing natural resources. Effective adaptation and mitigation strategies are critical to addressing these vulnerabilities. Key adaptation practices employed in northeast Nigeria include the "Building Climate Resilience and Carbon Market Opportunities" project implemented by EERC in partnership with Mercy Corps.

Through this partnership, farmers were trained on the production and use of bio-fertilizer known for its environment-friendly and soil enhancement properties as opposed to the application of inorganic fertilizers. Projects such as the Building Nigeria's Response to Climate Change (BNRCC) have introduced climate-smart agricultural practices. These include drought-resistant crops, aquaculture as an alternative livelihood, and improved access to water through small-scale irrigation systems (Okereke, 2023). Also, the Great Green Wall project, which aims to restore degraded lands across northern Nigeria by planting trees and implementing sustainable land management practices, the initiative seeks to combat desertification and improve soil fertility.

EERC also contributed to this initiative by planting 30,000 trees in Gombe state. The Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) project also supports watershed management to enhance resilience in semi-arid regions. The weather forecasting and early warning systems provided by Nigeria Meteorological Agency (NiMet.) helps communities anticipate and respond to climate-induced risks like floods and droughts. Although these efforts have been critical in protecting livelihoods and reducing disaster impacts in Northeast Nigeria, more needs to be done to help farmers in the region adapt favourably to climate change and continuously contribute to food production in Nigeria.

30,000 Trees Planting Exercise in Collaboration with Gombe Goes Green

EERC Team with the Permanent Secretary, Director, Donor Support and Coordination and Principal Planning Officer of the Adamawa State Planning Commission

2.1.2 Harnessing Carbon Markets Opportunities in Northeast Nigeria

With the growing concern over climate change and its grave consequences on the environment, human health, nature-dependent livelihoods, and the disproportional impact of this change on Africa and Africans, even though our contributions to Greenhouse Gas emissions are minimal, calls for a need to devise means to address the injustice. Based on the market system approach of the 2015 Paris Agreement, individuals, companies, and states can voluntarily invest in carbon emission reduction projects and get paid for the carbon emission avoided, reduced, or mitigated in metric tonnes based on the Kyoto Agreement measurement model. Northeast Nigeria, specifically Adamawa and Gombe States, where EERC worked in the 2023/2024 project year, has agriculture as the main economic activity.

Meanwhile, the region falls within the arid and semi-arid agro-ecological zone, which makes their livelihoods gravely impacted as a result of droughts, desert encroachment, land degradation among other factors. Besides the discomforts, the high sun intensity experienced in these states presents opportunities for generating solar power.

Agricultural, kitchen, industrial, and other biodegradable wastes generated in these states present a viable opportunity for generating biogas (renewable energy sources), and the bare lands, if afforested, have great potential for carbon sequestration, land restoration, and biodiversity enhancement, among other benefits. The above-highlighted opportunities are intensely relevant in tapping into the carbon market in Africa. During the project year, the EERC team worked with Gombe Goes Green (3G) and 3000 smallholder farmers in the planting of 30,000 trees on 30 hectares of land spread across two Local Government Areas (LGAs) and four communities (Lasale, Mallam Inna, Baganje and Lapandintai) in Gombe State.

In addition to this, the 3000 farmers were introduced to the carbon market and linked to Vahara, an India-based carbon project developer, for potential carbon crediting in the long run. The choice of an Indian-based developer was because carbon market framework development in Nigeria is still in the pipeline and the carbon trading market is a global market.

2.1.3 Gombe State Government Stakeholders' Meeting - Rural Resilience Activity

On October 4, 2024, Mercy Corps hosted stakeholders convening in Gombe State to align efforts and amplify the impact of the USAID-funded Rural Resilience Activity (RRA). This initiative is a part of the USAID Nigeria Feed the Future program, which seeks to drive economic recovery and growth in vulnerable, conflict-affected regions. The event brought together government officials, and partners including EERC, Premier Seeds, Zia Spices Global, and MDAs to explore innovative solutions for promoting rural resilience and sustainable livelihoods in Gombe State. EERC was represented by the Field Officer, Mr Bashir Umar. EERC leveraged some of this engagement alongside series of stakeholders' engagement in drafting climate change policy in Adamawa and Gombe. EERC's contributions to drafting the Gombe State climate change policy and promoting agroforestry were acknowledged as impactful measures towards sustainable agricultural growth. An overview of the RRA was delivered by Mercy Corps Deputy Chief of Party, Mr Nurein Abdulfatah. He highlighted its systems-focused approach to tackling vulnerabilities through economic recovery, capacity building, and climate resilience in conflict-affected states like Gombe.

The Honourable Commissioner for Budget and Economic Planning, Alhaji Salihu Baba Alkali, commended the significant strides made by RRA partners in improving the livelihoods of Gombe State's residents. Other partners, such as Zia Spices Global and Standard Microfinance Bank, shared insights into their innovative business models, which have helped improve livelihoods across the state.

Discussions revealed the need for improved communication between technical staff and line ministries to enhance program efficiency. The Stakeholders emphasized collaboration as essential for ensuring interventions effectively reach the most vulnerable populations. The Convening provided a platform for stakeholders to exchange ideas, evaluate progress, and identify strategies to enhance resilience in the state's rural communities.

Our contributions, particularly in agroforestry and climate change policy development, exemplify EERC's commitment to driving evidence-based solutions for sustainable livelihoods. Going forward, EERC is poised to deepen its impact through tailored training programs and research to address climate change and economic vulnerabilities. These efforts, in collaboration with partners like Mercy Corps and government agencies, will continue to strengthen the foundation for a resilient and prosperous country.

2.1.4 Preparing for Accelerated Climate Change

On Monday, October 7, and Tuesday, October 8, 2024, Mrs Ronke Adeniyi, Assistant Program Manager, EERC, and Ms Inimbom Bassey, Climate Change Specialist, attended and delivered a presentation on "Harnessing Agroforestry to Mitigate GHG Emission in SSA" during Cracking the Nut 2024 in Transcorp Hilton Hotel Abuja, Nigeria. The event was organized by Connexus Corporation, a United States (US) based organization heading the Finance and Investment Unit under CNFA's USAID-funded Feed the Future Nigeria Agriculture Extension and Advisory Services Activity. The conference, with the central theme: "Preparing for Accelerated Climate Change" drew a diverse range of participants from various countries around the world. According to Anita Campion, the President and CEO of Connexus Corporation, the rationale behind the theme is that besides an increase in extreme weather events, rising sea levels and loss of biodiversity, climate change now causes global-level disruptions to agricultural markets and food systems. She further added that droughts in Africa and flooding in South Asia are destroying farmlands, increasing hunger and poverty as well as creating health risks among plants, animals and humans.

Discussions during the conference were divided into three broad categories:

- ✔ Mitigating Greenhouse Gas Emission Associated with Agriculture and Food Production.
- ✔ Supporting Climate Adaptations in Agriculture
- ✔ Integrating Security and Resilience in Food Systems

EERC's representatives, Mrs Ronke Adeniyi and Ms Inimbom Bassey delivered presentations on How Agroforestry can be harnessed to mitigate GHG emissions in Sub-Saharan Africa. Focusing on Silvopasture practices, they highlighted the roles different components of the system (trees, annual crops, livestock and enhanced biodiversity) will play/contribute to ecosystem services and regulation. During their presentation, they made tree recommendations for the different regions in Africa. At the conference, EERC shared insights from its Building Climate Resilience and Carbon Market Opportunity in North East agroforestry project of the Feed-The-Future Rural Resilience Activity implemented by EERC in partnership with Mercy Corps in Gombe State. The presenters spoke about the lessons learnt and entertained input and recommendations from the audience.

EERC Representatives with Staff of the CGIAR Group during the Event

"Our presentation spurred the interest of some organizations that were in attendance. An example of such an organization is the "Africa Carbon Market Initiatives" which indicated interest in potential collaboration towards the development and linkage of smallholder farmers to the Carbon Market from Nigeria."

Rufus Idris, Nigeria Country Director of the Alliance for a Green Revolution in Africa (AGRA) in his keynote address on "Transforming Africa's Food System" highlighted the realities of accelerated climate change and what changes are needed to transform African food systems if the

growing population is to be fed sustainably in the face of increased economic and climatic uncertainties. He also spoke on ways in which food systems need to adapt to minimize greenhouse gases and protect the environment, while emphasizing the various ways international development and the private sector can support food system actors including smallholder farmers. The event featured a total of 18 break-out sections with three sessions hosted simultaneously.

In addition to the breakout sessions, there were plenary sessions on: "The Role of Green Bonds in Supporting Climate Smart Agriculture" by Sule James, the former coordinator of the Green Bond Program in Nigeria's Federal Ministry of Environment, another on "Preparing for Climate Change" by Dr Andrea Ruediger of GIZ, Dr Ayoade Adetoye of USAID/Nigeria and Nifesimi Ogunkua of FAO. Anita Campion of Connexus Corporation moderated this panel and lastly a plenary on: "Private Sector Panel on Adjusting for Climate Change" with panellists from AFEX, TGI Group, AgroMall and Todd Crosby moderated the session. In summary, Cracking-The-Nut 2024 was an impactful conference packed with insightful discussions, experience sharing and networking opportunities for organizations and bodies who were present.

2.2 Advancing Community-BasedSeed Systems in Nigeria

2.2.1 Overview of the Nigerian Seed Sector

Seed is an essential input in agriculture and has been recognized as the backbone of any agricultural transformation program globally. The Nigeria seed sector is significant in driving agricultural development in agriculture. It plays an important role in boosting agricultural productivity by providing quality seeds that not only improve crop yields but enhance resilience to stresses including climate changes.

According to the National Agricultural Seeds Council (NASC), there are 314 registered seed companies in Nigeria, with the majority producing less than 1,000 metric tons of seeds annually. The sector has undergone different stages of development with several initiatives from government, private companies and other non-governmental organizations in the last decades.

However, a setback exists as the country has yet to produce sufficient, high-quality seed varieties that address the nation's food challenges. Also, the adoption rate of smallholder farmers in Nigeria across most agro-ecological zones remains low despite their level of awareness.

2.2.2 Community Based-Seed System (CBSS) Busines Model

EERC partnered with the International Institute for Tropical Agriculture (IITA) in providing evidence-based research on cost and benefits analysis of the Community-Based Seed Entrepreneur (CBSE) model to promote private sector participation and youth engagement in the seed sector in northeast Nigeria.

We engaged closely with CBSE groups to synthesize evidence from their investment and participation in the CBSS model, which demonstrates a profitable and sustainable approach to addressing seed supply gap in smallholder farming and increase income for stakeholders. The evidence was validated through a series of engagements with stakeholders, including farmers, extension workers, the private sector, IITA officials, and the International Crops Research Institutes for the Semi-Arid Tropics (ICRISAT).

The CBSS model promotes locally-led seed production, where farmers are trained in best practices for cultivating improved varieties within their communities. This proximity reduces logistical barriers and costs, allowing seeds to reach local farmers quickly and affordably. These varieties offer higher yields and improved resistance to pests and diseases. By producing seeds locally, farmers overcome the challenge of limited access to improved seeds, a significant barrier to increased productivity.

To support the implementation of the CBSS model, EERC developed the "Investment Guides" to provide valuable information on cost structures, return on investment, and risk management strategies, enabling farmers to make informed decisions about their seed production ventures. From an economic standpoint, the model includes resources to enable new CBSEs to break down costs, set competitive prices, and calculate potential profit under different yield scenarios.

The model offers the farmers both economic opportunity and guidance in sustainable seed entrepreneurship. Furthermore, in partnership with the Nigerian Agricultural Seed Council (NASC), IITA supports the certification and validation processes of the benefited seed entrepreneurs, ensuring the seeds produced meet national standards. The success of the CBSE model is driven by a structured approach emphasizing community engagement, training, and partnerships. Despite its achievements, the CBSE model faces challenges, including inconsistent access to capital and fluctuating market prices. For example, the majority of existing CBSEs operate as groups, sharing the cost of fixed assets, such as tractors, planters, and water sources, to reduce production expenses. However, this limits their production capacity. Improved access to sufficient capital would empower these farmers to scale up their operations and increase production. Additionally, climate variability and crop pests continue to threaten production yields. To sustain the positive impact of the CBSE model, expanding support through enhanced financing options and increased access to climate-resilient seed varieties will be crucial.

The introduction of digital tools for record-keeping and inventory management could further improve operational efficiency and scalability, enabling the CBSE model to expand its reach and effectiveness.

Investment Guides for Community-Based Seed Entrepreneurs

2.2.2 CBSS in Northeast Nigeria

The CBSS initiative under the Consortium for Unfavorable Rice Environments (CURE) was developed to address the challenges of seed security and availability in regions affected by drought and flooding. CBSS involves registered groups of trained farmers who learn by doing, focusing on seed health, crop diversification, and the introduction of improved and tolerant seed varieties. This approach was designed to empower small holder farmers to produce high-quality seeds from traceable source(s) and make them accessible to other actors within and around their communities. With CBSS, farmers can increase their productivity, thus reducing the number of hunger months, and creating opportunities for market integration. This approach is protected by the Nigeria 2014 Seed Policy. (ICRISAT, 2018). It is both community and market-oriented directly within their communities, which is especially crucial in areas with limited access to formal seed markets.

The development of CBSS has gained significant momentum across Nigeria's 36 states, including the FCT, thanks to the efforts of various government agencies and donor-funded projects. The CBSS is now creating a ripple effect in the community as more and more farmers see the benefits of using good-quality seeds. The trust in the quality of seeds produced by the CBSS has also resulted in easier seed access for resource-poor farmers who are not able to save their seeds for the succeeding season. To maximize the adoption of improved seed varieties, it is imperative to strengthen awareness campaigns using well-structured dissemination materials. The Investment Guides for CBSEs on the seven value chains (Maize, rice, millet, sorghum, cowpea, groundnut and soybean) that EERC developed in partnership with the International Institute of Tropical Agriculture (IITA) in 2023, have been instrumental in addressing the seed supply gap, through guiding existing and upcoming CBSEs on how to make sound economic decisions to enable them to compete favourably with other seed producers operating within the selected value chains in northeast Nigeria.

The guides were recently taken up by policymakers at the national stakeholders' event organized by IITA on "Enhancing Seeds Development for Improved Food Security: A Paradigm of USAID Interventions in Northeast Nigeria," where the evidence was shared among stakeholders. The event brought together several stakeholders including the Federal Ministry of Agriculture and Food Security, National Agricultural Seed Council (NASC), development partners, heads of missions, the private sector, farmers' groups, youth and women led organizations in agriculture, etc. The objective was to bring together to leverage evidences from the model in promoting youth engagement and private sector participation in the seed sector as a rapid approach to addressing the current food and nutrition security gap in Nigeria. Following this intervention, NASC issued certification to about 2,000 CBSEs to boost seed productions in the highlighted value chains. The Federal Ministry of Agriculture also declared the need to adopt such a scalable innovation in multiply seeds to address the rising food insecurity in Nigeria.

2.3 Policy Support for Economic Growth Activity (PSEG)

EERC partnered with the Michigan State University (MSU) and the International Food Policy Research Institute (IFPRI) following its successful application as one of the local partners engaged under the USAID Nigeria Feed the Future Policy Support for Economic Growth (PSEG). The overall purpose of the USAID Nigeria Policy Support for Economic Growth (PSEG) activity is to deliver a program of research, training and institutional capacity strengthening that will support an improved enabling environment for inclusive and sustainable agriculture-led economic growth in Nigeria.

Long engagement by USAID with agricultural and food policy environments in Africa, under a wide range of political systems and intensified under Feed the Future, has shown that such an enabling environment can only be established through policy processes characterized by:

1. Relevant and timely analysis of the impacts of alternative policy interventions on food system actors upstream (e.g. input suppliers and farms), in the midstream (e.g. processors and wholesale and logistics) and downstream (e.g. retail and food service) which helps understand how alternative policy interventions affect poverty reduction and food and nutrition security for different individuals (e.g., gender, age) and households (e.g., urban, rural).

2. Broad-based stakeholder consultation to promote inclusion (public sector, private sector, civil society, men and women from all ethnicities, and differently abled individuals), and effective advocacy at national and sub-national levels to strengthen accountability.

3. Ownership and capacity on the part of Nigerian organizations to undertake applied policy research and advocacy functions. Based on the above rationale, the PSEG theory of change is that, if local organizations have strengthened capacity in policy research and advocacy, and if relevant and timely analysis is undertaken to evaluate the impact of potential policy interventions, and if stakeholders are broadly consulted and have ownership over policy proposals, then an enabling environment for more robust and sustainable agricultural growth will be established.

Through these components, PSEG will implement a series of activities to strengthen the capacity of the Government of Nigeria (GON) at federal and state levels, the Private Sector, and Civil Society Organizations (CSOs) in three broad areas:

1. Policy Formulation and Implementation – to improve the policy process of evidence-based decision-making related to food security and inclusive agriculture-led economic growth.
2. Policy Research – to increase the availability and quality of rigorous policy analysis, including factors affecting women farmers and SMEs.
3. Policy Advocacy – to clarify and amplify the voice of private sector actors (that include civil society organizations, private associations, academia, and media) in the public policy process.

EERC will support research and capacity-building activities for researchers and policy actors towards increasing locally-led evidence-based research to support policy formulation and advocacy, leading to increased adoption of impactful policies at the grassroots.

2.4 PSEG Stakeholder Convening on Advancing Agricultural Sector in Nigeria

PSEG Stakeholders Convening in Abuja

In alignment with its mission to foster sustainable economic growth, the Policy Support for Economic Growth (PSEG) convening took place in Abuja on September 5-6, 2024. This landmark event brought together stakeholders from various sectors to develop strategic approaches to advancing Nigeria's agricultural sector through targeted policies.

Key themes and objectives of the convening underscored the importance of stakeholder consultation, evidence-based research, inclusivity, and the adoption of innovative practices as pivotal elements in enhancing agricultural productivity. Through focused discussions, stakeholders identified actionable priorities aimed at addressing current challenges and maximizing opportunities in the sector.

The discussions were focused on the importance of stakeholder consultation, evidence-based research, inclusivity, and the integration of innovative practices to boost agricultural productivity. Prof. Akerele collaborated with the Michigan State University (MSU) Research Lead as a panelist to moderate discussions on the topic: "Food Systems in Nigeria: Current Inflation and Other Pressing Issues." Meanwhile, Mrs. Adeniyi worked alongside the MSU Climate Change Lead to present on System Analysis and Training on Climate Change Needs in the Six Focal States, while jointly identifying the specific needs of these states.

The PSEG convening identified critical focus areas to strengthen Nigeria's agricultural sector, including post-harvest loss reduction, climate change adaptation and mitigation strategies, strengthening the value chain of priority crops, rural infrastructure development, and incorporation of gender mainstreaming in agriculture etc. State-specific priorities highlighted unique needs, such as access to quality seeds, ginger value addition in Kaduna, climate-smart training in Plateau, and Agricultural Policy Development in Zamfara.

Most importantly, developing inclusive policies, particularly for women and persons with disabilities in the 6 focal states.

2.5. Collaborative Efforts and Future Plans

The event reaffirmed the importance of collaboration and tailored policy interventions in driving agricultural-led economic growth. In response to the needs identified by stakeholders, the Environmental and Economic Research Centre (EERC), in partnership with the International Food Policy Research Institute (IFPRI), will initiate evidence-based research. This research aims to provide analytical support to USAID and address challenges related to the cultivation of major arable crops in the six focus state.

BUILDING ENABLING AGRICULTURAL LED ECONOMIC GROWTH: HARNESSING THE POWER OF PARTNERSHIP

3.1 EERC Partnership with the National Council on Climate Change.

Nigeria's National Council on Climate Change (NCCC) is the country's central authority and primary point of contact for addressing climate change impacts. Since its inception in 2022, the NCCC has facilitated collaborative efforts among government agencies, private sector entities, civil society organizations, and key stakeholders to combat and mitigate climate change's adverse effects. In August 2024, the council organized the "Stakeholder Engagement on the Stock-take of the Nationally Determined Contributions (NDCs) Implementation and Climate Action," a nationwide virtual event that took place on August 19, 2024, in South-West and North-West; August 21, 2024 in North-East and North-Central; and August 23, 2024 in South-East and South-South.

During the event, stakeholders from various ministries, agencies and departments (MDAs), civil society organizations (CSOs), and not-for-profit organizations (NGOs) were present. The stakeholders gave an account of climate adaptation and mitigation projects they are involved in across Nigeria, highlighting the financial worth of such projects, source of funding(s), and project lifespan. EERC made pertinent contributions to climate change discussions at the event, referring to the "Building Climate Resilience and Carbon Market Opportunities in Northeast Nigeria Project. " It also shared experience and lessons learned from the project's implementation. This virtual stock-take event aimed at helping the council monitor and account for all carbon adaptation and mitigation projects ongoing in Nigeria ahead of COP29.

3.2 EERC Partnership with the International Institute of Tropical Agriculture

EERC's partnership with the International Institute of Tropical Agriculture (IITA) has been instrumental in addressing the seed supply gap and enhancing food security through the development of the Community-Based Seed Systems (CBSS) Model. We have collaboratively engaged in research to address critical challenges in agriculture, particularly the seed supply gap. By training the CBSEs in Good Agronomic Practices (GAPs) and providing them with improved seed varieties, we have empowered the CBSEs in Northeast Nigeria to produce high-quality, certified seeds locally.

One of the key outcomes of this partnership has been the development of our comprehensive Investment Guides for CBSEs in seven critical value chains: maize, rice, millet, sorghum, cowpea, groundnut, and soybean. These guides equip farmers with economic tools to make informed decisions, improve profitability, and compete with larger seed producers.

The success of this collaboration was highlighted during a national stakeholders' event organized by IITA, where evidence from the CBSS model led to the certification of over 2,000 seed entrepreneurs by the National Agricultural Seeds Council (NASC). This intervention not only enhances seed availability but also promotes youth engagement and private sector participation, positioning CBSS as a scalable innovation to combat food insecurity in Nigeria. Following the success of this collaboration, IITA has extended its partnership with us into 2025 and 2026, focusing on scaling the CBSS model beyond the Northeast to Northwest Nigeria, specifically in Kano and Kaduna states. Building on the achievements of the first phase, this continued collaboration will further strengthen seed systems and promote food security in Nigeria.

3.3 EERC Partnership with the Forestry Research Institute of Nigeria (FRIN)

In tandem to EERC's vision of catalysing and developing inclusive agriculture, sustainable livelihoods, natural resource conservation and environmental management in Africa through research and capacity building, and to support African countries on a pathway to sustainable development, we signed a Memorandum of Understanding (MoU) with FRIN on Tuesday, July 23, 2024, after several meetings to explore areas of potential collaborations. Based on the signed MoU, we will potentially collaborate with FRIN in the implementation of the UN project inaugurated in 2023 in Cross River, Ogun and Plateau States in which FRIN currently works in collaboration with UNESCO, conduct evidence-based research on forests and other natural resources, potentially link FRIN's past, present and future forestry projects to Carbon Markets, possibly collaborate on capacity building of beneficiaries of different ongoing projects across Nigeria as well as developing of a grant proposal aimed at scaling up FRIN's waste-to-wealth initiative that currently converts waste to floor tiles. This will be geared towards actualization of both institution's long-term goals and visions.

3.4 Partnership with Michigan State University

In today's fast-paced and interconnected world, the power of partnerships cannot be underestimated. Be it networks between businesses, non-profits, governments, or individuals, collaboration offers significant benefits that exceed what an organization can achieve alone. By forming strategic alliances, organizations and individuals can tap into a wealth of resources, knowledge, and networks, fostering innovation, efficiency, and growth. EERC's Partnership with Michigan State University (MSU) began in 2024 with the emergence of the Policy Support for Economic Growth (PSEG). The PSEG activity is a collaborative effort between MSU, the International Food Policy Research Institute (IFPRI) and two local Core Partner Organizations (CPOs). Our organization, EERC, is one of the two CPOs. It is anticipated that through research, training and institutional capacity strengthening, the PSEG activity will enhance the enabling environment for inclusive and sustainable agriculture-led economic growth in Nigeria. EERC's role in the PSEG activity is in the area of policy research through increasing the availability and quality of rigorous policy analysis, with a focus on women's agricultural productivity.

FRIN-EERC team present during the MOU signing by the two institutions on Tuesday, July 23, 2024

As part of the introduction processes into the PSEG activity, EERC teams have partaken in a stakeholder convening in Abuja, an onboarding workshop in Ibadan and the Gender and Entrepreneurship Together (GET) Ahead trainings in Kaduna, Plateau and Nasarawa States. These series of activities have facilitated EERC's engagement with the MSU team led by Professor Saweda Liverpool-Tasie (Principal Investigator) and Professor Duncan Boughton (Chief of Party), IFPRI teams, and stakeholders in the State Ministries of Agriculture, Ministries of Environment, Local Government Areas (Chairmen and their representatives), Association of Women in Trade and Agriculture (AWITA), Joint National Association of Persons with Disabilities (JONAPWD). Through these collaborations, EERC is supporting the PSEG Activity to improve evidence-based decision-making processes relating to food security and agriculture in Nigeria.

3.5 APHRC Support

The African Population and Health Research Center (APHRC), in collaboration with the Committee of Vice Chancellors of Nigerian Universities and with funding support from the Bill & Melinda Gates Foundation (BMGF), extended support to the Environmental and Economic Resource Centre (EERC) through capacity-building initiatives. As part of these efforts, a week-long conference was organized from July 29 to August 3, 2024, at the Continental Hotel in Abuja. The conference aimed to enhance the research ecosystem within organizations, improve journal visibility, and provide training on Good Financial Grant Practices (GFGP) certification procedures. EERC was represented at the event by Professor Akin Omotayo, Mrs. Ronke Adeniyi, and Mr. Alexandra Thompson, who participated in the training sessions.

Additionally, APHRC supported EERC in initiating the GFGP certification process. To strengthen EERC's digital presence, Mr. Motole Okonkwo and Mr. Samson Akinade received specialized training in website enhancement and maintenance, search engine optimization, social media integration, web performance and analytics, and security measures. These initiatives reflect APHRC's commitment to bolstering the capacity of African institutions like EERC to improve their visibility and operational efficiency in the global research ecosystem.

CHALLENGES

4.0 Challenges

While EERC continued its mission to build a climate-resilient future amid an increasingly complex operating environment, the year also brought significant challenges that have impacted our strategic operations and long-term planning. These challenges are broadly categorized into three interrelated areas:

4.1 Operational and Environmental Challenges

Operating primarily in Northeast Nigeria—a region profoundly affected by climate change—EERC has faced the harsh realities of environmental degradation. Extreme weather events such as severe flooding, prolonged droughts, and desertification have not only threatened the livelihoods of local communities and smallholder farmers but also strained our capacity to implement sustainable agricultural practices. Infrastructural gaps, including limited access to quality water resources, modern farming inputs, and reliable transportation networks, further compound these challenges, making effective climate adaptation and resilience-building efforts more difficult to scale.

4.2 Funding Limitations

EERC's projects are largely driven by donor funding and external grants. While such support has been instrumental in launching innovative initiatives, the inconsistent nature of these funds poses significant challenges for long-term planning and program sustainability. The scarcity of local financial backing has limited our ability to scale successful interventions and invest in critical areas such as advanced climate-smart technologies and carbon market initiatives. As a result, there is an ongoing need to diversify our funding streams and secure more predictable, long-term financial resources to ensure that our programs can continue to grow and adapt.

4.3 Limited Visibility

Despite achieving notable successes in climate resilience, sustainable agriculture, and community capacity building, EERC's work has not always received the public recognition it merits. A limited digital footprint and modest media engagement have contributed to low visibility among key stakeholders, potential partners, and local investors.

This lack of widespread awareness restricts our ability to amplify our impact, attract additional resources, and forge the strategic partnerships necessary for scaling our initiatives. Moreover, operating in a competitive landscape—where larger organizations often command more attention—means that EERC must continually seek innovative approaches to enhance its public profile and outreach.

As we move forward, addressing these challenges will be critical to ensuring the sustainability and scalability of our impactful programs.

SUPPORTING EARLY CAREER PROFESSIONALS

5.1 Overview of EERC Training Programs

EERC is dedicated to building the capacity of a diverse range of stakeholders in the fields of agriculture, economics, environmental research, and development. This includes young researchers, government officials, farmers, civil society organizations (CSOs), non-governmental organizations (NGOs), the private sector, and others who play a crucial role in implementing research at the field level. EERC's training initiatives focus not only on direct education but also on enhancing the skills of young researchers through three primary programs: fellowships, internships, and volunteer opportunities.

5.1.1 Fellowship Opportunities

EERC offers a variety of exciting fellowship opportunities that provide researchers with unparalleled experiences in global research. The fellowship program allows participants to collaborate with our staff and technical partners on joint research projects aligned with the organization's priorities. Selected fellows are paired with experienced researchers from EERC or its network of academic institutions to ensure effective mentoring throughout their fellowship. During this period, we cover accommodation, living expenses, and research costs for the fellows. For experienced researchers chosen as fellows, they work directly under the supervision of the Director of Research and Project while also mentoring young researchers, interns, and volunteers.

5.1.2 Internship Program

EERC is committed to the professional development of postgraduate students and recent graduates through its structured internship program. This initiative aims to prepare young professionals for careers in the non-profit sector while positioning EERC as a preferred employer among recent graduates. Interns gain valuable hands-on experience and develop skills essential for future employment. The internship program lasts between three and six months, allowing participants to build relationships with professionals and develop expertise in their areas of interest.

EERC collaborates with the Centre for Excellence in Agriculture Development and Environmental Sustainability (CEADESE), a World Bank-sponsored program at the Federal University of Agriculture, Abeokuta (FUNAAB). This partnership enables EERC to host interns engaged in relevant research projects. While EERC provides stipends for interns, CEADESE covers their research-related costs.

5.1.3 Volunteer Opportunities

EERC strongly believes in the value of mentoring fresh graduates and engages experienced researchers to provide guidance and support. The organization welcomes spontaneous applications for volunteer positions from both recent graduates and seasoned professionals. EERC has also established a partnership with the National Youth Service Corps (NYSC) to mentor recent graduates whose academic backgrounds align with EERC's research priorities. This initiative focuses on building capacity in areas such as climate-smart agriculture, carbon markets, and agricultural research.

Through these programs, we not only promote research excellence but also contributes to the professional growth of emerging talent.

5.2 Our Volunteers Story

Mr. Ezuma Cletus Nwojiji

Mr. Ezuma Cletus Nwojiji is a graduate with a degree in Zoology and Environmental Biology from the University of Nigeria, Nsukka. He served as a National Volunteer at the Environmental and Economic Resource Center (EERC) in the Abeokuta office, specifically within the communications unit. During his time at EERC, he gained valuable experience in writing newsletters, organizing global awareness days, utilizing Kobocollect, and graphic design. Mr. Nwojiji expressed that his experience at EERC significantly contributed to his professional and personal development. He highlighted that the organization instilled essential work ethics and fostered positive relationships among colleagues.

Reflecting on his experience, he noted, "Beyond the professional and academic growth, my time at EERC has also fostered significant personal development. The challenges I have faced and the successes I have achieved have bolstered my confidence and resilience. I have learned to approach problems with a solution-oriented mindset and to remain adaptable in the face of uncertainty. These qualities are essential not only in the workplace but in all aspects of life. EERC is a place where individuals who desire to grow andmake meaningful contributions to society should aspire to be."

Ms. Nkemjika Lucy Ugonna

A Microbiology graduate from the University of Nigeria, Nsukka, served as a National Volunteer at the Environmental and Economic Resource Center (EERC) in Abeokuta. In the Communications and Technical Department, she played a vital role in sharing the organization's impactful work with its audience. She reflected on her experience, where she worked with an incredible team that fostered a nurturing environment for all volunteers.

The team's constructive criticism helped her to enhance her writing skills, and their dedication to the growth of interns and volunteers was truly inspiring. Following her outstanding performance as a volunteer, Ms. Ugonna has been absorbed as a full staff member of EERC.

5.2 Our Volunteers Story

Ms. Simon Paulina Ohi

Ms. Simon Paulina Ohi is a graduate of Plant Science and Biotechnology from the University of Jos. She served as a National Volunteer at the Environmental and Economic Resource Center (EERC) in Yola, where she collaborated with both technical and administrative teams to effectively communicate the organization's research activities to targeted audiences. Following her service year, Ms. Ohi reported a highly rewarding experience at EERC, highlighting a significant improvement in her skills and knowledge. The mentorship she received from experienced researchers helped her evolve into a more confident article writer.

This new found skill set has empowered her to articulate complex ideas and research findings with greater clarity. In her own words, she expressed gratitude for her experience, stating, "I am glad to have come in contact with this organization and the amazing staff members, whose mentorship has afforded a great deal of experience. Thank you EERC!"

Ms. Saidat Bolakale

Ms. Saidat Bolakale is a graduate of Animal Production from Kwara State University, a National Volunteer at the Environmental and Economic Resource Centre (EERC), Yola office. She worked with the technical team in disseminating the research activities of the organization to the target audience. After her service year, she stated that "the best part of my stay was when I took part in the training programs for farmers on bio-fertilizer production and the installation of biogas digesters in various communities in Adamawa state. These experiences were not only enlightening but also heightened my awareness of environmentally friendly and sustainable practices in Agriculture.

She is confident that the skills and knowledge acquired will be valuable to her in future endeavours as working with EERC has also helped her to relate better in these fields, most especially, improved her knowledge of Climate Change and Environmental Management.

SUCCESS STORIES FROM FARMERS/BENEFICIARIES

Success Stories from Farmers/Beneficiaries

Mrs. Ummulkhair Bashir

Mrs. Ummulkhair Bashir from Jambutu community in Yola North LGA of Adamawa is a smallholder farmer who faced numerous challenges, including low crop yields, high pest infestations, unpredictable rainfall patterns, and occasional flooding. Amongst the crops she planted was cowpea, groundnut, maize and rice. Before now, the high cost of chemical fertilizers and low soil fertility made farming unsustainable and financially burdensome for her. Through her training on biofertilizer production, she has gained essential skills in climate-smart agricultural practices and mitigation strategies.

By learning how to produce her biofertilizer, which she uses on her farm, she has become more resilient to climate change impacts. The intervention has been widely adopted within the community, leading to sustainable, cost-effective farming practices and improved crop yields. Many other farmers, especially women like her have become more self-reliant, reducing poverty and creating employment opportunities. The shift towards biofertilizers has also enhanced crop survival rates and improved income generation for smallholder farmers.

Mr. Urbanus Gayawan

Mr. Urbanus Gayawan is another farmer from Dumne community in Song LGA who struggled with the high cost of inorganic fertilizers, declining soil quality, low crop yields, and waste disposal. These challenges left him economically disadvantaged and with diminishing returns from farming.

After attending training organized by EERC in his community, he can now produce environmentally friendly fertilizers that are far more affordable, which he applies on his farm. This has resulted in better yields and income for him. Additionally, the knowledge of carbon farming methods has increased his financial situation because he can now save the money that should have been used to buy chemical fertilizers. He has been very resourceful in cascading the knowledge to other farmers in his community thereby strengthening resilience in the community. Furthermore, with adequate funding, Mr. Gayawan

Success Stories from Farmers/Beneficiaries

Mr. Salisu Hamza

The story of Mr. Salisu Hamza, a farmer from Modire community, Girei LGA of Adamawa State who grows cowpea, beans, maize and spinach is another testimony on the success of the project. Mr. Salisu's crops drying up due to extreme temperatures and prolonged droughts, a climate-related stressor among others, is a growing challenge in Adamawa State, makes farming extremely difficult.

He attended training sessions on producing various types of biofertilizers and gained a deeper understanding of climate change and its effects. Expectedly, he now produces his own biofertilizers, which have proven to be environmentally friendly and cost-effective. He confirmed that the crops he treated with biofertilizers have shown greater resilience to drought, better overall performance, and improved yield for him.

Mrs. Naomi Nuga

Mrs. Naomi Nuga From Bwaramji community, Yola North LGA is into fish farming and was heavily dependent on firewood for cooking, which contributed to deforestation and environmental degradation. Waste management was also a big challenge in her community. During the implementation of Biogas intervention in her community, she attended biogas production training and learned how to convert organic waste into clean energy.

Mrs. Nuga now uses biogas as a cheaper, more environmentally friendly cooking alternative. She is also fully aware of the benefits of proper waste disposal and how it contributes to reducing greenhouse gas emissions. She has been really helpful in passing the knowledge to others in the community. As more people adopt biogas, there has been a notablereduction in greenhouse gas emissions and adecrease in relianceon firewood, benefiting both the environment and the community's health. Reducing dependence on firewood and charcoal is crucial for sustainable environmental management. Mrs. Nuga's experience illustrates how adopting climate-smart agricultural practices can mitigate climate change and create sustainable livelihoods.

7.0 What Next

The past year has been marked by substantial progress for the EERC Research Fellowship Program in fostering sustainable development through research, capacity building, and strategic partnerships. As we move forward, we are more committed to enhancing our impact on agricultural productivity, environmental management, and economic growth in Africa.

Looking ahead, EERC aims to:

1. Expand its research focus to include emerging issues related to climate change, mitigation and adaptation strategies.

2. Strengthen partnerships with international research organizations to leverage global expertise in local contexts.

3. Continue advocating for policy changes that support sustainable agricultural practices and environmental conservation across Africa.

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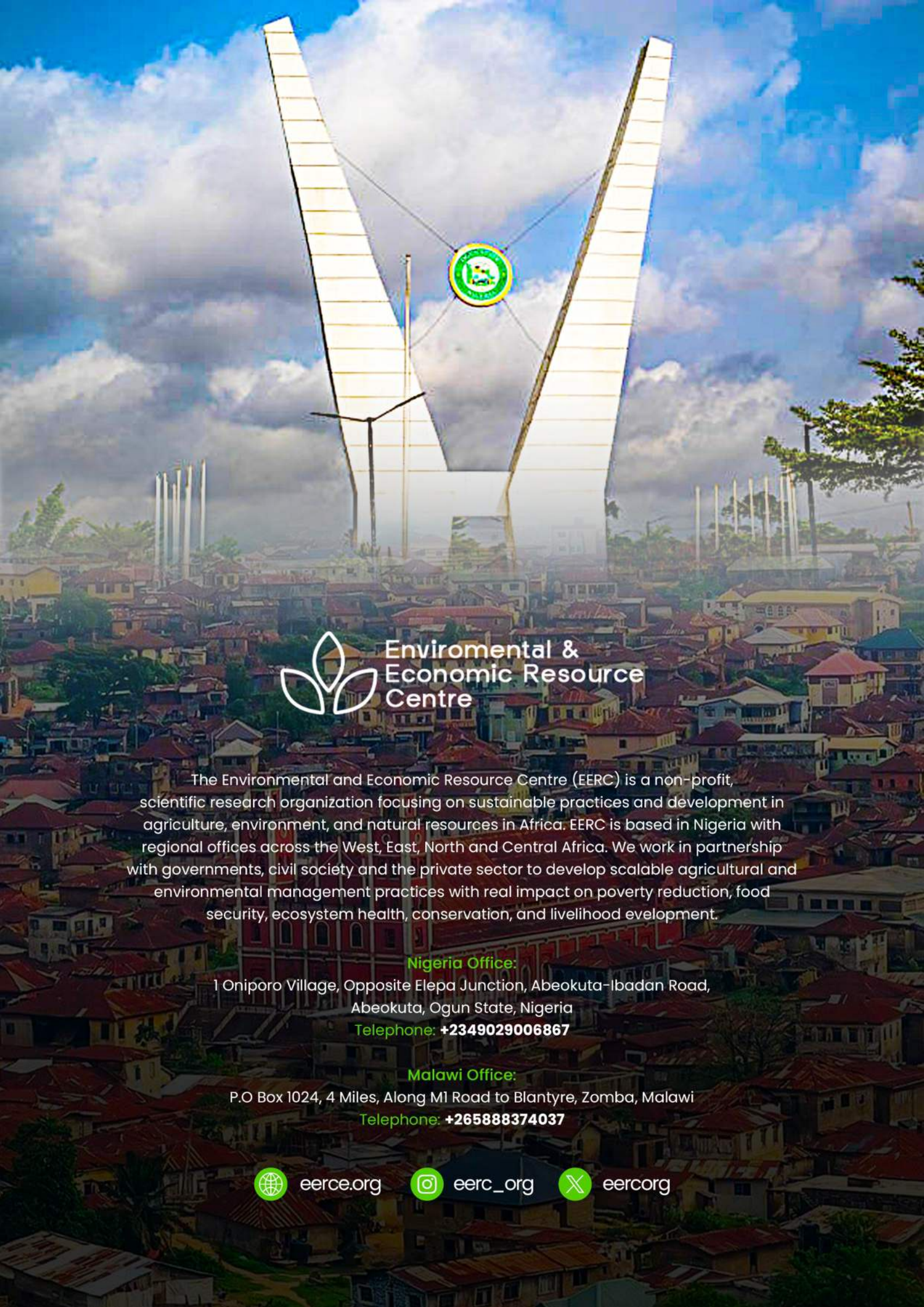

Enviromental &
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The Environmental and Economic Resource Centre (EERC) is a non-profit, scientific research organization focusing on sustainable practices and development in agriculture, environment, and natural resources in Africa. EERC is based in Nigeria with regional offices across the West, East, North and Central Africa. We work in partnership with governments, civil society and the private sector to develop scalable agricultural and environmental management practices with real impact on poverty reduction, food security, ecosystem health, conservation, and livelihood evelopment.

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