BORNO STATE GOVERNMENT

WFP
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ACTION AGAINST HUNGER

REPORT OF THE

BORNO STATE PILOT FARMERS CENSUS 2026

ESTABLISHING BASELINE FOR AGRICULTURAL PLANNING, FARMER TARGETING AND RESILIENCE PROGRAMMING



- INFORMED PLANNING
- TARGETED SUPPORT
- RESILIENT COMMUNITIES
- SUSTAINABLE GROWTH



BIU, JERE, KONDUGA, MAFA AND MONGUNO LGAs – BORNO STATE

COUNTING FARMERS • STRENGTHENING FOOD SYSTEMS • BUILDING RESILIENCE

JULY, 2026

BORNO STATE
MINISTRY OF AGRICULTURE AND NATURAL RESOURCES

WFP World Food Programme



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About This Report

This report presents the findings of the Pilot Farmers' Census 2026 conducted in five LGAs of Borno State. The results provide baseline evidence to inform agricultural planning, programme targeting, and resilience-building interventions.

Biu, Jere, Konduga, Mafa and Monguno LGAs – Borno State

June, 2026

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DISCLAIMER

The opinions expressed in this report are those of the authors and do not necessarily reflect the views of Borno State Government or any of the partner organizations involved in the 2026 Pilot Farmers' Census.

ACKNOWLEDGEMENT OF PARTNERS

We acknowledge with gratitude the invaluable support of the World Food Programme (WFP), Food and Agriculture Organization (FAO), Action Against Hunger (ACF), and all other partners and stakeholders who contributed to the successful conduct of the 2026 Pilot Farmers' Census in Borno State.

Together, we are building a data-driven future for a prosperous agriculture sector in Borno State.



DEDICATION

This 2026 Pilot Farmers' Census Report
is most respectfully dedicated to

His Excellency

PROF. BABAGANA UMARA ZULUM CON, Mni, FNSE, FNIAE

The Executive Governor, Borno State



In recognition of Your Excellency's visionary leadership, unwavering commitment to the agricultural transformation agenda, and steadfast dedication to improving the livelihoods of the people of Borno State.

Your Excellency's support, encouragement, and investment in the agriculture, livestock, fisheries and aquaculture sectors continue to inspire progress, resilience, and hope for a prosperous and food-secure Borno State.

May this report serve as a valuable resource to guide evidence-based policies, strategic investments, and impactful interventions that will further advance the goals of sustainable development and shared prosperity for all.

We remain committed to supporting Your Excellency's noble vision for a greater Borno State.

With Respect and Honour,

ENGR. BAWU MUSAMI PhD,
FNSE, FNIAE, FIBDFM, MASABE
Honourable Commissioner
Ministry of Livestock and Fisheries Development
Borno State

FOREWORD



By His Excellency

Prof. Babagana Umara Zulum, CON, mni, FNSE, FNIAE
Executive Governor, Borno State

Agriculture is the backbone of Borno State's economy and the main source of livelihood for most of our people. As our administration works to rebuild communities and restore livelihoods after years of conflict, we know that a strong agricultural sector is key to food security, economic recovery, job creation, poverty reduction, and lasting peace.

The 2026 Pilot Farmers' Census is an important step in our drive for evidence-based planning and better governance. Good data helps us make informed decisions, use resources wisely, and design programmes that meet the real needs of our farmers. This census gives us valuable information to guide agricultural investments, policies, and programmes.

The report provides a clear picture of our farmers—their profiles, farming practices, access to land and services, production challenges, climate-smart practices, and resilience. It shows the strength and determination of our farmers, but also the gaps that limit productivity and growth.

We are committed to closing these gaps through investments in irrigation, mechanization, quality inputs, livestock, extension services, rural infrastructure, finance, market access, digital tools, and climate-smart technologies. We will also continue to support women, youth, and internally displaced persons, whose role in agriculture is vital to our development.

I commend the Borno State Ministry of Agriculture and Natural Resources for leading this exercise. I thank the United Nations World Food Programme (WFP) for its support. I also appreciate the Food and Agriculture Organization of the United Nations (FAO), Action Against Hunger (ACF), our development partners, Local Government Councils, traditional institutions, community leaders, enumerators, supervisors, and the farmers for their cooperation and contributions.

This report will serve as a key reference for government, partners, researchers, investors, and all stakeholders. Together, we will build a productive, climate-smart, and competitive agricultural sector that improves livelihoods, ensures food security, creates jobs, and secures a better future for Borno State.

I commend this report to all stakeholders and urge its effective use in shaping policies and investments that will drive agricultural transformation and sustainable development across the State.

Prof. Babagana Umara Zulum, CON, mni, FNSE, FNIAE
Executive Governor
Borno State

GOODWILL MESSAGE



By His Excellency,

Hon. Umar Usman Kadafur

The Deputy Governor and Commissioner

Ministry of Livestock and Fisheries Development

Borno State

I heartily commend the Borno State Government for undertaking the 2026 Pilot Farmers' Census. This important initiative will generate critical data that will strengthen planning, inform policy, and guide investments to transform our livestock and fisheries subsector for greater productivity, resilience, and inclusive growth.

Livestock and fisheries are vital to the livelihoods, nutrition, and incomes of millions of our people. They contribute significantly to food security, employment creation, poverty reduction, and the overall socio-economic development of our State. However, to unlock their full potential, we must base our decisions on accurate, credible, and up-to-date information about our farmers, herders, fishers, and the resources they depend on.

This census will provide the evidence we need to better understand the size, distribution, and productivity of our livestock and fisheries resources, as well as the challenges and opportunities facing our communities. It will enable the Ministry of Livestock and Fisheries Development to design targeted interventions, improve extension and veterinary services, strengthen value chains, promote sustainable management of grazing lands and water bodies, and enhance marketing and trade.

I commend the Ministry of Agriculture and Natural Resources, our technical and development partners including WFP, FAO, ACF, and all stakeholders for their dedication, technical support, and collaboration in ensuring the successful conduct of this important exercise.

I also acknowledge with deep appreciation the pastoralists, fishers, and farming communities across Borno State for their cooperation, time, and valuable contributions. This achievement would not have been possible without you.

As a Ministry, we remain committed to using the findings of this census to drive evidence-based policies and programs that will improve animal health and productivity, enhance fisheries management, create jobs, and build resilient livelihoods for our people.

Together, let us translate this valuable data into concrete actions that will secure a prosperous future for our livestock keepers, fishers, and the entire people of Borno State.

His Excellency, Hon. Umar Usman Kadafur
The Deputy Governor and Commissioner
Ministry of Livestock and Fisheries Development
Borno State

KEYNOTE MESSAGE



By the Secretary to the State Government and
Chairman, Borno State Agricultural Transformation Committee

Hon. Bukar Tijjani, FSSN, FSSN
Secretary to the State Government
Chairman, Borno State Agricultural Transformation Committee

It is with a profound sense of responsibility and great optimism that I deliver this keynote message for the 2026 Pilot Farmers' Census Report of Borno State. This report is more than a collection of data—it is a mirror reflecting the strength of our people, a compass guiding our decisions, and a powerful tool for transforming agriculture into a driver of prosperity, stability, and sustainable peace.

At a time when our State is rebuilding and repositioning for a greater future, agriculture stands as the surest path to inclusive growth and shared prosperity. The farmers of Borno State—the smallholders, pastoralists, women, youth, and displaced persons—are the engine of our food systems and the foundation of our economy. Their resilience in the face of adversity is extraordinary, and it is our collective duty to translate that resilience into opportunity, productivity, and improved livelihoods.

The findings from this census provide the evidence we need to plan with precision, invest with impact, and deliver results that matter. They reveal our strengths, expose our gaps, and highlight the priorities that must shape our policies and programmes. As Chairman of the Borno State Agricultural Transformation Committee, I reaffirm our unwavering commitment to using this knowledge to accelerate the transformation of agriculture through innovation, partnerships, and accountable leadership.

Our vision is clear: a modern, climate-smart, and commercially viable agricultural sector that ensures food security, creates jobs, empowers communities, and strengthens the resilience of our people. To achieve this, we will deepen collaboration across government, private sector, research institutions, development partners, and local communities. We will promote value chain development, expand access to finance and markets, invest in rural infrastructure, and embed technology and data in every aspect of our agricultural development.

I commend the Borno State Ministry of Agriculture and Natural Resources for leading this important initiative. I also extend my sincere appreciation to the United Nations World Food Programme (WFP) for its generous support, and to the Food and Agriculture Organization of the United Nations (FAO), Action Against Hunger (ACF), and all our partners for their dedication to strengthening agriculture in Borno State. My gratitude also goes to the Local Government Authorities, traditional and religious leaders, community leaders, enumerators, supervisors, and, most importantly, the farmers whose participation made this exercise possible.

Let this report inspire action. Let it drive better policies, smarter investments, and stronger partnerships. Let it remind us that when we empower our farmers, we secure food, create jobs, build resilience, and shape a brighter future for generations to come.

Together, let us build a Borno State where agriculture thrives, communities prosper, and hope becomes reality.

Hon. Bukar Tijjani, FSSN, FSSN
Secretary to the State Government
Chairman, Borno State Agricultural Transformation Committee



PREFACE MESSAGE

By the Honourable Commissioner

Engr. Bawu Musami, PhD., FNSE, FNIAE, FIBDFM, MASABE
Ministry of Agriculture and Natural Resources
Borno State

It is with great pride and profound gratitude that I present the 2026 Pilot Farmers' Census Report of Borno State. This publication marks a defining step in our collective journey toward building a modern, resilient, and inclusive agricultural sector that can sustain our people, drive economic transformation, and secure a prosperous future for generations to come.

Agriculture is more than an economic activity in Borno State—it is a way of life, a pillar of stability, and a powerful instrument for peace and recovery. Yet, for too long, the sector has operated without the depth of data needed to truly understand our farmers, their challenges, opportunities, and aspirations. This census changes that narrative. It provides the accurate, timely, and reliable information we need to plan better, invest smarter, and deliver impact where it matters most.

The findings in this report reveal the resilience, ingenuity, and unwavering determination of our farmers. They also remind us of the urgency to address critical constraints—limited access to productive resources, climate-related risks, inadequate infrastructure, weak market linkages, and gaps in extension and advisory services. These are not just statistics; they are the realities of our communities and the roadmap for our interventions.

Guided by His Excellency, Prof. Babagana Umara Zulum, *CON, mni, FNSE, FNIAE,* the Executive Governor of Borno State, the Ministry remains steadfast in its mission to transform agriculture through innovation, sustainability, and inclusiveness. We are scaling up irrigation development, strengthening input and seed systems, promoting mechanization, expanding livestock value chains, improving extension services, and accelerating the adoption of climate-smart technologies. Above all, we are committed to empowering women, youth, and vulnerable groups as central actors in agricultural transformation.

This remarkable achievement would not have been possible without the strong support of our partners. I extend heartfelt appreciation to the United Nations World Food Programme (WFP) for their generous technical and financial support. I also acknowledge the Food and Agriculture Organization of the United Nations (FAO), Action Against Hunger (ACF), and all development partners for their collaboration and commitment to strengthening agriculture in Borno State.

My deepest gratitude goes to our field teams—enumerators, supervisors, and coordinators—whose dedication and professionalism ensured the success of this exercise. I also thank our Local Government Authorities, traditional and religious leaders, community leaders, and, most importantly, the farmers who welcomed our teams and shared their time, knowledge, and experiences.

This report is not an end, but a beginning—a foundation upon which we will build more effective policies, targeted programmes, and lasting solutions. Let us use this knowledge as a catalyst for action, innovation, and partnership to build a thriving agricultural sector that feeds our people, creates jobs, protects our environment, and secures a brighter future for Borno State.

Together, with data as our guide and determination as our strength, we can and will transform Borno State into a beacon of agricultural excellence and resilience.

Engr. Bawu Musami, PhD., FNSE, FNIAE, FIBDFM, MASABE
Honourable Commissioner
Ministry of Agriculture and Natural Resources
Borno State

ACKNOWLEDGEMENT



By the Permanent Secretary

Abdulkadir Mustapha

Ministry of Agriculture and Natural Resources
Borno State

On behalf of the Ministry of Agriculture and Natural Resources, Borno State, I express our sincere appreciation to all individuals, institutions, and partners who contributed to the successful conduct of the 2026 Pilot Farmers' Census. This exercise was made possible through the collective dedication, collaboration, and goodwill of many stakeholders.

Our heartfelt gratitude goes to His Excellency, Prof. Babagana Umara Zulum, CON, mni, FNSE, FNIAE, the Executive Governor of Borno State, for his visionary leadership, unwavering support, and commitment to repositioning agriculture as a key driver of recovery, resilience, and sustainable development in the State.

We sincerely thank the United Nations World Food Programme (WFP) for the technical and financial support that made this census possible. Our appreciation also goes to the Food and Agriculture Organization of the United Nations (FAO), Action Against Hunger (ACF), and all development partners for their valuable guidance and continued partnership.

We acknowledge the leadership and members of the Borno State Agricultural Transformation Committee, the Secretary to the State Government, and all Ministries, Departments, and Agencies whose cooperation ensured the success of this exercise.

We are also grateful to the Chairmen and Councillors of the participating Local Government Areas—Biu, Jere, Konduga, Mafa, and Monguno—for their support and provision of an enabling environment for the census teams.

Our appreciation goes to traditional and religious leaders, community leaders, farmers' associations, and all households that welcomed our teams and provided the information that forms the foundation of this report.

We commend our field enumerators, supervisors, coordinators, data managers, and technical staff for their professionalism, resilience, and tireless efforts in ensuring the quality and integrity of the data collected.

Special thanks to the ICT team, data processing unit, analysts, and all staff of the Ministry whose expertise and commitment transformed raw data into meaningful insights.

This report is a product of teamwork and a foundation for better policies, targeted investments, and effective programmes that will transform agriculture, improve livelihoods, and ensure food security for the people of Borno State.

We remain committed to strengthening partnerships, improving data systems, and delivering results that truly matter to our farmers and communities.

Once again, we say a very big thank you to everyone who made the 2026 Pilot Farmers' Census a success.

Abdulkadir Mustapha
Permanent Secretary
Ministry of Agriculture and Natural Resources
Borno State



GOODWILL MESSAGE

By the World Food Programme (WFP) Head of Office

Mr. Emmanuel Bigenimana

World Food Programme (WFP), Nigeria
WFP provides the Finance

On behalf of the World Food Programme (WFP), I wish to extend our sincere commendation to the Borno State Government for undertaking the 2026 Pilot Farmers' Census. This important initiative demonstrates visionary leadership and a strong commitment to building an evidence-based foundation for agricultural transformation, food security, and inclusive development.

Reliable data is essential for sound planning, effective resource allocation, and impactful programming. The insights generated through this census will enable government and partners to better understand the needs, capacities, and aspirations of farmers and communities across Borno State, ensuring that interventions are well-targeted, efficient, and sustainable.

WFP is proud to have provided the financial support that made this exercise possible. We also acknowledge the technical and implementation guidance provided throughout the process, which ensured the adoption of robust methodologies, strengthened data quality, and built national capacity.

I commend the Government of Borno State, the Ministry of Agriculture and Natural Resources, our partners including FAO and Action Against Hunger (ACF), the agencies of the United Nations, and all stakeholders who contributed their time, expertise, and dedication to the success of this census.

We particularly appreciate the farmers and communities who welcomed our teams and generously shared their knowledge and experiences. This report is as much theirs as it is ours, and it is our collective responsibility to translate its findings into concrete actions that improve livelihoods and build a more food-secure future.

WFP remains committed to working hand-in-hand with the Borno State Government and partners to leverage this evidence for greater impact, and to support the State's journey toward a resilient, productive, and prosperous agricultural sector.

Mr. Emmanuel Bigenimana
Head of Office
World Food Programme (WFP), Nigeria
WFP provides the Finance

GOODWILL MESSAGE



By the Food and Agriculture Organization (FAO)
Head of Office

Dr. Ali Galol

Food and Agriculture Organization (FAO), Nigeria

On behalf of the Food and Agriculture Organization of the United Nations (FAO), I commend the Borno State Government for successfully conducting the 2026 Pilot Farmers' Census. This important exercise demonstrates strong leadership and a shared commitment to building an evidence base for agricultural transformation, food security, and inclusive rural development.

Accurate and reliable data is fundamental for informed decision-making, effective resource allocation, and the design of policies and programmes that respond to the real needs and aspirations of farmers and communities. The findings from this census will provide critical insights to guide investments and interventions that drive sustainable and resilient agricultural growth in Borno State.

FAO is proud to have provided technical support and implementation guidance throughout this exercise. Our support included the design of tools and methodologies, training and capacity building, data quality assurance, and field oversight to ensure that internationally accepted standards were upheld and that the results are credible, comparable, and actionable.

I commend the Ministry of Agriculture and Natural Resources, the Borno State Agricultural Transformation Committee, and all partners including WFP and other stakeholders for their collaboration, dedication, and hard work that made this exercise a success.

We particularly appreciate the farmers and communities who participated in this census and generously shared their time, knowledge, and experiences. Their contribution is invaluable and forms the foundation upon which better decisions and lasting change will be built.

FAO remains committed to working closely with the Borno State Government and partners to translate the insights from this census into effective actions, innovative solutions, and sustainable investments that enhance productivity, improve livelihoods, and build a more food-secure and prosperous future for all.

Dr. Ali Galol
Head of Office
Food and Agriculture Organization (FAO), Nigeria

GOODWILL MESSAGE



By Action Against Hunger (ACF)

Paulyn Fierce

Head of Food Security and Livelihoods Programme

Action Against Hunger (ACF), Nigeria

On behalf of Action Against Hunger (ACF), I warmly congratulate the Borno State Government for the successful conduct of the 2026 Pilot Farmers' Census. This milestone initiative reflects strong leadership and a clear commitment to building an evidence base for agricultural transformation, food security, and improved livelihoods across the State.

Reliable and inclusive data on farmers and agricultural households is fundamental to understanding needs, targeting interventions, and measuring progress. The insights from this census will play a vital role in shaping policies and programs that are responsive, accountable, and impactful for farming communities in Borno State.

ACF is proud to have contributed to the success of this exercise by providing enumerators' transportation and training allowances. Our support reflects our commitment to ensuring quality data collection through well-trained, motivated, and adequately supported field teams.

We also value the strong collaboration with the Ministry of Agriculture and Natural Resources, the Borno State Agricultural Transformation Committee, WFP, FAO, and other development partners whose technical support and implementation guidance were critical to the successful delivery of this census.

We extend our sincere appreciation to the farmers, pastoralists, fisherfolk, and communities who participated and shared their time and information with our teams. We equally recognize the dedication of the enumerators, supervisors, and all stakeholders whose hard work made this achievement possible.

ACF remains committed to working hand-in-hand with the Government of Borno State and our partners to translate the findings of this census into effective actions that strengthen resilience, improve livelihoods, and build sustainable and inclusive food systems for all.

Together, let us use this valuable data to leave no farmer behind and create a better, more food-secure future for Borno State.

Paulyn Fierce
Head of Food Security and Livelihoods Programme
Action Against Hunger (ACF), Nigeria

VOTE OF THANKS



On behalf of the 2026 Pilot Farmers' Census Technical Committee, I extend our deepest appreciation to Almighty God for granting us the wisdom, strength, protection, and success to complete this landmark exercise.

Our profound gratitude goes first to **His Excellency, Prof. Babagana Umara Zulum, CON, mni, FNSE, FNIAE, Executive Governor of Borno State,** whose visionary leadership and unwavering commitment to agricultural transformation created the enabling environment for the successful implementation of the 2026 Pilot Farmers' Census.

I sincerely appreciate the **Honourable Commissioner, Ministry of Agriculture and Natural Resources, Engr. Bawu Musami, PhD, FNSE, FNIAE, FIBDFM, MASABE,** whose exceptional leadership, guidance, and continuous support inspired the Technical Committee throughout the planning, implementation, analysis, and successful completion of this important assignment.

Special appreciation is extended to the Secretary to the State Government and Chairman, **Borno State Agricultural Transformation Committee, Honourable Bukar Tijjani,** for his strategic oversight and steadfast commitment to advancing evidence-based agricultural transformation in Borno State.

We are immensely grateful to the **Permanent Secretary, Ministry of Agriculture and Natural Resources, Alhaji Abdulkadir Mustapha,** for his administrative leadership, coordination, and unwavering encouragement throughout the census exercise.

Our sincere appreciation goes to our valued development partners—the **United Nations World Food Programme (WFP), the Food and Agriculture Organization of the United Nations (FAO), and Action Against Hunger (ACF)**—for their technical collaboration, implementation guidance, capacity strengthening, and unwavering partnership, which greatly contributed to the successful execution of this census.

We also acknowledge the invaluable support of the Deputy Governor and Commissioner, Ministry of Livestock and Fisheries Development, **His Excellency Hon. Umar Usman Kadafur,** whose commitment to integrated agricultural and livestock development continues to strengthen Borno State's agricultural transformation agenda.

We thank the Chairmen, Management Teams, traditional rulers, community leaders, security agencies, extension personnel, supervisors, data analysts, GIS specialists, enumerators, drivers, logistics personnel, and every member of the Technical Committee whose professionalism, dedication, and sacrifice ensured the successful enumeration of over **102,000 farmers** across the five pilot Local Government Areas.

Our heartfelt gratitude goes to the farming communities of **Biu, Jere, Konduga, Mafa, and Monguno** for their trust, cooperation, hospitality, and willingness to provide accurate information that forms the foundation of this report.

Finally, I extend my sincere appreciation to every officer of the Ministry of Agriculture and Natural Resources and all stakeholders whose collective efforts transformed this vision into reality. It is our hope that the findings of this census will guide evidence-based policies, attract strategic investments, strengthen agricultural planning, and contribute significantly to achieving food security, economic prosperity, and sustainable agricultural transformation in Borno State.

Thank you all for your invaluable support and commitment.

BUKAR KURAMA
Director, Agricultural Services
Ministry of Agriculture and Natural Resources, Borno State
Chairman, 2026 Pilot Farmers' Census Technical Committee

GOODWILL MESSAGE



By the Editorial Team

Prof. M.M. Gwary

Editorial Chief

It is with great honor that we present this report on the 2026 Pilot Farmers' Census in Borno State. This publication is the result of a shared commitment to evidence-based planning and decision-making for the agricultural, livestock, and fisheries sectors of our State.

The editorial team worked diligently to ensure that the data, analyses, and insights contained in this report are accurate, clear, and useful to policymakers, development partners, researchers, and all stakeholders. We are proud to have played a role in transforming raw data into a knowledge resource that can drive meaningful change.

We wish to express our heartfelt appreciation to the many individuals and institutions whose contributions made this work possible. Our special thanks go to the following team members for their dedication, expertise, and invaluable support throughout the editorial process:

- **George Agwu of WFP** for his overall coordination, technical guidance, and tireless support in ensuring the quality and integrity of the census data and this report.
- **Judith Obaseki of WFP** for her technical expertise, meticulous editing, and commitment to producing a high-quality publication.
- **Bukar Kurama of MANR** for his outstanding contributions to data review, analysis, and contextual interpretation.
- **Engr. Mwada Yakubu Maina of MANR** for his technical inputs, validation of findings, and support in ensuring the accuracy of sectoral data.
- **Maina Mustapha Arjinoma of Fadama NG-CARES** for his valuable insights, coordination, and support in consolidating critical information for the report.

Your collective efforts have ensured that this report meets the highest standards of credibility and relevance.

We also extend our gratitude to all enumerators, supervisors, field teams, and the farmers, herders, fishers, and communities who generously shared their time and information. This report is as much theirs as it is ours.

We trust that this publication will serve as a valuable reference for planning, investment, and innovation, and will contribute to building a more productive, resilient, and inclusive agricultural, livestock, and fisheries sector in Borno State.

Thank you all.

Prof. M.M. Gwary
Editorial Chief
On behalf of the Editorial Team

ABOUT THE CENSUS



1. WHAT IS THE PILOT FARMERS' CENSUS?

The 2026 Pilot Farmers' Census is a comprehensive enumeration of all agricultural households and farming operations in selected Local Government Areas (LGAs) of Borno State. It is designed to collect reliable and up-to-date information on crop production, livestock, fisheries, aquaculture, and other farming activities.

2. PURPOSE OF THE CENSUS

The census was conducted to:

- Generate accurate data for evidence-based planning and policy formulation.
- Strengthen the capacity of government and partners to design targeted interventions.
- Improve resource allocation and investment in the agricultural, livestock, and fisheries sectors.
- Establish a reliable baseline for monitoring and evaluating progress in the sector.

3. SCOPE AND COVERAGE

The census covered all farming households and enterprises in the selected LGAs of Borno State. It included information on:

- **Crop Production** – types of crops, area cultivated, output, and production practices.
- **Livestock** – cattle, sheep, goats, poultry, and other livestock numbers and management practices.
- **Fisheries and Aquaculture** – fish farming operations, capture fisheries, and associated resources.
- **Household and Socio-economic Characteristics** – demographic and economic information relevant to farming households.

4. METHODOLOGY

The census adopted a mixed-method approach using digital data collection tools. Enumerators were recruited and trained, and data were collected through household interviews, observation, and direct measurements. Data quality was ensured through field supervision, validation checks, and real-time monitoring.

5. PARTNERSHIP AND COLLABORATION

The census was a collaborative effort led by the Borno State Government through the Ministry of Agriculture and Natural Resources, with technical and financial support from development partners including the World Food Programme (WFP), Food and Agriculture Organization (FAO), and Action Against Hunger (ACF), among others.

6. OUTPUT AND USE OF DATA

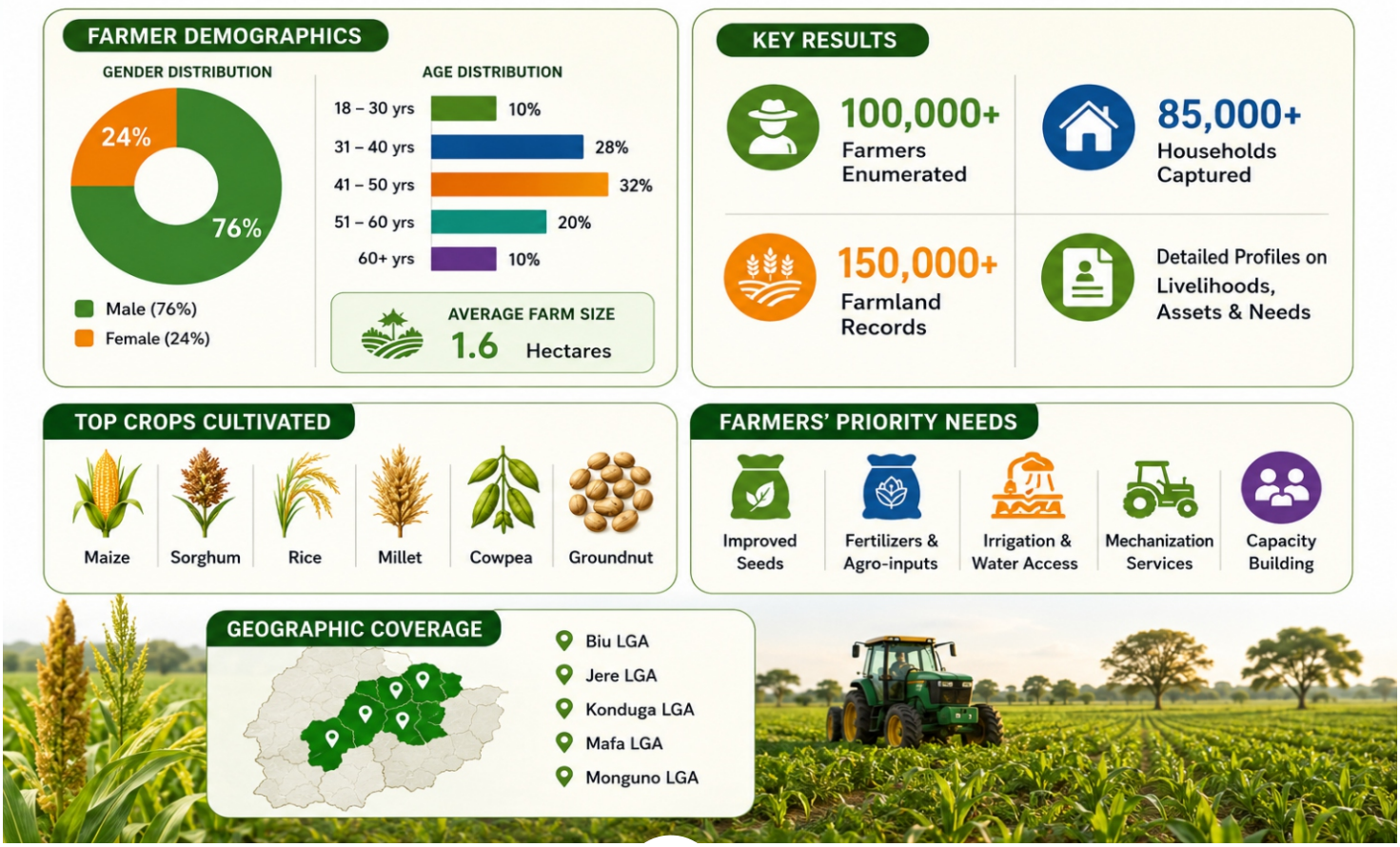
The data generated from this census will serve as a critical resource for government, development partners, researchers, and private sector stakeholders. It will inform policy decisions, program design, investment priorities, and strategies for improving food security, livelihoods, and resilience in Borno State.

Executive Summary

Agriculture remains the primary source of food security and livelihoods in Borno State but is increasingly constrained by insecurity, climate shocks, displacement, weak markets, and inadequate agricultural services. To strengthen agricultural data systems and support evidence-based planning, the Borno State Ministry of Agriculture and Natural Resources, with support from the United Nations World Food Programme (WFP), conducted the 2026 Pilot Farmers' Census across five LGAs—Biu, Jere, Konduga, Mafa, and Monguno. Conducted between 9 and 23 April 2026, the exercise covered 47 administrative wards across over 100 communities, enumerating 102,625 farmers and establishing one of the most comprehensive farmer databases in the State.

The methodology used was an all-inclusive enumeration approach targeting all categories and types of farmers in a community. The findings reveal a predominantly smallholder agricultural sector, characterised by farmers with average age of 40 years, average household sizes of seven persons, and women accounting for 52 percent of all farmers. Crop production dominates, engaging 91 percent of farmers, while 34 percent rear livestock and 22 percent practice mixed farming. The average farm size is 2.2 hectares, and over 60 percent of farmers rely on rented land. Access to agricultural services remains critically low, as only 7.3 percent of the farmers are receiving extension services and only 15.5 percent can access agricultural credit. Exposure to shocks is widespread, with 72 percent of farmers affected by insecurity and 54 percent experiencing climate-related shocks.

The census further reveals high levels of vulnerability, with 66.5 percent of farmers classified as highly vulnerable and only 1.6 percent exhibiting low vulnerability. Vulnerability is highest in Monguno, Mafa, and Biu, while resilience remains generally weak and closely associated with livelihood diversification, asset ownership, and access to markets and services. Overall, the findings portray an agricultural sector with significant potential but constrained by high vulnerability, weak service delivery, and persistent exposure to shocks. The census provides a robust evidence base for policy formulation, programme targeting, and investments in agricultural services, climate-smart agriculture, market integration, and resilience building in Borno State.



BORNO STATE
MINISTRY OF AGRICULTURE AND NATURAL RESOURCES

WFP World Food Programme

1. INTRODUCTION AND BACKGROUND





The Farmers' Census 2026 in Borno State was conducted in five pilot Local Government Areas to generate reliable baseline data that will support evidence-based planning, targeting of farmers, and effective delivery of agricultural and resilience programmes.

1.1 BACKGROUND

Agriculture remains the mainstay of livelihoods in Borno State, employing the majority of the population and contributing significantly to food security and the state's economy.

However, recent years have witnessed significant challenges including conflict, displacement, climate variability, high input costs, limited access to services, and weak market systems.

There is a critical need for reliable, disaggregated data on farmers, their assets, farming practices, and constraints to inform policies, interventions, and investments.

This census provides the first comprehensive baseline on farmers and farming systems in Biu, Jere, Konduga, Mafa and Monguno LGAs. It establishes a foundation for tracking progress and strengthening food systems resilience.

1.2 RATIONALE FOR THE FARMER CENSUS

The census was designed to:

- Identify and register all farmers and farming households within the selected communities.
- Generate reliable baseline data on demographics, farming systems, service access, assets, vulnerabilities and resilience capacities.
- Understand key constraints and opportunities affecting agricultural productivity.
- Inform targeted planning, resource allocation, and design of inclusive agricultural and resilience programmes.
- Support monitoring, evaluation and learning for evidence-based decision making.

WHY THIS MATTERS FOR BORNO STATE

- Supports food security and nutrition outcomes for vulnerable communities.
- Improves targeting of inputs, services and financial resources to those who need them most.
- Strengthens climate resilience and adaptation of farming communities.
- Provides evidence for policy formulation and agricultural sector development.
- Enhances coordination among government, development partners and private sector.

1.3 Policy and Strategic Relevance



The 2026 Pilot Farmers' Census directly supports the agricultural development priorities of Borno State by providing an evidence base for revitalizing agriculture as a driver of economic recovery, employment creation, and food security. Specifically, the findings support:

- Development and maintenance of a comprehensive digital farmer registry.
- Improved targeting and delivery of agricultural support programmes.
- Agricultural investment planning and resource allocation.
- Design of climate-resilient and livelihood-strengthening interventions.
- Identification of geographic areas and vulnerable populations requiring priority support; and
- Monitoring of agricultural development outcomes and strengthening coordination among government and development partners.

Beyond serving as a farmer registration exercise, the census constitutes a strategic investment in agricultural information systems and establishes a robust baseline for policy formulation, programme targeting, and resilience programming. The findings presented in this report are intended to guide decision-makers and development partners in designing integrated interventions that improve agricultural productivity, strengthen rural livelihoods, and contribute to sustainable economic recovery and food security in Borno State. Furthermore, the farmers census ensures that Borno State aligns with the digital era, and standards set by FAO and World Bank in having a farmer's census registry.



2. Methodology



The 2026 Pilot Farmers' Census was conducted across five Local Government Areas (LGAs) of Borno State—Biu, Jere, Konduga, Mafa, and Monguno—to establish a comprehensive farmer registry and generate evidence for agricultural planning and resilience programming. The exercise covered all forty-seven wards and over one hundred communities within the selected LGAs. The census adopted a complete enumeration approach, used to identify and register all farming households in the selected communities rather than relying on a sample. For this purpose, a farmer was defined as any individual or household engaged in crop production, livestock production, mixed farming, fisheries, horticulture, or other agricultural activities during the reference agricultural season. Data collection was undertaken over a fifteen-day period from 9 to 23 April 2026 using a structured electronic questionnaire administered through mobile data collection devices. Information collected covered farmer demographics, agricultural production systems, livelihood activities, access to agricultural services and productive resources, exposure to shocks, and household capacities and assets. The exercise was implemented by 100 trained enumerators, supervised by 15 LGA Coordinators and 10 State Supervisors.

Several measures were implemented to ensure data quality, including intensive enumerator training, community sensitization, daily supervision and spot checks, real-time data synchronization, and post-fieldwork data cleaning and validation. The dataset was further subjected to consistency checks, duplicate detection, and verification of missing and out-of-range values. Data analysis combined descriptive and analytical approaches. Descriptive statistics, including frequencies, percentages, means, and medians, were generated to profile farmers and farming systems. Comparative analyses were undertaken across LGAs and population groups, while a series of composite indices—including the Farmer Vulnerability Index (FVI), Farmer Resilience Index (FRI), Crop Diversification Index (CDI), Income Diversification Index (IDI), Market Access Index (MAI), and Composite Farmer Development Index (FDI)—were constructed to assess household capacities, vulnerabilities, and development outcomes. The index-based analytical framework is adopted to provide a more comprehensive assessment of farmer welfare, vulnerability, and resilience. The findings provide a robust evidence base for farmer targeting, agricultural investment planning, and the design of interventions aimed at strengthening agricultural productivity and resilience in Borno State.

2.1 Study Area

The 2026 Pilot Farmers' Census was conducted in five Local Government Areas (LGAs) of Borno State (as shown in Figure 1), across Biu, Jere, Konduga, Mafa, and Monguno.

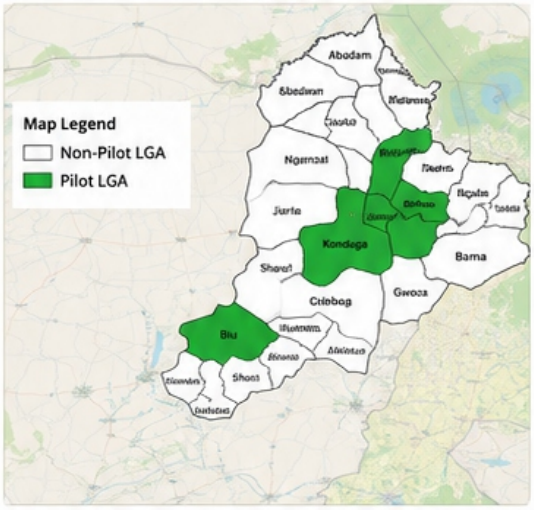


Figure 1: Map showing the selected pilot LGAs

The exercise covered over 100 communities across all 47 wards in the selected five LGAs. The LGAs were purposively selected to capture diverse livelihood systems and varying levels of exposure to conflict, displacement, and climatic risks, thereby providing a representative picture of agricultural conditions across different contexts in the State. A total of 102,625 farmers were successfully enumerated across the LGAs, establishing one of the most comprehensive and up-to-date farmer databases in Borno State. Figure 2 shows the distribution of famers enumerated per LGAs.

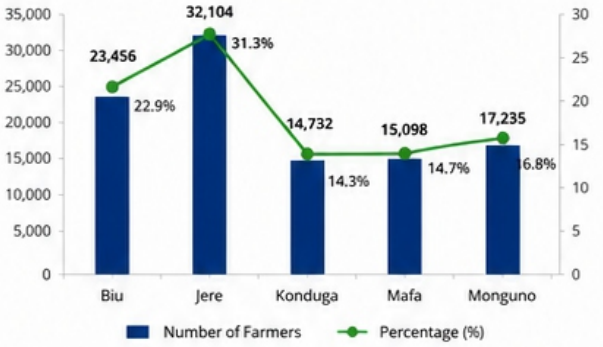


Figure 2: Distribution of farmers captured by LGA

2.2 CENSUS DESIGN

The census adopted a complete enumeration approach, aiming to identify and register all farmers within the selected communities rather than relying on a sample survey. For the exercise, a farmer was defined as any individual or household engaged in crop production, livestock production, mixed farming, fisheries, horticulture, or other agricultural activities during the reference agricultural season. The complete enumeration approach ensured comprehensive coverage of farming households and enabled the development of a robust and verifiable farmer registry for agricultural planning, programme targeting, and monitoring purposes.

2.3 DATA COLLECTION

Data collection was undertaken from 9 to 23 April 2026 using a structured electronic questionnaire administered through mobile data collection devices. The exercise was implemented by 100 trained enumerators, supported by 15 LGA Coordinators and 10 State Supervisors. Several measures were implemented to ensure data quality, including intensive enumerator training, field supervision, real-time data synchronization, daily consistency checks, and post-fieldwork data cleaning and validation. The questionnaire collected information on the following thematic areas:

THEMATIC AREAS OF THE QUESTIONNAIRE

DEMOGRAPHICS	FARMING CHARACTERISTICS	LIVELIHOOD	AGRICULTURAL SERVICES	VULNERABILITY
Sex	Farm size	Income sources	Extension services	Insecurity exposure
Age	Crops cultivated	Off-farm activities	Input access	Climate shocks
Marital status	Livestock ownership	Labour utilization	Credit access	Displacement
Household size	Farming experience		Market access	Crop losses
Education	Irrigation access			Food insecurity

Table 1: Thematic areas of the questionnaire

100 Enumerators Trained	**15** LGA Coordinators	**10** State Supervisors	**15** Days of Data Collection	**5** Pilot LGAs Covered



The complete enumeration approach provides a strong foundation for evidence-based decision making, targeted interventions, and inclusive agricultural development in Borno State.

3. Demographic Characteristics of Farmers



The demographic profile of farmers in the pilot LGAs depicts an agricultural sector characterized by a relatively young and economically active workforce, with an average household head age of 40 years. Women constitute 52 percent of farmers, while the farming systems is predominantly family-based, with an average household size of seven persons. Despite these strengths, persistent gender disparities exist in access to productive assets, particularly land, of which male-headed households' control more than 70 percent. Coupled with relatively low educational attainment and high dependency burdens, these disparities constrain productivity, technology adoption, and resilience. These findings underscore the need for investments in human capital development, youth engagement, gender-responsive programming, and social protection measures to support agricultural transformation and strengthen the resilience of farming households in Borno State.

3.1 Age Structure

According to Figure 3, the average age of household heads was 40 years, indicating that agriculture in the pilot LGAs is predominantly driven by economically active adults. This age profile suggests the availability of a productive labour force capable of supporting agricultural recovery and transformation. The relatively youthful farming population presents opportunities for increased technology adoption, entrepreneurship, and agricultural commercialization. However, sustaining agricultural productivity will require targeted investments in youth engagement, skills development, and access to productive resources to attract and retain younger generations in agriculture.

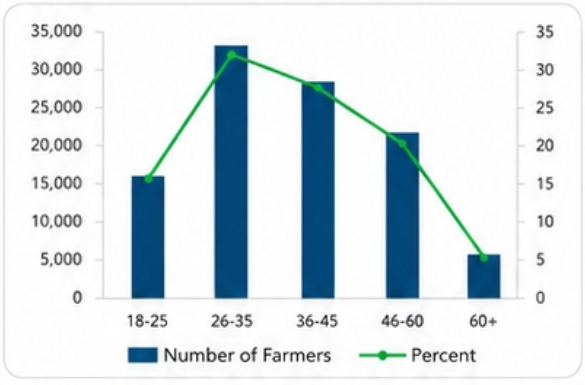


Figure 3: Showing age distribution of the farmers

3.2 Gender Distribution

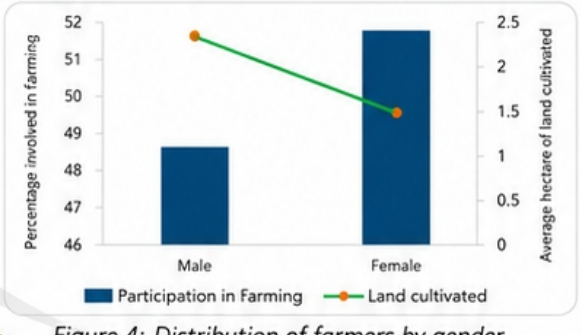


Figure 4: Distribution of farmers by gender

The census found that 48 percent of farming households were male-headed, while 52 percent were female-headed, underscoring the significant role of women in agricultural production and household livelihoods. Despite their numerical predominance, female-headed households possess considerably fewer productive resources than their male counterparts. Male-headed households control more than 70 percent of cultivated land, highlighting persistent gender disparities in access to and control of productive assets. These inequalities may limit women's productive potential, reduce investment opportunities, and constrain household resilience. The findings underscore the need for gender-responsive interventions that improve women's access to land, agricultural finance, extension services, and productive inputs. Figure 4 showing the gender participation of farmers in farming.

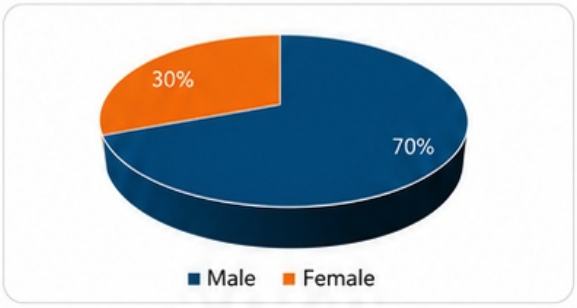


Figure 5: Share of Cultivated Land Controlled by Male and Female farmers

3.3 Farmer Demographics across LGAs

The demographic composition of farmers varies considerably across the five pilot LGAs, reflecting differences in population structures and displacement dynamics. Women constitute approximately half of the farming population across all LGAs, while youth account for nearly half of farmers in most locations, underscoring the important role of women and young people in sustaining agricultural production and rural livelihoods. The demographic also indicated the proportion of internally displaced person (IDP) farmers is highest in Monguno and Mafa, reflecting the prolonged effects of conflict and displacement, whereas Biu records relatively low levels of IDP farmers. Host-community farmers remain the majority across all LGAs, accounting for nearly nine out of every ten farmers in Biu and about two-thirds of farmers in Mafa, Konduga, and Jere. These demographic differences have important implications for agricultural programming and highlight the need for targeted, conflict-sensitive interventions that address the specific needs of women, youth, displaced populations, and host communities while promoting inclusive and resilient agricultural development.

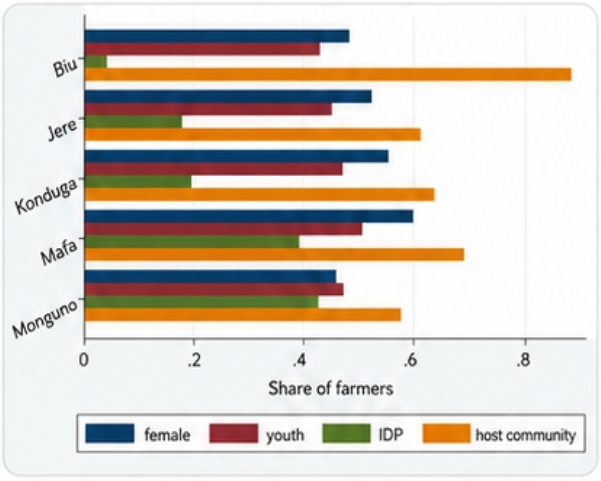


Figure 6: Additional social and demographic profile of the farmers.

3.4 Educational Profile

The educational profile of farmers reveals relatively low levels of formal education. Approximately 24 percent of household heads had no formal education, 11 percent completed primary education, 19 percent completed secondary education, and 9 percent attained higher education, while 38 percent reported religious education as their highest form of schooling (Figure 7). Educational attainment is an important determinant of agricultural productivity and resilience because it influences farmers' ability to adopt improved technologies, access agricultural information, utilize financial services, and implement good agricultural practices. The relatively high proportion of farmers with limited formal education may constrain technology adoption and the uptake of climate-smart agricultural practices. These findings highlight the importance of strengthening farmer training programmes, adult literacy initiatives, and extension services that employ simplified and locally appropriate communication approaches.



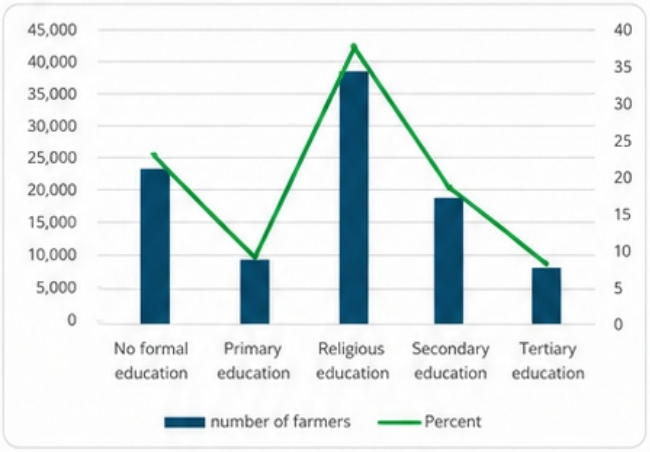


Figure 7: Educational Attainment of the censured farmers

3.5 Chapter Highlights

- Farming is predominantly undertaken by economically active adults, with an average household head age of 40 years.
- Female-headed households account for 52 percent of the farmers. However, they have significantly less access to cultivated land than the males.
- Nearly one-quarter of household heads have no formal education, while religious education constitutes the most common form of educational attainment.
- The vulnerable groups—including women, youth and IDPs—constitute majority across the surveyed LGAs with women making approximately half of the farming population, while youth account for nearly half of farmers in most locations. The highest proportion of internally displaced person (IDP) farmers is found Monguno and Mafa.
- Human capital constraints and gender inequalities remain important considerations for agricultural productivity, technology adoption, and resilience interventions in Borno State.

4. Farming Systems and Agricultural Enterprises

Across the five pilot LGAs, agriculture is predominantly smallholder farming, with limited family-based and subsistence-oriented farming system. Most households relying on agriculture as their primary source of food and livelihoods. Crop production is the dominant agricultural enterprise, with approximately 91 percent of farmers engaged in cultivating crops such as maize, rice, millet, sorghum, cowpea, and groundnut. Livestock production also plays an important role in rural livelihoods, with about 34 percent of farmers rearing poultry, goats, sheep, and cattle, which serve as important sources of food, income, productive assets, and coping mechanisms during periods of stress. The findings further indicate that approximately 22 percent of farmers practice mixed farming systems that combine crop and livestock production, thereby enhancing livelihood diversification and resilience. Agriculture remains predominantly smallholder in nature, with an average farm size of only 2.2 hectares, reflecting limited mechanization and constrained investment capacities. Land tenure arrangements are largely informal and insecure, with more than 60 percent of farmers relying on rented land for cultivation and inherited land constituting the second most important source of land access. While the sector possesses considerable productive potential, its development is constrained by small and fragmented holdings (limited cultivated land), informal land tenure (over 70 percent), and limited diversification into higher-value agricultural activities, highlighting the need for investments in agricultural technologies, livestock development, land tenure security, and the commercialization of agricultural enterprises.

4.1 Land Tenure Arrangements

Land tenure arrangements in the pilot LGAs are predominantly informal and heavily dependent on rented land. As shown in Figure 8, approximately 61 percent of farmers (about 62,000 farmers) access land through rental arrangements, while 24 percent (about 24,000 farmers) cultivate inherited land. Smaller proportions of farmers rely on purchased land (10 percent), communal land (5 percent), and government allocations (less than 1 percent). The heavy reliance on rented land raises concerns regarding tenure security and may discourage long-term investments in land improvement, irrigation, and other productivity-enhancing measures, thereby constraining agricultural productivity and commercialization.

Land tenure arrangements across the pilot LGAs are predominant through rented land, with the share of farmers cultivating rented land ranging from approximately 43 percent in Biu to over 70 percent in Mafa and Monguno. Inherited land is the second most common means of accessing farmland, accounting for 16–37 percent of farmers, particularly in Biu and Konduga. Land acquired through purchase, communal arrangement, and government allocation collectively account for a relatively small proportion of land access. The heavy dependence on rented land highlights persistent tenure insecurity, which may discourage long-term investments in land improvement and constrain agricultural productivity and commercialization. Figure9 Showing the land tenure systems across LGAs.

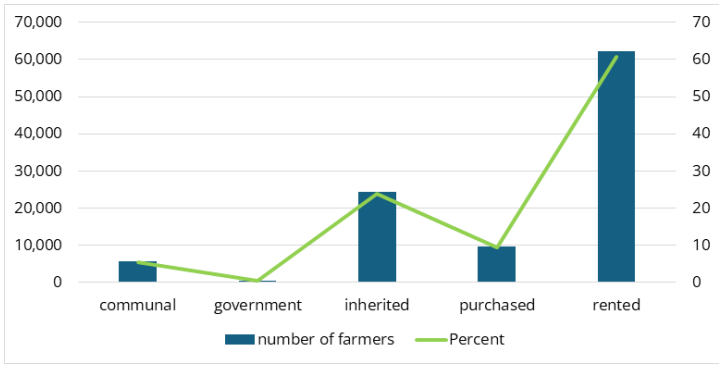


Figure 8: Land tenure systems of the farmers

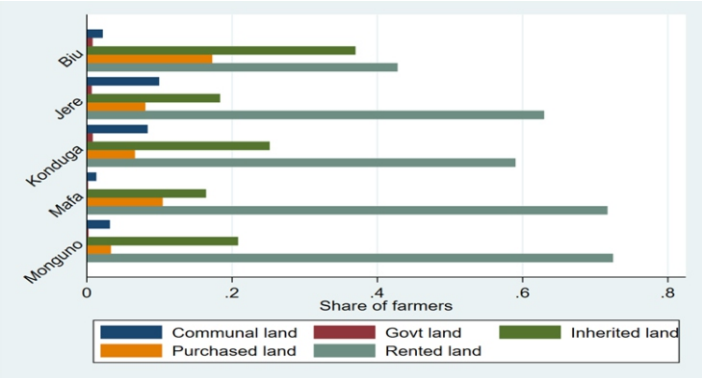


Figure 9: Land tenure systems across LGAs

4.2 Farming Systems and Agricultural Enterprises by LGA

Farming systems across the pilot LGAs are predominantly crop-based and subsistence-oriented. More than 85 percent of farmers in all LGAs engage in crop cultivation, with the highest proportions observed in Konduga, Monguno, and Biu (over 90 percent). Subsistence farming remains widespread, accounting for approximately 67–88 percent of farmers across the LGAs, while commercial farming is relatively limited, ranging from about 12 percent in Biu to 36 percent in Monguno (as seen in figure 10). Livestock production and mixed farming are also important livelihood activities, particularly in Mafa and Jere, where larger proportions of farmers combine crops and livestock enterprises. The predominance of crop-based, subsistence-oriented farming underscores the need for interventions that boost productivity, strengthen market integration, and facilitate the transition towards more diversified and commercially oriented agricultural systems.

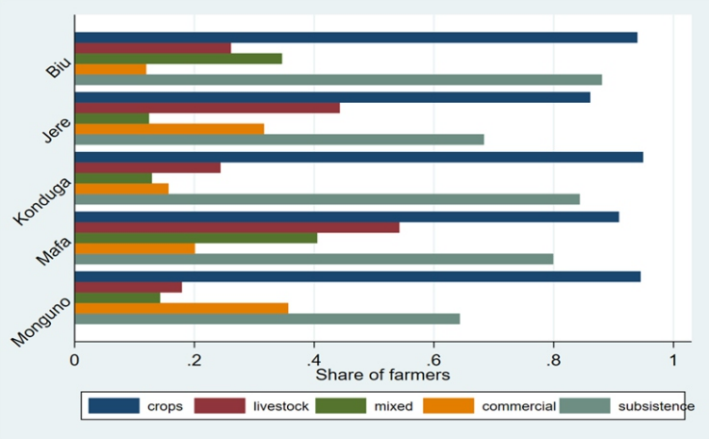


Figure 10: Farming systems across the LGAs



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5. Agricultural Service Access

Access to agricultural services and productive resources remains critically low across the five pilot LGAs, posing a major constraint to agricultural productivity, commercialization, and resilience building. Only 7.3 percent of farmers reported receiving agricultural extension services, while 15.5 percent had access to agricultural credit. Consequently, most farmers have limited access to technical advice, improved technologies, climate-smart practices, and financial resources needed to increase productivity and manage risks effectively. Farmers also face significant challenges in accessing productive inputs and infrastructure, including high input prices (34 percent), inadequate fertilizer supply (42 percent), limited availability of improved seeds (69 percent) and poor irrigation facilities (91 percent). The findings indicate that households with better access to extension services, markets, and productive inputs generally demonstrate stronger productive capacities and higher resilience levels, underscoring the need for increased investments in agricultural service delivery systems to support agricultural transformation and improve household welfare in Borno State.

An Agricultural Service Access Index (ranges from 0 to 100) was constructed to provide a composite measure of farmers' access to essential agricultural services. The index incorporates indicators on access to extension services, agricultural credit, inputs, and markets. As shown in figure 11, the results reveal substantial disparities across the pilot LGAs. Konduga recorded the highest mean service access score (21.0), followed by Monguno (20.3), Jere (19.7), and Biu (19.1), while Mafa recorded the lowest score (14.1). The generally low index scores across all LGAs indicate widespread deficiencies in agricultural service delivery and suggest that a large proportion of farmers have limited access to the services and resources required to improve productivity and resilience. The particularly low score in Mafa points to significant service delivery gaps and highlights the need for geographically targeted investments in extension systems, agricultural finance, input distribution, irrigation infrastructure, and market development initiatives.

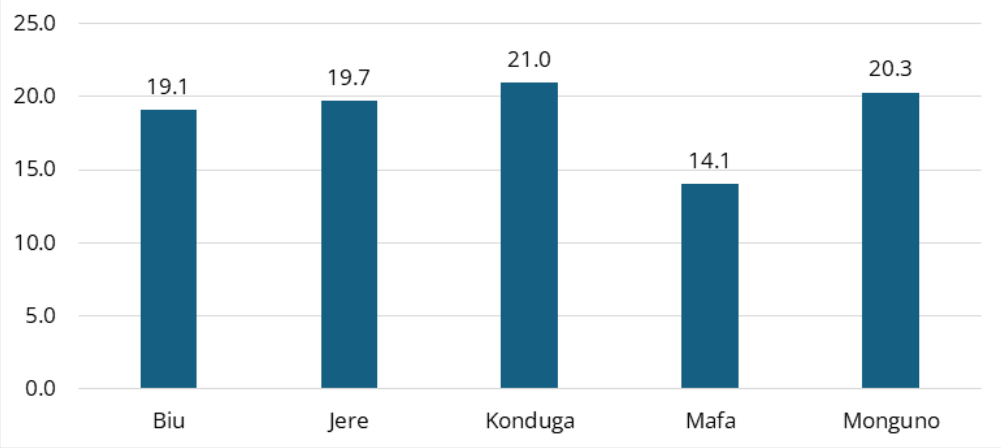

Figure 11: Mean Agricultural Service Access Index by LGA



5.1 Access to Services and Technologies by LGA

Figure 12 reveals considerable disparities in access to agricultural services and technologies across the pilot LGAs. While the use of fertilizers and pesticides is relatively high, particularly in Biu, Konduga, and Monguno, access to productivity-enhancing services remains limited. The use of improved seeds ranges from 25 to 40 percent, irrigation is practiced by less than 15 percent of the farmers across all LGAs, and access to credit and extension services remains particularly low. Access to storage facilities is moderate but uneven across locations. Overall, significant gaps in finance, extension, irrigation, and post-harvest infrastructure continue to constrain productivity, commercialization, and resilience building.

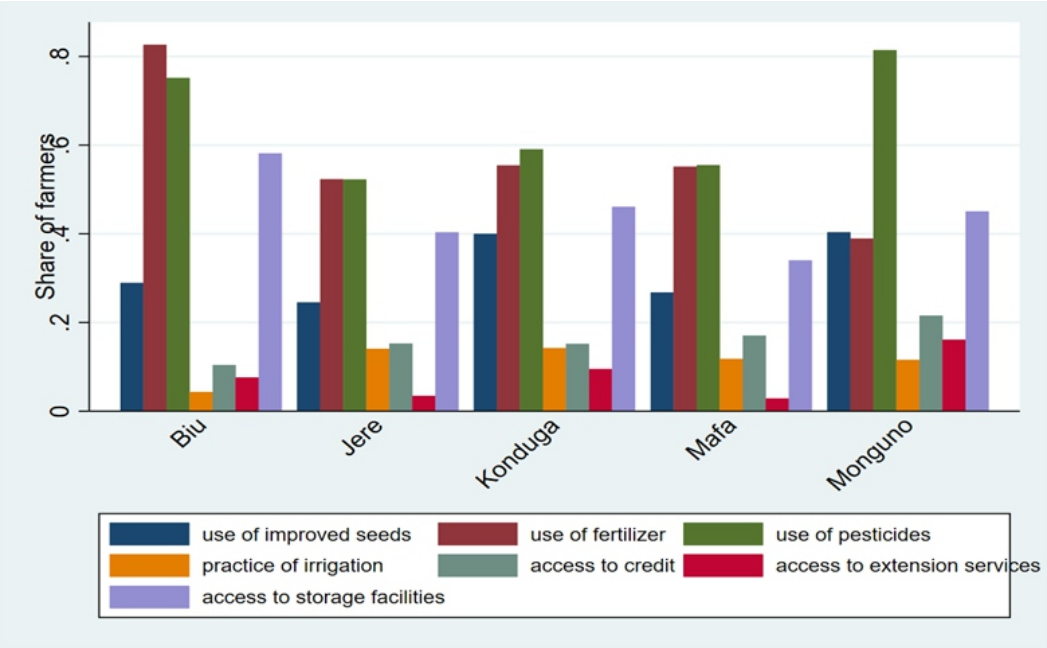

Figure 12: Use of agricultural services and technologies

5.2 Major Constraints Affecting Agricultural Production by LGA

Farmers across the pilot LGAs face multiple and overlapping constraints that undermine agricultural productivity and resilience. Insecurity is the most pervasive challenge, affecting nearly all farmers in Monguno (97 percent) and a large majority in Konduga (88 percent) and Mafa (85 percent). Climatic and biological shocks are also widespread, with drought affecting 61–80 percent of farmers and pest infestations affecting 71–84 percent across the LGAs. In addition, limited access to finance and high input costs continue to constrain production, highlighting the need for integrated interventions that address insecurity, climate risks, and access to affordable agricultural services and inputs. Figure13 shows the major production constraints across LGAs

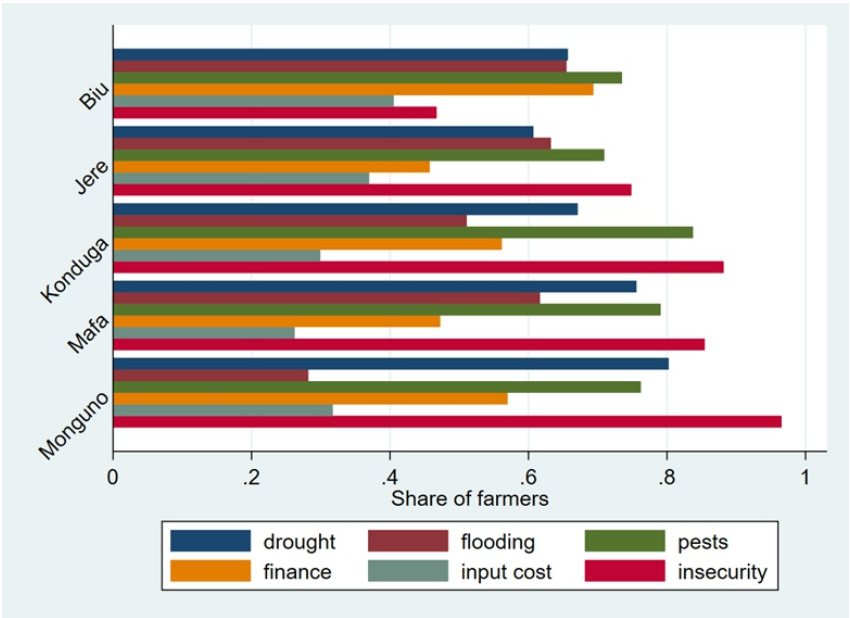

Figure 13: Major production constraints across LGAs

6. Vulnerability, Resilience and Climate Smart Agriculture Analysis

To provide a multidimensional assessment of farmer welfare and adaptive capacity, the census constructed three composite indices: the Farmer Vulnerability Index (FVI), Farmer Resilience Index (FRI), and Climate Smart Agriculture Index (CSAI). The findings reveal high levels of vulnerability, with 66.5 percent of farmers classified as highly vulnerable and only 1.6 percent exhibiting low vulnerability. Vulnerability is most pronounced in Monguno, Mafa, and Biu, reflecting the combined effects of insecurity, climatic shocks, limited assets, and inadequate access to services and markets. The resilience and smart agriculture analyses indicate generally weak adaptive capacities and uneven development outcomes across the pilot LGAs. Farmers with diversified livelihoods, stronger asset bases, and better access to markets and agricultural services consistently exhibit higher resilience and greater adoption of smart agricultural practices. Overall, the findings underscore the need for targeted interventions that reduce vulnerability while strengthening access to productive assets and services, promoting livelihood diversification, and accelerating the adoption of climate-smart and resilient agricultural systems.



6.1 Farmer Vulnerability Index (FVI)

The Farmer Vulnerability Index (FVI) reveals exceptionally high levels of vulnerability across the pilot LGAs. As shown in Figure 14, approximately 66.5 percent (68,000 farmers) are classified as highly vulnerable, while about 31.9 percent (32,000 farmers) fall within the moderate vulnerability category. In contrast, only about (1.6 percent (1,600 farmers) exhibit low vulnerability. The predominance of moderate and high vulnerability reflects the combined effects of insecurity, climatic shocks, displacement, limited productive assets, and inadequate access to agricultural services and markets, underscoring the urgent need for targeted interventions to strengthen resilience and reduce vulnerability across Borno State.

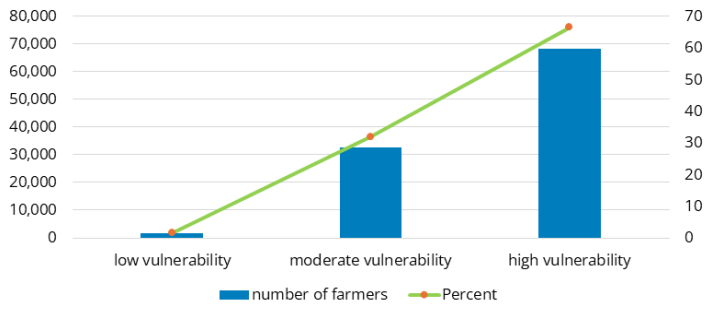

Figure 14: Distribution of Farmers by Vulnerability Category.

Figure 15 reveals notable geographic disparities in vulnerability levels across the pilot LGAs. Monguno recorded the highest mean and median vulnerability scores (79 and 80, respectively), followed by Mafa (76 and 80), Biu (75 and 76), and Konduga (74 and 76), while Jere exhibited the lowest scores (70 for both the mean and median). Across all the LGAs, the consistently high scores indicate that vulnerability remains widespread, reflecting the cumulative effects of insecurity, climatic shocks, limited productive assets, and inadequate access to agricultural services. The particularly elevated scores in Monguno and Mafa suggest that these areas face more severe and persistent livelihood challenges and may therefore require priority attention in resilience-building and agricultural recovery interventions.

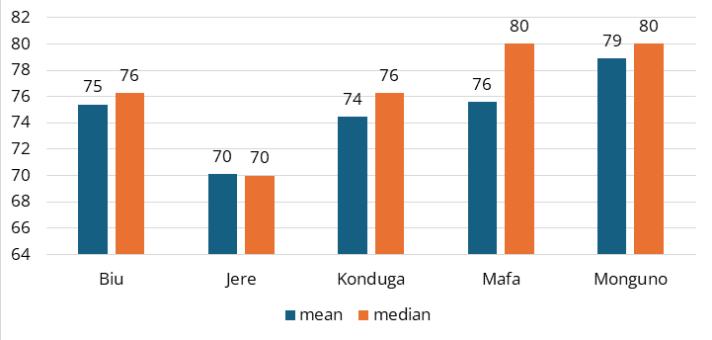

Figure 15: Mean and Median Farmer Vulnerability Scores by LGA

As shown in Figure 16, high vulnerability prevails across all five pilot LGAs. Monguno records the highest proportion of highly vulnerable farmers (79 percent), followed by Mafa (69 percent), Biu (67 percent), and Konduga (66 percent), while Jere exhibits the lowest share (58 percent). Moderate vulnerability accounts for between 21 percent in Monguno and 38 percent in Jere, whereas the proportion of farmers classified as having low vulnerability is negligible across all LGAs, ranging from 0 to 3 percent. These findings highlight the widespread and persistent nature of farmer vulnerability in Borno State and underscore the need for geographically targeted interventions, particularly in Monguno and Mafa, where the concentration of highly vulnerable households is greatest.

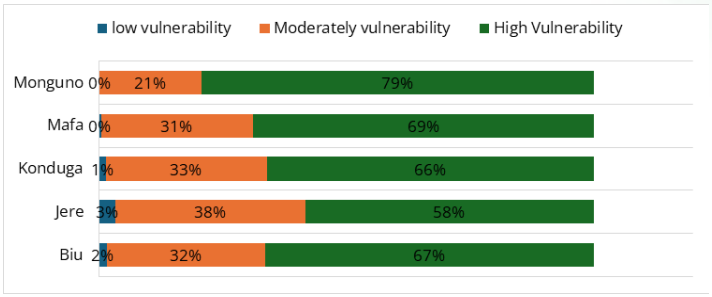

Figure 16: Distribution of Farmer Vulnerability Categories by LGA

6.2 Climate-Smart Agriculture Index (CSAI)

The Climate-Smart Agriculture Index (CSAI) reveals generally low levels of adoption of climate-smart agricultural practices across the pilot LGAs. As shown in Figure 17,Konduga recorded the highest mean score (32.9), closely followed by Mafa (32.3) and Jere (29.9), while Monguno (27.4) and Biu (26.6) recorded comparatively lower scores. The relatively low scores across all LGAs suggest that the adoption of improved seeds, irrigation, sustainable land management practices, and other climate-smart technologies remains limited. These findings highlight the need for increased investments in climate-smart agriculture, including improved access to technologies, extension services, climate information, and productive inputs, to strengthen farmers' adaptive capacities and resilience to climate-related shocks.

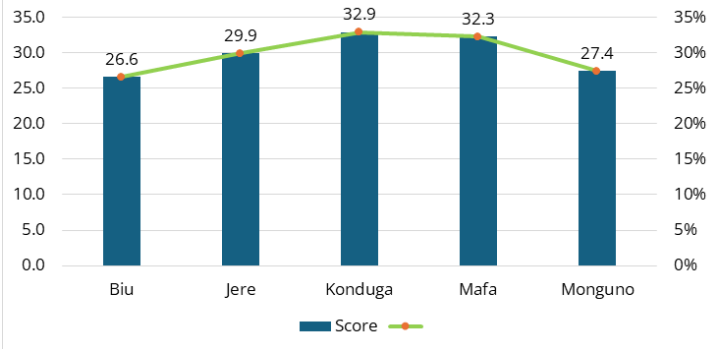

Figure 17: Mean Climate-Smart Agriculture Index by LGA

6.3 Resilience Capacity Index (RCI)

Figure 18, shows that the Resilience Capacity Index (RCI) is concentrated at the lower end of the distribution, with most farmers recording scores between 10 and 35 points and relatively few exceeding 50 points. The distribution is positively skewed, indicating that while a small proportion of farmers possess relatively strong resilience capacities, the majority have limited ability to absorb, adapt to, and recover from shocks. The low concentration of high resilience scores reflects widespread constraints in access to productive assets, livelihood diversification, markets, and agricultural services, underscoring the need for targeted investments to strengthen farmers' adaptive capacities and resilience across the pilot LGAs.

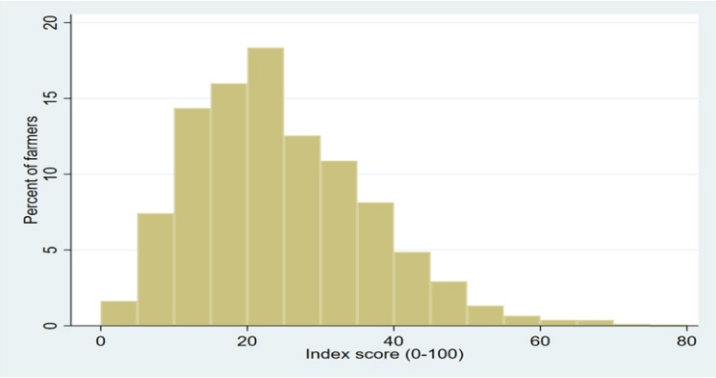

Figure 18: Distribution of Farmer Resilience Index (FRI)

The Farmer Resilience Index (FRI) indicates generally weak resilience capacities across the pilot LGAs. As shown in Figure 19 approximately 91,000 farmers (about 89 percent) are classified as having low resilience, while around 10,000 farmers (about 10 percent) exhibit moderate resilience. The proportion of farmers with high resilience is negligible, accounting for less than 1 percent of the farming population. The predominance of low resilience reflects widespread constraints in productive assets, livelihood diversification, market integration, and access to agricultural services, highlighting the urgent need for investments that strengthen farmers' capacities to absorb, adapt to, and recover from recurrent shocks.

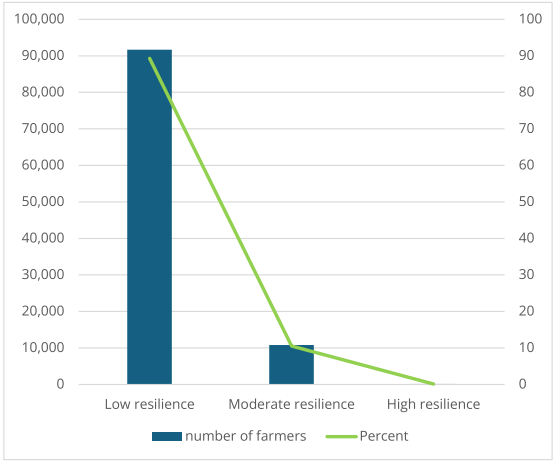

Figure 19: Distribution of Farmers by Resilience Category

6.4 Dimensions of Farmer Resilience and Agricultural Development by LGA

Figure 20 presents the underlying dimensions of resilience and agricultural development across the pilot LGAs. Overall, market access and agronomic and input practices record the highest scores, with market access ranging between approximately 51 to 59 points, and agronomic and input practices from 41 to 51 points. In contrast, access to services remains the weakest dimension, with scores ranging from only 14 to 21 points, reflecting limited access to extension services, finance, irrigation, and other support services. Scores for the Farmer Resilience/Readiness Index, Productive Asset Index, and Climate-Smart Agriculture Index are generally moderate and exhibit noticeable variation across locations. Across LGAs, Konduga consistently records the strongest performance, particularly in resilience readiness, market access, access to services, and climate-smart agriculture, while Mafa and Monguno exhibit comparatively lower scores in service access and resilience readiness. The findings suggest that although farmers demonstrate moderate levels of market integration and adoption of agronomic practices, deficiencies in productive assets and, especially, agricultural services continue to constrain resilience and agricultural transformation. These disparities highlight the need for geographically targeted investments that simultaneously strengthen productive capacities, service delivery, and climate-smart agricultural practices across the pilot LGAs.

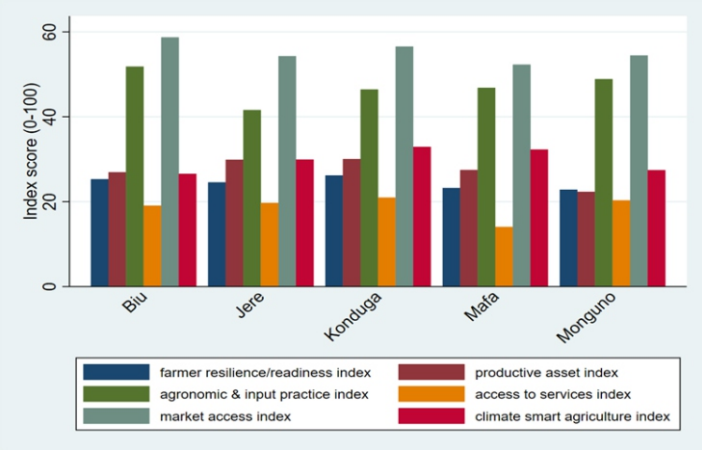

Figure 20: Dimensions of Farmer Resilience and Agricultural Development by LGA

Annexes

A.1 Construction of Farmer Indices

A1.1 Rationale for the Index Approach

While descriptive statistics provide important information on the characteristics of farming households, they often fail to adequately capture the multidimensional nature of agricultural livelihoods and household wellbeing. Farmers differ significantly not only in demographic characteristics and production systems but also in their exposure to shocks, access to productive resources, adaptive capacities, and ability to recover from adverse events. Hence, an index-based analytical framework is adopted to provide a more comprehensive assessment of farmer welfare, vulnerability, and resilience. The indices were constructed to synthesize information from multiple indicators into composite measures that facilitate comparison across households, communities, wards, and Local Government Areas (LGAs). The approach enables the identification of priority populations requiring intervention, the ranking of communities according to levels of vulnerability and resilience, and the generation of evidence for targeting agricultural and resilience-building programmes. Where appropriate, indicators were standardized and normalized to produce scores ranging from 0 to 100, with higher values representing greater intensity of the underlying construct.

Index	Purpose	Scale
Vulnerability Index	Measures exposure and susceptibility to shocks	0-100
Resilience Index	Measures capacity to absorb and recover from s	0-100
Climate Smart Agriculture index	Measures adoption of climate smart practices	0-100
Crop Diversification index	Measures crops diversification	0-1
livestock Asset index	Measures livestock assets and wealth	Continuous
Income diversification index	Measures income diversification	0-1
Input access index	Measures access to productive inputs	0-100
Extension Services Access Index	Measures access to extension services	0-100

Table 2: Description of indices constructed

A1.2 Farmer Vulnerability Index (FVI)

The Farmer Vulnerability Index (FVI) measures the extent to which farming households are susceptible to economic, environmental, and security-related shocks and their limited capacity to withstand them. The index combines indicators relating to insecurity and conflict, climatic shocks (floods and droughts), displacement, crop and livestock losses, household dependency, and limited access to productive assets and agricultural services. These indicators were standardized and aggregated into a composite score ranging from 0 to 100, with households classified as having low (0–33), moderate (34–66), or high (67–100) vulnerability. Higher scores indicate greater susceptibility to livelihood disruption, food insecurity, and welfare deterioration following adverse shocks.

A1.3 Farmer Resilience Index (FRI)

The Farmer Resilience Index (FRI) measures the ability of farming households to absorb, adapt to, and recover from shocks while maintaining or improving their livelihoods. The index combines indicators of absorptive capacity (assets, savings, food reserves, and livestock holdings), adaptive capacity (crop and income diversification, irrigation, and adoption of improved technologies), and transformative capacity (access to extension services, markets, credit, and farmer organizations). The composite index was standardized on a scale of 0 to 100 and categorized as low (0–33), moderate (34–66), and high (67–100) resilience, with higher scores indicating greater capacity to withstand and recover from shocks and stresses.

A1.4 Crop Diversification Index (CDI)

The Crop Diversification Index (CDI) measures the extent to which farming households cultivate multiple crops rather than relying on a single enterprise. The index captures an important risk management strategy, as crop diversification reduces exposure to production, climatic, and market risks while improving income stability and dietary diversity. It was computed using either the number of crops cultivated or the Simpson Diversification Index ($CDI=1-\Sigma P_i^2$), where P_i represents the proportion of cultivated land allocated to each crop. The index ranges from 0 to 1, with values close to 0 indicating specialization in a single crop and values close to 1 indicating highly diversified farming systems. Higher diversification scores are generally associated with stronger resilience and improved food security outcomes.

A1.5 Livestock Asset Index (LAI)

The Livestock Asset Index (LAI) measures the productive and financial assets held by farming households in the form of livestock. Livestock constitutes an important component of rural livelihoods by providing income, food and nutrition, productive assets, and a means of savings and insurance against shocks. To account for differences in the economic and productive values of various animal species, livestock holdings were converted into Tropical Livestock Units (TLUs) and aggregated into a composite measure of livestock wealth. Higher livestock asset scores generally indicate greater household wealth, stronger coping capacities, and improved resilience to economic and environmental shocks.

A1.6 Income Diversification Index (IDI)

The Income Diversification Index (IDI) measures the extent to which households rely on multiple sources of income rather than a single livelihood activity. The index incorporates income generated from crop and livestock production, petty trading, wage employment, casual labour, remittances, and other non-farm enterprises. It was computed using either a count-based approach or diversification measures such as the Simpson Index. Higher scores indicate greater livelihood diversification, reflecting stronger economic resilience through more stable earnings and reduced exposure to sector-specific shocks.

A1.7 Market Access Index (MAI)

The Market Access Index (MAI) measures the extent to which farming households are integrated into input and output markets. The index combines indicators relating to distance to markets, road quality, availability of transportation, access to market information, mobile phone ownership, and participation in produce markets. Higher market access scores indicate lower transaction costs, better connectivity to markets, greater opportunities for commercialization, and improved income-generation potential.

A1.8 Input Access Index (IAI)

The Input Access Index (IAI) measures households' ability to obtain productive agricultural inputs necessary for improving agricultural productivity. The index incorporates indicators relating to access to improved seeds, fertilizers, agrochemicals, irrigation services, and farm mechanization services. Higher index scores indicate greater access to productivity-enhancing inputs and technologies and, consequently, stronger prospects for increasing agricultural production, efficiency, and resilience.

A1.9 Extension Service Index (ESI)

The Extension Service Index (ESI) measures farmers' access to agricultural advisory and information services that support technology adoption and improved farm management practices. The index incorporates indicators relating to receipt of extension visits, participation in agricultural training, demonstration activities, and farmer field schools. Higher extension service scores indicate stronger access to knowledge, information, and technical support services, which are essential for improving agricultural productivity, technology uptake, and resilience.

A1.10 Use of the Indices for Planning and Targeting

The indices developed under the farmer census provide a robust evidence base for identifying vulnerable households, prioritizing communities for resilience investments, targeting agricultural inputs and services, monitoring changes in farmer wellbeing over time, comparing development outcomes across locations, and designing differentiated interventions based on household needs and capacities. Collectively, these indices offer a comprehensive and multidimensional understanding of farming systems and household welfare that extends beyond conventional descriptive statistics and provides a strong empirical foundation for policy formulation, programme targeting, and resilience programming in Borno State.

Annex A.2 Farmers enumerated per ward

Biu		
Ward	Farmers	Percent
Buratai	877	3.71
Dadin Kowa	917	3.88
Dugja	4,340	18.34
Garubula	944	3.99
Gur	213	0.9
Kenken	3,501	14.79
Mandara Girau	280	1.18
Miringa	3,264	13.79
Old Maiduguri	1	0
Sulumthla	3,183	13.45
Yawi	2,586	10.93
Zarawuyaku	3,558	15.04
Total	23,664	100

Jere		
Ward	Farmers	Percent
Alau	2,846	9.05
Bale Galtimari	3,569	11.35
Dala Lawanti	1,530	4.86
Dusuman	2,311	7.35
Gomari	1,666	5.3
Gongulong	2,534	8.06
Maimusari	1,636	5.2
Mairi	2,739	8.71
Mashamari	4,669	14.84
Ngudaa/Addamari	2,369	7.53
Old Maiduguri	4,600	14.62
Tuba	985	3.13
Total	31,454	100

Mafa		
Ward	Farmers	Percent
Abbari	487	3.17
Anadua	71	0.46
Gawa	547	3.56
Koshebe	1,096	7.14
Laje	794	5.17
Limanti	1,032	6.72
Loskuri	1,530	9.97
Ma'afa	77	0.5
Mafa	2,998	19.53
Masu	1,801	11.74
Mujigine	148	0.96
Tamsu Ngamdua	4,766	31.05
Total	15,347	100

Monguno		
Ward	Farmers	Percent
Damakuli	16	0.09
Kaguram	775	4.5
Kuda	1	0.01
Kumalia	586	3.4
Mairi	1	0.01
Mandala	891	5.17
Mintar	1,963	11.39
Mofio	191	1.11
Monguno	10,890	63.21
Ngurno	474	2.75
Sure	167	0.97
Wulo	488	2.83
Yele	641	3.72
Zulum	144	0.84
Total	17,228	100

Konduga		
Ward	Farmers	Percent
Auno / Chabbol	5,145	34.45
Badu	2	0.01
Dalori / Wanori	2,482	16.62
Damaram	1	0.01
Dawa East / Malari / Kangamari	158	1.06
Gajiram	101	0.68
Jewu / Lamboa	71	0.48
Jigalta	1	0.01
Kawuri	117	0.78
Kelumiri / Ngalbi Amari / Yale	32	0.21
Konduga	6,093	40.8
Maimusari	1	0.01
Mairamri / Yeleri / Bazamri	593	3.97
Masba / Dalwa West	10	0.07
Nyaleri / Sandia / Yejiwa	1	0.01
Sabsabuwa	1	0.01
Sojiri / Nguro-Nguro	123	0.82
Sugundure	1	0.01
Total	14,933	100

BORNO STATE GOVERNMENT

MINISTRY OF AGRICULTURE AND NATURAL RESOURCES

IN PARTNERSHIP WITH

WFP
World Food Programme

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ACTION AGAINST HUNGER

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SCAN ME