

CONDUCT OF PLOT AREA MEASUREMENT AND YIELD ASSESSMENT OF BENEFICIARY FARMERS FOR THE WET AND DRY SEASON FARMING IN KANO AND OGUN STATES

1.0 Background

The Federal Government of Nigeria has received a facility from the African Development Bank (AfDB), the International Fund for Agricultural Development (IFAD), and the Islamic Development Bank (IsDB) to finance the cost of the Special Agro-Industrial Processing Zones Program (SAPZ), and intends to apply part of the proceeds towards carrying out various consultancy services. The SAPZ Program is being implemented in the seven (7) States and the Federal Capital Territory (FCT). The States are Cross River, Imo, Kaduna, Kano, Kwara, Ogun, and Oyo.

The overall development objective of the SAPZ program is twofold: (1) Support the development of SAPZ in high food production areas to supply the domestic food market and create exportable surpluses; and (2) Capacitate smallholder farmers, small agro-processors, and traders, and community-based service providers, including women and youth; to take advantage of the market demand created by the SAPZ to sustainably enhance their income, household food security and resilience to climate change.

The program has four components, namely:

➤ **Component 1:** Infrastructure Development and Management for Agro-Industrial Hubs (AIHs).

Under this AfDB-led component, the program will support the FGN in developing and setting up SAPZs in high-potential states.

➤ **Component 2:** Agricultural Productivity, Production, Market Linkages, and Value Addition in SAPZ Catchment Areas. Under this component, SAPZ's objective is threefold: (i) support smallholder farmers and small operators to increase their productivity/production and capacity to add value to raw materials on a profitable and environmentally sustainable basis; and (ii) link them to the additional market outlets offered by the Agro-Industrial Hubs (AIHs), off-takers supplying the local and national market who operate in the target area, and small processors/traders supplying the local markets, including primary processors operating in the Agricultural Transformation Centres (ATCs); iii) enhance the resilience and adaptive capacity of smallholder farmers to climate change..

➤ **Component 3:** Policy and Institutional Development Support. The objective of component 3 is to support the development of enabling policies, legislation, and regulation for SAPZs in Nigeria to create a conducive business environment for private sector investment and to address inefficiencies and market failures in agricultural value chains.

➤ **Component 4:** Program Coordination and Management. This component will ensure that the program is efficiently and effectively managed to achieve expected results.

In line with the objectives of improving food security and supporting smallholder farmers in Kano and Ogun States, various agricultural interventions have been implemented, including the provision of inputs, capacity building, and access to extension services during the wet and dry farming seasons. To evaluate the effectiveness of these interventions and provide evidence-based recommendations, a comprehensive plot area measurement and yield assessment of beneficiary farmers is necessary.

The yield survey will help ascertain the actual crop output per hectare achieved by beneficiary farmers during the wet and dry seasons, and compare this with baseline and expected yield targets. The findings will contribute to performance monitoring, impact evaluation, and future program planning.

2.0 Objective

The overall objective of this assignment is to conduct a the plot area measurement and yield assessment of the supported crop farmers for the wet and dry seasons in Kano and Ogun State.

The specific objectives include:

- ✓ Determine the plot area cultivated by SAPZ beneficiary farmers during the 2025 wet and dry seasons in Kano and Ogun States.
- ✓ Obtain the geo-coordinates of the plots of surveyed beneficiary farmers and geo-reference them on google earth
- ✓ To assess crop yields (rice, groundnut and tomato in Kano and cassava and rice in Ogun) per designated land area cultivated by the project beneficiary crop farmers.

- ✓ To compare yield performance between wet and dry season, and with the general state yield average as reported by other state agencies and NAERLS.
- ✓ To evaluate factors influencing yield variations including input use, extension support, and farming practices.
- ✓ To identify challenges and opportunities to improve productivity in the program areas.

3. Scope of Work

The consultant will undertake the following key tasks:

i. **Survey design and methodology:**

- ✓ Develop survey tools and data collection methodology (quantitative and qualitative).
- ✓ Define sampling strategy to ensure representativeness across LGAs and clusters
- ✓ Align survey instruments with project indicators.

ii. **Data collection:**

- ✓ Train enumerators on data collection protocols and tools.
- ✓ Conduct field data collection across selected LGAs in Kano State.
- ✓ Collect data on farm size, crop type, inputs used, production quantity, and agronomic practices.

iii. **Plot Area Measurement:**

- ✓ Use global positioning system (GPS) device to measure the plot areas cultivated by the beneficiary crop farmers for the wet and dry seasons Kano and Ogun State
- ✓ Also, use the GPS device to determine the coordinates of the farmers plots being surveyed.
- ✓ Geo-reference all the surveyed plots with the details of each farmer on google earth

iv. **Yield measurement:**

- ✓ Use standard crop-cutting technique to estimate yields.
- ✓ Validate self-reported data with physical measurements on sample plots.

v. **Data analysis:**

- ✓ Analyze data to calculate average yields per crop per land size.
- ✓ Compare beneficiary performance across wet and dry seasons.
- ✓ Identify key drivers of yield variation.

vi. **Reporting:**

- ✓ Prepare and submit draft and final reports including findings, tables, maps, and recommendations.
- ✓ Present findings to stakeholders for validation and feedback.

4. Deliverables

- i. Inception report outlining methodology, work plan, and tools, summary of training conducted and data collection process
- ii. Draft report to include preliminary analysis and key findings and presentation of findings to stakeholders

- iii. Final report to revised report incorporating feedback

5.0 Responsibilities of SAPZ (Special Agro-Industrial Processing Zones Program)

SAPZ, as the implementing program, will play a supervisory, facilitative, and supportive role in the successful execution of the yield assessment survey. SAPZ will be responsible for:

- i. Providing strategic oversight:
 - ✓ Ensure the alignment of the survey with the program's Monitoring and Evaluation (M&E) framework and objectives.
 - ✓ Approve survey tools, methodology, and sampling framework proposed by the Consultant.
 - ✓ The Planning Monitoring and Evaluation officer (PME) at the National Coordination Office and the Monitoring and Evaluation officer (M&E) at the State Coordination Office shall be the Focal Persons for the assignment
- ii. Facilitating access and coordination:
 - ✓ Provide letters of introduction and facilitate access to beneficiary communities and stakeholders across selected LGAs.
 - ✓ Coordinate with state-level agricultural authorities, extension officers, and other relevant stakeholders.
- iii. Provision of data and resources:
 - ✓ Share relevant background documents, baseline data, and beneficiary lists with the Consultant.
 - ✓ Assist in the identification of key informants and focus group participants.
- iv. Monitoring and quality assurance:
 - ✓ Monitor fieldwork activities to ensure quality and adherence to ethical standards.
 - ✓ Participate in the validation of findings and provide feedback on draft deliverables.

6.0 Responsibilities of the Consultant

The Consultant (individual firm) contracted to carry out the yield assessment survey shall be responsible for the full execution of the assignment as outlined in the ToR. Key responsibilities include:

- i. Technical design and implementation:
 - ✓ Design and implement the methodology for the yield survey, including sampling, tools development, and data collection plan.
 - ✓ Ensure the survey design captures both wet and dry season farming across beneficiary locations.
- ii. Field operations:
 - ✓ Recruit, train, and deploy enumerators and supervisors for field data collection.
 - ✓ Conduct physical yield measurements (crop cuts) and/or farmer interviews depending on the crop and context.
- iii. Data quality and ethics:
 - ✓ Ensure data collected is accurate, reliable, and ethically obtained.

- ✓ Safeguard the confidentiality and integrity of all farmer-level data.
- iv. Analysis and reporting:
 - ✓ Analyze the collected data using appropriate statistical methods.
 - ✓ Prepare and submit timely reports, including draft and final versions with clear findings and recommendations.
- v. Stakeholder engagement:
 - ✓ Engage relevant stakeholders at community and state levels for validation of findings.
 - ✓ Present findings to SAPZ and relevant stakeholders during the validation workshop.
- vi. Compliance with timeline:
 - ✓ Execute all deliverables within the agreed timeline.
 - ✓ Inform SAPZ in advance of any potential delays or challenges and propose mitigation measures.

7.0 Expected Outcomes

The yield assessment survey is expected to generate evidence-based insights into the performance of project beneficiaries across wet and dry season farming cycles in Kano State. The key expected outcomes of the assignment are:

- ✓ Accurate, disaggregated yield data (e.g., tons per hectare) for the cultivated crops cultivated by beneficiaries during both the wet and dry seasons.
- ✓ Clear understanding of yield differences and similarities between wet and dry season farming across various crops and locations.
- ✓ Documentation of key agronomic, environmental, and socio-economic factors contributing to yield variations among beneficiaries.
- ✓ Evaluation of the extent to which the inputs, extension support, and other project interventions have contributed to changes in yield performance.
- ✓ Actionable recommendations for improving input delivery, agronomic support, farmer training, and overall program design based on field findings.
- ✓ Provision of data and insights to strengthen the SAPZ's M&E systems, enabling better tracking of outcomes and planning for future interventions
- ✓ Detailed report of the survey.
- ✓ Improved stakeholder understanding and buy-in through presentation and validation of results with key actors including government agencies, farmer groups, and project partners.

8.0 Required qualifications of the Consultant

The assignment requires a qualified and experienced individual consultant or consulting firm with a strong background in agricultural surveys, particularly in yield assessment. The consultant should possess the following minimum qualifications and competencies:

- i. General qualifications
 - ✓ A minimum of a Master's degree in Agriculture, Agricultural Economics, Agronomy, Statistics, Rural Development, or other relevant fields.

- ✓ At least 10 years of proven experience in conducting agricultural surveys, crop yield assessments, or similar field-based evaluations, preferably in Northern Nigeria or similar agro-ecological zones.
- ✓ Demonstrated knowledge of standard yield measurement techniques (e.g., crop-cut method, farmer recall, GPS-based farm size measurement).

ii. Technical competencies

Strong understanding of smallholder farming systems, seasonal farming practices (wet and dry seasons), and crop production dynamics.

- ✓ Proficiency in data collection and analysis tools (e.g., ODK/KOBO for field data collection; SPSS, STATA, or R for analysis).
- ✓ Experience designing statistically sound sampling strategies and field protocols for agricultural yield surveys.
- ✓ Ability to lead and manage field teams, including enumerators and supervisors.
- ✓ Evidence of similar assignments previously conducted (attach at least two sample reports or references).
- ✓ Ability to deploy and manage a field team within tight timelines.
- ✓ Demonstrated commitment to ethical research standards and data confidentiality

iii. Methodological expertise

- ✓ Experience in applying mixed-method approaches (quantitative and qualitative) to agricultural evaluations.
- ✓ Familiarity with Monitoring and Evaluation (M&E) frameworks used by development programs, especially those focused on agriculture and rural development.
- ✓ Ability to produce high-quality reports and actionable recommendations based on field findings.

9.0 Payment schedule:

- ✓ 20% of the contract sum upon submitting and accepting the inception report.
- ✓ 50% of the contract sum upon submission and acceptance of the draft report
- ✓ 30% of the contract sum upon submission and acceptance of the final report

10.0 Duration of Assignment

The assignment is expected to be completed over a period of 12 weeks from the date of contract signing.

11.0 Reporting/submission of reports

The consultant will report to the National Program Coordinator throughout the duration of the assignment