FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Michigan State University
In partnership with the
International Food Policy Research Institute

Feed the Future Nigeria Agricultural Policy Project

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Year 3 Work Plan

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LIST OF ACRONYMS

ABU	Ahmadu Bello University
ADAN	Association of Deans of Agricultural Universities
ADP	Agricultural Development Programs
ADWG	Agricultural Donor Working Group
AFAN	All Farmers Association of Nigeria
AFVN	Association of Food Vendors of Nigeria
AGSA	African Graduate Students Association
ANR	Michigan State University College of Agriculture and Natural Resources
APRNet	Agricultural Policy Research Network
APP	Agriculture Promotion Policy
ARCN	Agricultural Research Council of Nigeria
CAP-F	Country Agribusiness Partnerships Framework
CAADP	Comprehensive Africa Agriculture Development Programme
CAPI	Computer Assisted Personal Interviews
CBO	Community Based Organization
CofO	Certificate of Occupancy
DC	District of Columbia
FCT	Federal Capital Territory
FECA	Federal College of Agriculture
FIWON	Federation of Informal Workers of Nigeria
FMARD	Federal Ministry of Agriculture and Rural Development
FtF	Feed the Future
FUNAI	Federal University, Ndufu-Alike Ikwo
FUT	Federal University of Technology
FTF	Feed the Future
FY	Fiscal Year
GIS	Geographic Information System
GON	Government of Nigeria
HMA	Honorable Minister of Agriculture
IFPRI	International Food Policy Research Institute
IFDC	International Fertilizer Development Centre
IP	Implementing Partner
JSR	Joint Sector Review
LGA	Local Government Area
LSMS	Living Standards Measurement Survey
LSMS-ISA	Living Standards Measurement Survey-Integrated Surveys on Agriculture
MSU	Michigan State University
NA	Not Applicable
NABG	Nigeria Agribusiness Group
NAERLS	National Agricultural Extension Research and Liaison Services
NAIP	National Agricultural Investment Plan
NGE	Nigerian Guild of Editors
NGO	Non-Governmental Organization
NSSP	Nigeria Strategy Support Program
NUJ	Nigerian Union of Journalists
R&D	Research and Development
RS	Research Supervisors
SLTR	Systematic Land Tenure Regularization

UK	United Kingdom
USAID	United States Agency for International Development
UI	University of Ibadan
USG	United States Government
YISA	Youth Initiative for Sustainable Agriculture

EXECUTIVE SUMMARY

Year 3 finds the Feed the Future Nigeria Agricultural Policy Project poised to make important contribution to the policy environment in Nigeria. This is seen in each of the 3 program components.

1. A Strategy for Enhancing National Agriculture and Food Security Policy Capacity

Capacity building activities for FMARD and its relevant agencies (e.g. Agricultural Research Council of Nigeria) are designed to support federal efforts to improve its capacity to plan and implement effective policy and analyses and programs, and demand and absorb policy research in their policy processes. Capacity building activities from the Project in year 3 will build on the momentum gained in Year 2. Several activities planned include the project's support for FMARD through its heavy involvement in the Joint Sector Review (JSR) process in connection with the Comprehensive Africa Agriculture Development Programme (CAADP) implementation in Nigeria, as well as other recent FMARD initiatives such as National Agricultural Investment Plan (NAIP), Agriculture Promotion Plan (NAIP) and Country Agribusiness Partnerships Framework (CAP F). Two important capacity building activities of the Project in Year 3 are an economy wide modelling and macroeconomic adjustment course (focusing on both the state and federal level) and support for the development and implementation of extension policy reforms (at both the federal and state level).

A new capacity building effort in Year 3 is active involvement in the National Assembly. In response to a recent request by a member of the Senate for training on policy communication, the policy project plans to organize training courses on policy communication with Senate media personnel. At the state level, several consultations with various media houses (print, radio and TV) were held, where the articulated demand for support on generating and disseminating evidence based media productions was made. The policy project plans to respond to this demand through various training activities in year 3.

Also at the state level, other capacity building activities in Year 3 will build on the success of Year 2. Following several trainings, workshops and the joint production of state policy notes focused on priority crops of respective states, the policy project has received requests for further training and collaboration at the state level. In Year 3, the project will support the policy process in two of the seven Feed the Future (FTF) focus states. Mentoring of ministry staff and academics will continue to be key in state level activities to ensure their ability to continue this type of work in the future. Various courses will be delivered to project stakeholders at national and state level in Year 3 (please see relevant component section of the work plan for details), building on courses offered in previous years of the project and responding to the requests and needs of stakeholders. The Policy project will focus efforts on the seven FTF focus states in line with the USAID/Nigeria request in its bid to strengthen the capacity of Nigerian analysts to undertake and make widely available relevant evidence-based policy analysis. However, assistance will be provided to neighboring states to the FTF focus states at the particular state's own expense.

2. Policy driven collaborative research and analysis.

The policy driven collaborative research and analysis component in Year 3 will continue to directly support the knowledge needs of the policy process at the federal and state level. Particular emphasis will be placed this year on selected FTF focus states, FMARD and the FCT. However, assistance will be provided to neighboring states if they are able to leverage resources with the focus states to make it happen. Following consultation with various stakeholders, the particular focus of the new APP strategy, and taking also into account research capacity and expertise at both IFPRI and MSU, policy relevant research in Year 3 of the Project will be carried out on the following topics, classified under the following thematic areas:

Leveraging the principal drivers of agricultural transformation and rural income

- Agricultural mechanization
- Assessment of agricultural storage infrastructure and market characteristics in Nigeria
- Monitoring and evaluating the agricultural sector's role in macroeconomic adjustment
- Research to support the promotion of key priority crops/industries in selected FtF states

Land governance and institutional strengthening for agricultural transformation and investment

- Understanding the landscape for land access and its relation to food security
- Land access, migration decisions and youth employment in the Nigerian agricultural sector
- Subnational panel data analysis of public investment's agricultural welfare effects

Agriculture transformation and nutrition

- Leveraging agriculture transformation for improving food and nutrition security in rural Nigeria

Climate change and agricultural resilience

- Environment and agricultural resilience

Political economy of policy making in Nigeria

- The political economy of informal food retail trade: The case of Nigeria's secondary cities

3. Strengthening evidence-based policy process and promoting impact

The Policy Project seeks to systematically bring stakeholders in the policy process together to share knowledge that can contribute to improved policy processes and promote impact.

Federal level engagement: Support to FMARD remains a key objective of the Project. The Project has continuously strengthened the good partnership with FMARD since inception. FMARD has two representatives on the Policy Project's National Advisory Committee and the project has regular meetings with FMARD management and senior advisors to the HMA, among others. Following the approval of the Honorable Minister of Agriculture and Rural Development, Chief Audu I. Ogbeh, for the conduct of a Joint Sector Review (JSR) and the formulation of a National Agriculture Investment Plan (NAIP), a multi-stakeholders Steering Committee for Joint Sector was constituted in February 2017. Dr. Mavrotas on behalf of the project serves on that committee (following a nomination by FMARD) and has so far actively participated in various high-level consultation meetings organized by FMARD on the JSR process. Currently and continuing in year 3, the Project is expected to be instrumental in actively advising the Ministry on this important policy front. In addition, we anticipate participating in/organizing various policy roundtables in Year 3 for the National Assembly and ARCN focusing on agricultural transformation issues and challenges in Nigeria based on articulated demand.

State level engagement: In Year 2, the project supported the production of state level policy notes that were generated on priority crops of each state by staff of the state ministry of agriculture. Each policy note was handed over to the Commissioner of Agriculture and/or their permanent secretary in each FTF focus state. The policy notes were well received with all states endorsing them as state

policy documents originating from their ministry. In Kebbi, the policy note was personally endorsed by the governor. Each state has made requests for similar documents on other crops to be generated to support government efforts to boost their agricultural sector. The project has also been requested by 4 states to assist them in preparing/reviewing their State Agricultural Policies. The support for two states will be further developed in year 3 based on state specific needs.

Engagement with non-government stakeholders: The project has made significant efforts to engage with the private sector and non-governmental stakeholders nationally and in the seven FTF focus States. These include the private sector, farmer groups, research networks, professional associations and the media. Following a consultation with media in Abuja and six consultations with state level media houses, media engagement will continue to play a key role in Year 3. The project is planning training courses on policy communication for media practitioners in the senate as part of Component 3 activities. Other trainings are planned for media organizations across the FTF focus states as well as other stakeholders as part of strengthening dialogue in the policy process.

WORK PLAN COMPONENTS

The work that will be done is described in detail here, organized according to the three project components mentioned in the Executive Summary above for project Year 3 (October 2017 through September 2018).

Component 1: A Strategy for Enhancing National Agriculture and Food Security Policy Capacity

Activity 1.1 FMARD/National Trainings:

<table>
<tr><td colspan="2">1.1.1 FMARD Capacity Building Activities</td></tr>
<tr><td>Lead: IFPRI</td><td>Location: Federal Capital Territory</td></tr>
<tr><td colspan="2">Justification: Capacity building activities for FMARD are designed to support federal efforts to improve its capacity to plan and implement effective policies and programs with a focus on CAADP, NAIP, APP and CAP-F, and demand and absorb policy research in their policy processes. Along these lines courses to be offered in Year 3 include:
1 Policy analysis using Stata/Excel
2 Results based monitoring and evaluation
3 Policy communications
4 Building capacity for developing and implementing extension policy reforms[1]
5 Economy wide modelling and macroeconomic adjustment[2]</td></tr>
<tr><td colspan="2">Approach: A 2-3-day (the duration of the course will depend on the nature of the course) training course will be organized for FMARD staff under each topic for a maximum of 25 participants. Capacity building initiatives will also include mentoring of various FMARD staff</td></tr>
<tr><td>Outputs: Capacity of 70 FMARD officials enhanced.</td><td>Outcomes: GON implementation of policies and programs such as CAADP, NAIP, APP, CAP-F advanced.</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1 Policy analysis using Stata/Excel (Q1, Q3)
2 Results based M&E (Q2)
3 Policy communications (Q4)
4 Extension policy reforms (Q2, Q3)
5 Economy wide modelling and macroeconomic adjustment (Q1, Q2)</td><td>5) Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. Standard FtF Indicator EG.3.2-1 [70]

7)Number of government units or divisions that have received short-term training disaggregated by New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) (Custom) [8]</td></tr>
</table>

[1] This is a new proposed training course for FY2018. Please see Appendix E for further details.
[2] This is a new proposed training course for FY2018. Please see Appendix E for further details

6 Technical training evaluations	Feedback on training courses and suggestions for future training courses

1.1.2 National Training (Universities, think tanks, research institutions, CBOs, NGOs)	
Lead: IFPRI	**Location: Seven FTF focus states and University of Ibadan**
Justification: Capacity building activities under this component are undertaken to strengthen the national capacity for greater evidence based policy processes in agriculture by increasing the capacity of Nigerian policy analysts in Universities, research institutions, CBOs, think tanks etc. to formulate and use widely available relevant evidence-based policy analysis to support GON's implementation of policies and programs such as CAADP, NAIP, APP and CAP-F. Courses to be delivered include: 1 Policy analysis using Stata/Excel (FUNAI, UI, Ebonyi State University, FUT-Minna, University of Calabar, Federal University, Birnin-Kebbi, Delta State University, Federal University of Agriculture, Makurdi, IFDC), 2 Results based monitoring and evaluation (UI, Federal University of Agriculture, Makurdi) 3 Policy communications (University of Calabar, Federal University of Agriculture, Makurdi, APRNet) 4 Computer Assisted Personal Interviews-CAPI (ABU) 5 Ad hoc training courses demanded by other universities, thinktanks, research institutions, NGOs, CBOs from FTF focus states	
Methodology/Approach: A 2-3 day[3] training course will be organized for university participants under each topic for a maximum of 25 participants.	
Outputs: Capacity of 455 officials of universities, research institutions, CBOs, think tanks NGOs officials enhanced.	**Outcomes:** Ability of Universities, research institutions, CBOs, think tanks, NGOs to be pressure groups in GON enhanced.
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Policy analysis using Stata/Excel (Q1, Q2, Q3, Q4)	5) Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. Standard FtF Indicator EG.3.2-1 [480]
2 Results based monitoring and evaluation (2)	
3 Policy communications (Q2, Q3)	
4 Computer assisted personal interviews (Q1)	
5 Ad hoc training courses demanded by other universities from FtF focused states	
6 Technical training evaluations	Feedback on training courses and suggestions for future training courses

1.2 State Trainings and capacity building efforts:

[3] Again, duration of course will depend on the nature of the course offered.

1.2.1 Data and Policy analysis training/workshop for ministry staff and academics in the 7 FTF states and Policy Analysis for Priority areas as part of research activity 2.2.3	
Lead: IFPRI	**Location:** 7 FTF states
Justification: The ability of the Nigerian states to collect or extract and critically review agriculture related data and link the information from such data to policy and programs is key for policy related discussions. These skills will be strengthened by advanced training and mentoring of Faculty and State and Local Government staff to produce policy briefs on priority agricultural issues in the respective states that support GON agricultural priorities. Following the handing over of the first set of policy notes to state ministries, all seven states have requested for more of such documents to be generated for other crops and issues. This proposed training activity will be undertaken in the seven FTF states in Year 3.	
Methodology/Approach: The Project will work closely with staff from state ministries of Agriculture and ADP's and train them on the analysis of data and production of policy briefs that are related to pertinent agriculture issues at the state level. To encourage evidence based contribution to policy, academics from the selected states will also be involved in the process. To further enhance capacity building of Nigerians, this activity will also involve students that have participated in the Visiting Scholars Program at MSU.	
Outputs: • Number of officials of States and LGAs with enhanced understanding.	**Outcomes:** • Engagement of selected States and LGAs with GON and other stakeholders significantly boosted.
Sub-activities [Timing]:	**Matching indicators [Target]:**
1. Data analysis training for the 7 FTF states [Q2, Q3, Q4]	5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. [100]
2. Training for ministry staff and academics in the 7 FTF states on writing policy briefs [Q2, Q3, Q4]	7. Number of government units or divisions that have received short-term training disaggregated by New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year). [3 continuing]
3. Production of 1 draft policy brief for each of the 7 FTF states. [Q4]	Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication and Lead in policy communication developed or written [7 policy briefs in total]

Activity 1.3: Nigerian Graduate Student Capacity Building

1.3.1: Project scholars	
Lead: MSU	**Location:** MSU

Justification: 5 Nigerian graduate students and their research supervisors will come to MSU. PhD students for 2 semesters, MS students for 1 semester and research supervisors for 1 month. Generally, it is envisioned that there will be 2 PhD and 3 MS project scholars in a given academic year. However, the eventual selection may vary from the general case dependent on the pool of applicants. Additionally, new scholars will be identified for the next academic year.	
Outputs: Each scholar: • Scholars will give presentations and produce papers. • Research supervisors (RS) will present at MSU and their home institution. • RS will have new relationships to further their research/academic activities.	**Outcomes:** • Scholars will be strengthened in research/analysis and dissemination skills. • RS will return to strengthen their institutions by dialoging with faculty within their department and university.
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Pre-arrival workshop/training on data analysis (to be extended to other students and faculty in FTF states) Q2 or Q3	5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. [20]
2. Securing visa for graduate students from Nigeria: [Q1, Q3]	NA
3. Graduate students come for training at MSU: [Q1, Q2, Q3]	6. Number of individuals who have received USG supported degree-granting agricultural sector productivity or food security training. [5]
4. Nigerian Graduate student presentations at MSU/IFPRI: [Q1, Q3]	2. Number of participants attending project organized research and policy events. [35]
5. Securing visa for Nigerian professors to visit MSU and IFPRI Headquarters: [Q1, Q3, Q4]	NA
6. Nigerian professors visit MSU: [Q1, Q3]	
7. Nigerian professor's presentations at MSU: [Q1, Q3]	2. Number of participants attending project organized research and policy events. Custom indicator [30]. 5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. [5]
8. Nigerian professors' meetings with various faculty at MSU: [Q1, Q3]	NA
9. Blog used by scholars to increase dissemination of best practices. [Annual]	
10. Students identify other avenues for outreach (e.g. TV, radio etc.): [Annual]	

11. "Old" scholars give presentations in Nigeria at dissemination fora. [Q1, Q3]	2. Number of participants attending project organized research and policy events. [30]

Component 2:Policy driven collaborative research and analysis.

Activity 2.1 FMARD/National Research and analysis:

2.1.1 Leveraging agriculture transformation for improving food and nutrition security in rural Nigeria[4]	
Lead: IFPRI	**Location:** 7 FTF states
Justification: Thus far, there is no study for Nigeria that utilizes available, representative household food consumption data for food and nutrition security analysis—an untapped source of information that can help to better understand food insecurity and malnutrition patterns and contextualize (controversial) estimates of nutritional outcomes. This proposed study has two objectives: First, it will provide a regional overview of household food and nutrition security across Nigeria, seasonal differences in this situation, and changes over time. The study thereby complements previous nutrition-related studies by researchers of the International Food Policy Research Institute (IFPRI; e.g. Benson et al. 2017) and others. It is expected to provide additional insights into the reliability of available estimates of child undernutrition prevalence that are subject of an ongoing debate. Second, the study will econometrically explore the (causal) effects of agricultural production patterns on food and nutrition security indicators among farm households. It will account for key determinants of agricultural transformation in Nigeria such as household market access, food prices, agricultural seasonality, agroecological conditions, and farm household characteristics. Given Nigeria's vast regional differences in rural infrastructure endowment and agricultural production conditions between the North and the South, the study will be conducted separately for these two parts of the country in order to be able to derive differentiated policy recommendations from the empirical results. The study's findings are expected to provide new insights that can help the Government of Nigeria to formulate and implement effective policies along the APP's principles and corresponding to the AFSNS's priorities.	
Methodology/Approach: The proposed study will include two analyses: The first analysis will be (quantitatively) descriptive. It will provide estimates of average calorie and micronutrient intakes per capita and prevalence rates of respective deficiencies in Nigeria at the national and geopolitical zone levels and for rural and urban areas at each level. The estimations will be conducted for two years (2012-13 and 2015-16) and each for the post-planting and post-harvest seasons. The second analysis will econometrically estimate the (causal) effects of farm production diversity on calorie and micronutrient intakes and adequacies of farm households in North and South Nigeria. It will account for key determinants of agricultural transformation and control for farm household characteristics. The econometric model will adopt an instrumental variable (IV) approach and exploit cross-sectional and inter-temporal variations in the used household panel datasets. The estimations will apply panel data from the post-planting and post-harvest seasons of the same year—for both	

[4] Please see Appendix F for a detailed concept note.

2012-13 and 2015-16—to explore seasonality effects and panel data from the post-planting seasons in 2012-13 and 2015-16 as well as the post-harvest seasons of both years to explore longer-term effects.	
Outputs: Research paper published Policy note published Workshop presentation delivered in one of the seven FTF states	**Outcomes:** Increased awareness of household food and nutrition security across Nigeria Improved household food and nutrition security in Nigeria's agricultural households
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Form research team, request access to survey data, and review relevant literature (Q1/Q2)	4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Clean survey data and compile dataset for analyses (Q2)	NA
3 Analyze data and perform estimations (Q3)	NA
4 Draft research paper and policy note finalized (Q4)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1] 8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]

2.1.2 Subnational panel data analysis of public investment's agricultural welfare effects: Study across Nigeria and in seven selected states[5]	
Lead: IFPRI	**Location:** 7 FTF states
Justification: Despite the potentially high weight of subnational in total spending in Nigeria, no rigorously derived evidence exists to date on the impacts that subnational expenditures in agriculture have on agricultural and economic performance, and how these returns compare to those from expenditures in health, education, infrastructure, and other sectors. Recent studies, including Olomola et al. (2014) and Mogues et al. (2012), have provided quantitative albeit only descriptive trends and patterns in public expenditures in agriculture at the federal, state, and local government levels. However, detailed trends are produced at the subnational level only in a case-study approach, i.e. for a small sample of three states and three LGAs, albeit from diverse zones of the country. Two recent studies also conducted qualitative analyses on the political economy drivers of public expenditure decision-making in support of agriculture, based on key informant interviews in case study LGAs and states (Mogues and Olofinbiyi, 2016; and Olofinbiyi and	

[5] Please see Appendix F for a detailed concept note

Mogues, 2016). We propose to address this knowledge gap by conducting econometric analysis of the impacts of subnational (state and local government) public expenditures on agricultural productivity and economic welfare indicators.

Methodology/Approach: Data on state-level and LGA-level public spending will be drawn upon at the aggregate and for broad functional categories,[6] as well as data on intergovernmental transfers to states and LGAs, which will serve as key instruments in the identification strategy of the analysis. Administrative data on a range of other state and LGA level characteristics will also be employed, as these will serve as needed control variables and in other capacities in the research. Outcome variables will include agricultural productivity and economic performance indicators. A careful examination of available data at the state and local level will determine the final indicators to be used in the study. In addition to the econometric analysis using data on all states and all LGAs, in-depth and separate quantitative analysis will be performed at the state- and LGA-level for the following seven states: Benue, Cross River, Delta, Eboni, Kaduna, Kebi, and Niger.

Further discussions with key public officials and technical experts in Nigeria, primarily in international organizations conducting analysis on public finance, the Federal Ministry of Planning and Budget, Federal Ministry of Finance, Central Bank of Nigeria, and other key agencies, will also contribute to refining the specific indicators considered of primary importance to the current policy considerations.

Outputs: Working paper produced Policy brief produced Research results presented at a workshop in one of the 7 selected states	**Outcomes:** An enhanced understanding of the impacts of subnational public expenditures on agricultural productivity and economic welfare
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Research team formed (Q1/Q2)	4)Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Conceptual framework and methodology finalized (Q1)	NA
3 Data collected and organized (Q2)	NA
4 Team lead travels to Nigeria to engage face-to-face with team members and relevant government partners (Q2)	NA
5 Preliminary data analysis completed (Q3)	NA
6 Draft writeup of results completed (Q3)	NA
7 Working paper completed (Q4)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1]
8 Policy brief completed (Q4)	

[6] Experience in conducting data collection for past descriptive analysis on public expenditure patterns and trends at the subnational level in Nigeria (Olomola et al. 2014 and Mogues et al. 2012) has revealed that going beyond the broad functional categories to obtained a highly-detailed breakdown of public expenditures would require field visits to each of the states and LGAs. The focus on broad categories is thus necessitated by the prohibitive the time and resource requirements required for obtaining fine-grained spending data for each state and LGA.

	8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]

Activity 2.2 State Level Research and Analysis:

2.2.1 Understanding the landscape for land access in Nigeria and its relation to food security within the realm of various global factors --
i. Access to land for agriculture vis a vis herder/farmer clashes - Continuation from Year 2 –
ii. Land Access in relation to agricultural commercialization, smallholder farmers and emergent investor farmers.

Lead: MSU	**Location: Selected FTF Focus States**

Justification: The study is a collaborative research with relevant faculty of Nigerian Universities and Planning Research and Statistics Units of State Ministries of Agriculture. It expounds the landscape for access to land for agriculture in Nigeria in relation to food security within the realm of various global factors. The study motivation is hinged on government and the academia searching for sustainable solutions to enhancing land access in Nigeria across the several types of agriculture. Under this theme, in year 3, the ongoing study on land access for agriculture and the conflict between herder/crop farmers would continue. The search for a lasting solution to land access by the two - farmer category is top priority for the Nigerian Government, both at the Federal and State level. There has been a rise in clashes between the two farmer categories across the states of the federation, with implications for increasing agricultural productivity. Two policy options are being examined: ranching and grazing reserves. The Minister, Federal Ministry of Agriculture and Rural Development is personally leading the advocacy on this subject. The initial Bias was for grazing reserves, however given the opposition from several state governments, and the recognition that the law vests land in Nigeria in their hands, the shift towards advocacy for ranching by FMARD is being recorded. The Ministries of Agriculture in the 7 Focus States (and indeed several other states) have expressed the need for technical assistance to examine this important issue, to guide government position on the matter. Hence the Policy Project forming research teams with the Planning and Research Units of the respective State Ministries of Agriculture, and Faculty of relevant Tertiary Institutions in the respective States to study this issue. Team members from the State Ministries were selected following consultation with the relevant Directors, and Commissioners of the State. The projected outcome of the study will be a study report that will contain an in-depth analysis of the issue with policy recommendations. Focus Group Discussions commenced in Year 2 and will be completed in Year 3 with the 3 remaining FTF Focus States i.e. Cross River, Delta and Ebonyi being scheduled in Q1. The Study would be concluded in Year 3.

Activity 2: Land Access in relation to agricultural commercialization, smallholder farmers and emergent investor farmers. There is very limited information about land structure in Nigeria. Nonetheless, it is common to find that State Governments, including those of the FTF Focus States, are increasingly seeking ways to increase participation of the country's population and

foreign investors in agriculture in their respective state. Large parcels of land have been acquired by State Governments and are being made available to 'investors' in the agricultural sector. The effect of this policy is not clear particularly as it relates to agricultural commercialization, food security and agricultural productivity of smallholder farmers and that of emergent investor farmers in the country. Following discussions with several State Ministries of Agriculture, there is strong support for a study that will provide a clear understanding of these issues towards informing government position on the subject. Hence, the policy projects incorporation of the research topic beginning in Year 3. The research seeks to provide clarity on this subject. More importantly, given the prevalence of land transactions going on in various states of the federation, it is important to understand to what extent these activities (rise in medium and large-scale farms) are beneficial to small holder farmers. Are their activities crowding in resources for smallholder farmers? Is it possible that the rise in medium and large-scale farms enhances small holder farmers' access to necessary machinery (e.g. tractors) and other inputs thereby enhancing commercial viability or is it competing with smallholders and negatively affecting their ability to access markets? This study is leveraging on substantial funding from other sources including the UK Department of International Development to explore this issue. The research outcome would provide information to help support government efforts to ensure that growth in Nigeria's food system is inclusive of small holders. The study would continue in Year 3.

Methodology/Approach:

- Literature review
- Conceptualization
- Data collection
- Data analysis
- Report writing
- Dissemination of Findings*

Outputs:	**Outcomes:**
Reports on land access for agriculture specific to herder/crop farmers and general; Policy Notes/Guideline Framework on land access for agriculture in Nigeria; Preliminary findings on land access in relation to agricultural commercialization, small holder farmers and emergent investor farmers.	An enhanced understanding of the impacts of how to improve access to agricultural land policy documents for the FTF Focus States
Sub-activities [Timing]:	**Matching indicators [Target]:**
Activity 1 - Focus Group Discussions [Q1]	NA
Activity 1 - Data Analysis/Draft Report Writing [Q4]	
Activity 1 - Dissemination of Preliminary findings [Q4] *	2. Number of participants attending project organized research and policy events. [25]
Activity 1 -Report Writing [Q4]	1. Number of high quality research reports published having under-gone peer review (internal/external) and disaggregated by type (working papers and journal articles). [1]
Activity 2: Develop sample frame – [Q1]	NA
Activity 2: Develop Survey Instrument - [Q1]	
Activity 2: Administration of Survey – [Q1, Q2]	

Activity 2: Analysis – [Q3, Q4]	

2.2.2 Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria	
Lead: MSU	**Location: Kaduna/Kebbi, Ebonyi**
Justification: Mean annual rainfall in the Sahel region is declining and becoming more erratic while the growing season gets shorter and shorter. Both the APP and Stakeholders at meetings in Ibadan and Abuja identified these factors as critical factors affecting farmer incomes and willingness to engage in agricultural investments. Stakeholders at a project meeting (drawn from all over the country) indicated rice as a crop of key concern to the nation that is under temperature and rainfall variability as well as farmer herdsmen conflict. They also indicated that generally, southeast Nigeria, as one of the wetter regions of the country, is facing challenges of flooding and pollution that are different from the drought and unpredictable rainfall patterns facing the northern part of the country. In order to provide a more comprehensive adaptation analysis for Nigeria, we are therefore proposing to study some selected crops in these two different agro-ecological regions more closely.	
Methodology/Approach: 1. Quantify and simulate the state-level system dynamics model for a state in southeast Nigeria (Ebonyi state) around the state's staple food crop (probably rice) to the year 2060, incorporating potential impacts of conflict, climate change, economic development, environmental degradation, etc. This builds on work done on maize in Kaduna state in year 2 2. Use this model to develop conclusions around effective ways to build resilience for staple food production in southeast Nigeria 3. Conduct an inventory of community-level adaptation strategies in two key Nigerian FTF states; Kaduna/Kebbi and Ebonyi	
Outputs: 1. System dynamics model depicting state-level production to the year 2060 for southeastern Nigeria, under various scenarios 2. Report on effectiveness of potential interventions for enhanced resilience at the state scale, using the system dynamics model 3. Report on nature and perceived effectiveness of community-scale adaptation mechanisms being used currently in Nigeria, and their potential for upscaling	**Outcomes:** 1. Improved understanding of drivers of state level productivity in the context of rapid fluctuation in weather patterns and other shocks 2. Improved ability to develop adaptation strategies for selected states 3. Improved ability to plan for adaptation and resilience of Nigerian farmers
Sub-activities [Timing]:	**Matching indicators [Target]:**
1. Development of downscaled production model for southeastern Nigeria and testing of scenarios using model [Q1]	NA
2. Collection of data re: community-scale climate adaptation efforts [Q2-Q3]	

3 Analysis of data [Q3-Q4]	
4 Completion of report [Q3-Q4]	1. Number of high quality research reports published having undergone peer review (internal/external) and disaggregated by type (working papers and journal articles). [1]

2.2.3 State level research on aquaculture in Kebbi State	
Lead: MSU	**Location: Kebbi State**
Justification: During the handing over of the State Policy notes (output from training conducted in March 2017), the states reaffirmed the need for information on other crops and livestock. The commissioner of agriculture in Kebbi state has indicated that rice and fish production are priority areas for the state for which research support would be helpful. Thus, this research activity proposes to work with the state ministry of agriculture and rural development in Kebbi state (alongside faculty of an institution of higher learning in the state) on the aquaculture subsector. Research on enhancing the productivity of this subsector will be conducted.	
Methodology/Approach: • Formation of research team • Collection of data on key priority crop/area by the selected state • Collection of information on current government programs and policies related to the selected crop • Joint analysis and writing • Production of policy note(s)	
Outputs: Report on the aquaculture subsector in Kebbi state and its role in promoting economic growth in the state	**Outcomes:** Improved understanding of key challenges associated with promoting aquaculture in the state Improved understanding of the opportunities associated with fish within Kebbi State Improved understanding of the effectiveness of particular policies and programs geared to increase agricultural productivity in the state
Sub-activities [Timing]:	**Matching indicators [Target]:**
1. Research team finalization [Q1/Q2]	
2. Literature review and background information on the subsector and relevant government policies [Q1/Q2]	
3.Data collection on aquaculture and fish production: [Q2]	NA
4.Workshop on data analysis and policy [Q2]	NA
5.Validation [Q4]	
6.Finalizing and dissemination of Policy Note [Q4]	8. Number of agriculture policy communications developed and/or written for stakeholder con-

	sumption disaggregated by: Type of communication and Lead in policy communication developed or written [1 policy brief]

2.2.4. Agricultural Mechanization[7]	
Lead: IFPRI	**Location:** Kaduna and Benue states
Justification: Agricultural mechanization patterns in Nigeria, seen through international and historical perspectives, are characterized by low adoptions of tractors despite that shares of the agricultural sector in GDP (20~25%) and employment (50%), even though in Asia, where GDP and employment shares are similar, tractor adoptions are much higher. Partly driven by such a gap, the Nigerian government has been increasingly keen in promoting the mechanization of its agricultural sector. This work will investigate the determinants of adoption of agricultural mechanization, interactions between various agricultural mechanization technologies (for example, tractors and intermediate tools like draft animals), the impacts of mechanization adoption on agricultural and rural sector transformation in Nigeria, and the extent to which transaction costs inhibit credit provision and mechanization adoption from reaching a socially optimal level there.	
Methodology/Approach: This work will rely on secondary data, such as LSMS-ISA, combined with additional small survey data in the selected focus states as needed. Among the FTF focus states, our analyses primarily cover Kaduna State where the private sector such as tractor retailers are relatively more active, and Benue State (straddling over to the western part of Taraba State where LSMS-ISA consistently indicates one of the highest tractor uses in the country). The survey will be particularly useful for the transaction cost and finance elements of the study. Further details on potential survey design are included in the annex section	
Outputs: • A Working Paper on the linkages between the demand for agricultural mechanization in the context of heterogeneity in agro-climatic factors, farming systems, socio-economic conditions published; • A Working Paper on the transaction costs associated with facilitation of agricultural mechanization investments, determination of whether current mechanization market conditions are socially optimal, and identification of ways to reduce transactions costs through private and public-sector mechanisms published; and, • Policy Notes associated with each of the above working papers published	**Outcomes:** • Improved knowledge regarding the broad impacts that the adoption (or the lack of it) of agricultural mechanization has on the agricultural production structure, rural sector transformation, and rural employment; • Improved knowledge regarding the heterogeneous nature of demand for agricultural mechanization across locations, and incorporation of results into the designs of government's Agricultural Equipment Hiring Enterprises (AEHE); and,

[7] Please see Appendix F for a detailed concept note.

	• Characterization of the main mechanical tool market distortions that raise transaction costs and inhibit mechanization adoption and use.
Sub-activities [Timing]:	**Matching indicators [Target]:**
Part 1: Analyses of demands for agricultural mechanization	
1 Research team formed (Q1/Q2)	4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Literature review on the linkages between the demand for agricultural mechanization and agroecological conditions, farming systems, complementary technologies (Q1)	NA
3 Development of conceptual and empirical framework (Q2)	NA
4 Data analyses based on LSMS-ISA (Q3)	
5 Completion of report (Q4)	1) Number of policy research and best practice papers generated. (Custom) [2]
Part 2: Assessment of transaction costs on agricultural mechanization with a specific focus on agricultural finance	
6 Literature review on experiences elsewhere on the patterns agricultural finance and mechanization growth and the role of credit history in agricultural contexts (Q1)	NA
7 Preparations of small surveys (for farmers and retailers/lenders) (Q1)	
8 Small surveys implemented in two selected states (Q2)	
9 Data analyses and writing of draft working paper (Q3)	
10 Completion of report (Q4)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1] 8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]

2.2.5 Land Access, Migration Decisions and Youth Employment in the Nigerian Agricultural Sector[8]

Lead: IFPRI	**Location:** 7 FtF states

Justification:

The majority of youth in Nigeria live in rural areas where farming has been traditionally the main livelihood of the people. However, Nigeria currently faces severe land scarcity in some parts of the country where population densities have become very high and farm sizes have become very small. In a country where there is no well-functioning land market and where the credit market is very thin and where there are no many large farms that can provide enough farm wage employment, access to farmland is the most important factor that determines whether a rural youth can depend on agricultural livelihood as well as whether a rural youth would migrate or stay at home.

This study, thus, hypothesizes that in the absence of vibrant labor intensive non-agriculture sector, access to secure land rights is an important push-factor that drives youth in the rural agrarian society to look for non-agricultural livelihood options. In today's Nigerian context, it is highly plausible to argue that population growth puts pressure on land; and the rural youth don't have secure (perpetual) access to land and are hampered by ambiguities in transferability of land through purchase, sale, leasing, inheritance, assignment under traditional rules, and mortgage. And these render the rural youth to be underemployed or unemployed and to look for non-agricultural livelihood strategies- which are also scarce in the Nigerian context and sometimes less rewarding (Adesugba and Mavrotas, 2016b).

Although there are some studies that try to identify the underlying causes of rural-urban migration and non-agricultural employment in Nigeria, to the best of our knowledge, studies that examine the impact of access to land and tenure security on youth's decision regarding livelihood strategy and migration are non-existent in the case of Nigeria, contrary to what has been the case in other countries (see e.g. the recent study by Kosec et al. 2016 on Ethiopia). In this study, by controlling for other socioeconomic factors that pertain to rural-urban migration, we will test the hypothesis that access to land and tenure security is an important push-factor that drives youth in the rural Nigeria to migrate and look for non-agricultural livelihood options. Specifically, we test whether access to land and tenure security may have an impact on youth's decision on spatial and occupational mobility in Nigeria with a particular focus on the 7 FtF focus states (see Benue, Cross River, Delta, Ebonyi, Kaduna, Kebbi and Niger). The study will also build on IFPRI's recent work on the youth employment and agricultural transformation nexus in Nigeria (see Adesugba and Mavrotas 2016a, 2016b) which has attracted among others the attention of the Vice President of the country in connection with the preparation of the new Agriculture Promotion Policy (APP) of the Buhari Administration (FMARD 2016).

Methodology/Approach:

For this purpose, 3-wave panel datasets from the Nigeria Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) collected in 2010-2011 (5000 households), 2012-2013 (4719 households), and 2015-2016 (4115 households) GHS-Panel Surveys. This study will particularly benefit from the rich and comprehensive land tenure module integrated into the second wave survey (collected in 2012-2013). This provide a unique opportunity to test our afore-

[8] See Appendix F for a detailed concept note.

<table>
<tr><td colspan="2">mentioned hypotheses on the role tenure security plays in dictating occupational and spatial mobility of the youth in Nigeria. This is particularly so as both follow up surveys (2012-13 and 2015-16) integrate a comprehensive tracking questions on occupation and locations of migrant household members which enables analysis on key variables of interest on migration (comparing short-distance/temporary versus long-distance/permanent migration) as well as comparisons on employment on agriculture versus non-agriculture sectors. This rich dataset will also be complemented by secondary (administrative) data to be collected with field visits to selected areas from the 7 states.</td></tr>
<tr><td>Outputs:
Working paper produced
Policy brief produced
Dissemination workshop delivered in one of the seven selected states</td><td>Outcomes:
• knowledge gap in Nigeria on how tenure security affects youth spatial and occupational mobility filled
• strategies to enhance tenure security and employment opportunities identified</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1 Research team formed (Q1/Q2)</td><td>4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].</td></tr>
<tr><td>2 Conceptual framework finalized and data cleaning (Q1)</td><td rowspan="4">NA</td></tr>
<tr><td>3 Data cleaning and collection of secondary data (field visits) completed (Q2)</td></tr>
<tr><td>4 Review of relevant literature and methodology finalized (Q2)</td></tr>
<tr><td>5 Preliminary data analysis completed (Q3)</td></tr>
<tr><td>6 Draft writeup of results completed (Q3)</td><td rowspan="3">1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1]

8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]</td></tr>
<tr><td>7 Working paper completed (Q4)</td></tr>
<tr><td>8 Policy note completed (Q4)</td></tr>
</table>

2.2.6 Assessment of agricultural storage infrastructure and market characteristics in Nigeria[9]	
Lead: IFPRI	**Location:** Kebbi state

[9] See Appendix F for a detailed concept note.

Justification:

The Nigerian Federal Ministry of Agriculture and Rural Development (FMARD)'s Agricultural Promotion Policy 2016-20 outlines a series of proposed policy interventions to *inter alia* increase domestic production, enhance linkages between farmers and markets, and reduce post-harvest losses through supply chain and storage facility development (FMARD 2016). However, these goals cannot be achieved in isolation. Accomplishment of the productivity enhancement goal will be difficult unless simultaneous efforts are made to improve farmer access to markets and/or commercial and on-farm storage infrastructure. Access to markets in the context of production surpluses facilitates an auspicious cycle in which surplus production is sold and the proceeds can be used to diversify consumption bundles and buy improved inputs, and, hence enhancing future productivity (Barrett 2008). The timing of these production and consumption activities that occur within and between crop years means that there are dynamic complexities in farmer decision making. The presence of commercial and/or on-farm storage allows for produced supply to be carried across periods in order to optimize intertemporal production and consumption decisions, and also prevents steep price declines during supply gluts (Wright and Williams 1982; Wright 2011). Since low prices discourage expansions in production, storage infrastructure is essential to meeting production increase goals, especially in the context of imperfect market integration in which intermarket trade does not occur instantaneously.

Methodology/Approach:

In order to investigate the first research question, a series of price transmission models that account for seasonality will be implemented. The estimates on the seasonality and price transmission parameters will provide insight into both the degree of seasonality and market integration. These methods are extensions on those implemented by Hatzenbuehler, Abbott, and Abdoulaye (2017). Clearly this requires time series data that are disaggregated across space, which is the main hurdle to overcome for implementation of the analysis to answer the first question. While most price data that are regularly available from the Nigerian National Bureau of Statistics (NBS) are statewide aggregates, it has been learned in recent discussions with the Director of Prices at NBS that disaggregated time series data are available upon official request. Obtaining these data may require hiring NBS officials as consultants for a few days of data processing. Limiting the analysis to one state – the study plans to focus on Kebbi State - will help ensure success of the data request.

Investigation of the second question requires implementation of surveys on market characteristics in the same state for which the price transmission analysis is implemented. This survey would ideally be designed and implemented by a graduate student in the context of her/his master's or Ph.D. thesis. The surveys would obtain information on such variables as the number of traders participating in the market, average volumes of trade, commercial storage capacity, and description of the main markets with which trade occurs. Since these variables likely vary at different times during a crop year, the survey would ideally be implemented at twice within fiscal year 2017-18 (one before harvest, and one after harvest).

Outputs:	**Outcomes:**
Research paper on price transmission and seasonality published Policy brief on price transmission and seasonality published Research paper on market characteristics and storage infrastructure published	A clearer understanding of current conditions in rural agricultural markets in Kebbi State Enhanced ability of Kebbi State Ministry of Agriculture and the FMARD to make location-specific policy interventions.

1 policy brief on market characteristics and storage infrastructure	
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Research team formed (Q1/Q2)	4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Dataset on disaggregated prices for Kebbi State (Q1)	NA
3 Pre-harvest market characteristics survey (Q1)	
4 Pre-harvest market characteristics survey dataset (Q2)	
5 Post-harvest market characteristics survey (Q2)	NA
5 Second round market characteristics survey dataset (Q3)	NA
6 Working paper on price transmission and seasonality (Q3)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1] 8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]
7 Policy brief on price transmission and seasonality (Q3)	
8 Research paper on market characteristics and storage infrastructure (Q4)	
9 Policy brief on market characteristics and storage infrastructure (Q4)	

2.2.7 Monitoring and evaluating the agricultural sector's role in macroeconomic adjustment[10]	
Lead: IFPRI	**Location:** 7 FtF states (allowing also for comparison with trends at the national level)
Justification: The agri-food system will be a key sector as Nigeria confronts profound and wrenching economic transformations. After more than a decade of very firm oil prices, world prices for crude oil dropped dramatically towards the end of 2014. Since the end of 2014, inflation adjusted world oil price levels have languished at less than half of the average level observed from 2008 through	

[10] See Appendix F for a detailed concept note.

2014. Oil price futures project essentially flat real prices to 2025 from today's levels. The proposed analytical effort seeks to support, monitor, and evaluate the ongoing process of restructuring the Nigerian economy (in relative terms) towards the production of tradeable goods and away from the production of non-tradeable goods. This process is national nature; however, it can be expected to play out differently across sectors and across states. The effort will emphasize (i) the response of the agricultural sector, including upstream elements, such as fertilizer provision, and downstream elements, such as food processing and (ii) the welfare implications of the process. It will also focus on seven key states: Benue, Cross River, Delta, Ebonyi, Kaduna, Kebbi, and Niger (see the seven Feed the Future focus states of USAID/Nigeria) allowing for comparison of national level trends with trends in these key states.

Methodology/Approach:

The effort will produce an updated social accounting matrix (SAM) of the Nigerian economy using all available data and a related household micro-simulation module, based on the Nigerian LSMS-ISA survey, that links coherently to the household accounts in the SAM. An economywide model, appropriately tailored to specific features of the Nigerian economy and relying on the SAM and micro-simulation module as inputs, will then be constructed. These frameworks will then be supplemented by efforts to follow actual trends in the key states.

In broad terms, the proposed analytical frameworks will permit a rigorous prediction of the production and welfare shifts that are expected. These results can then be cross-checked with actual outcomes to determine whether the economies of the seven states in focus, as well as the national economy, are restructuring in the expected manner or not. If not, we will attempt to determine why not. For example, it is possible that current fertilizer policies may not lead to desired outcomes and may even result in the perverse outcome of reduced fertilizer availability/use in domestic markets. More generally, the analytical effort would seek to identify constraints to the restructuring process and to design policies both for alleviating these constraints and for smoothing the process overall.

Outputs: Research papers published Policy notes published Number of presentations presented at workshops in one of the seven FTF states	**Outcomes:** Role of the agricultural sector in speeding and softening the ongoing economic restructuring process enhanced.
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Study research team formed (Q1/Q2)	4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Construction of national level social accounting matrix (SAM) (Q1)	NA
3 Disaggregation of the SAM and linked microsimulation model for the 7 FtF states (Q2)	
4 Draft paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process (Q2)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1]
5 Final paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process (Q3)	8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper,

	radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]
6 Final SAM and microsimulation module including documentation (Q3)	NA
7 Draft documentation for a Nigeria Economywide model with agricultural sector detail and seven key states broken out for relevant activities, factors, and households (Q3)	
8 Draft research paper that combines simulation of the economywide modelling framework with available facts on the ground to support, monitor, and evaluate the ongoing restructuring process (Q3)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1] 8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]
9 Final documentation for a Nigeria Economywide Model with agricultural sector detail and the seven key states broken out for relevant activities, factors, and households (Q4)	
10 A final research paper that combines simulation of the economywide modeling framework with available facts on the ground (Q4).	
11 The formation of a group of Nigerian analysts who have been engaged in the analytical process and have thus gained familiarity with the frameworks employed (Q4)	NA

2.2.8 The political economy of informal food retail trade: The case of Nigeria's secondary cities[11]	
Lead: IFPRI	**Location:** Niger and Cross River states
Justification: The proposed research questions aim to address the role of informal food vendors in secondary cities as a key component of agricultural transformation and food security while also examining how their treatment by government officials affects their own food security and their ability to facilitate agricultural transformation. More specifically, the research would center on three clusters of questions: 1) What are the institutional relationships and regulatory environment underlying governance of informal food vending in Nigeria's secondary cities? 2) What impact does harassment have on food security, growth and employment?	

[11] Appendix F provides a more detailed discussion of the proposed study.

3) What policy options exist for improving the governance of informal vendors in a way that promotes their livelihood options while contributing to clean, livable cities?

Methodology/Approach:

To address the above questions, two main methods will be employed. One consists of semi-structured interviews with key policymakers at the LGA and state levels as well as with organizations of informal food traders, such as the Federation of Informal Workers of Nigeria (FIWON) and the Association of Food Vendors of Nigeria (AFVN), which helps to train food vendors on food safety and hygiene principles. The aim of the interviews with policymakers to help construct an institutional map of which actors are in charge of which elements of street vending, both across ministries and across levels of government. A second method will be a survey with informal food sellers in two LGAs within each city. The sample in each LGA is proposed to be 500 vendors for a total sample of 2000 across both cities. Survey modules will place prime attention on uncovering the role of the vendors in the agricultural value chain, including where they source their materials, their food handling practices, and their experience with local government authorities. In addition, they will be asked about their understanding of the formal regulatory and institutional environment overseeing street vending in their state.

Outputs:	**Outcomes:**
Research paper published Policy note published Presentations presented at workshops in one of the FTF states	Understanding of informal retail sector enhanced
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Research team formed (Q1/Q2)	4) Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom) [1].
2 Identify survey company to help implement the questionnaires (Q1)	NA
3 Engage in background literature review on informal vending in Nigeria to inform the survey and interview questions as well as the sampling design for the surveys (Q1)	
4 Identify key contacts for interviews (Q2)	
5 Draft semi-structures interview templates (Q2)	
6 Draft survey questionnaires for IFPRI's Institutional Review Board approval (Q2)	
7 Enumerator training (Q3)	
8 Field surveys (Q3)	
9 Conduct semi-structured interviews (Q3)	
10 Drafting of paper on "The political economy of informal retail trade: The case of Nigeria's secondary cities (Q4)	1) Number of high quality research reports published having undergone peer review (internal external) and disaggregated by type (working papers and journal articles) (Custom) [1]

	8)Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society (Custom) [1]

Component 3: Strengthening evidence-based policy process and promoting impact

This component is to serve as an outlet for early results of ongoing research, policy analysis, and/or outcomes from roundtable discussions or seminar dialogues sponsored by the project or jointly with collaborating institutional partners of the project; promoting a "think tank" culture within the agricultural policy process – through organizing various seminars and events targeted at all the actors in the process, including policy makers, local research community, FMARD, development partners, and the general media.

Activity 3.1 Outreach, engagement and Dissemination of Results from component 2

This intervention is supposed to strengthen the capacity of a wide range of actors and players ranging from public, private, CSO, and farmer associations, and their role in the policy debate and dialogues. To this end, the various seminar and workshop events planned by the project each year will convene to bring them together in sharing early results of research and/or ongoing policy analysis efforts, and in promoting further policy dialogue around them.

<table>
<tr><td colspan="2">3.1.1: FMARD/National/ State Level Dissemination</td></tr>
<tr><td>Lead: IFPRI/MSU</td><td>Location: FCT and seven FTF focus states</td></tr>
<tr><td colspan="2">Justification: Under this component, the Nigeria Agricultural Policy Project seeks to systematically bring together various stakeholders and actors in the policy process to share knowledge that can contribute to improved policy processes and promote impact.</td></tr>
<tr><td colspan="2">Methodology/Approach: Seminars and policy events will be organized at the national and state level to share knowledge and key results from the various Project activities in Year 3.</td></tr>
<tr><td>Outputs:
Number of seminars and high-level policy events organized</td><td>Outcomes:
Policy processes in the agricultural sector improved</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1 Leveraging agricultural transformation for improving food and nutrition security in rural Nigeria (Q4)</td><td rowspan="4">2)Number of participants attending project organized research and policy events (Custom) [235]

10)Number of for profit private enterprises (for profit), producer's organizations, water user's associations, women's groups, trade and agribusiness associations (such as farmer based organizations) and community-based organizations (CBOs) receiving USG assistance disaggregated by: New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) Standard Feed the Future Indicator EG3.2-4</td></tr>
<tr><td>2 Subnational panel data analysis of public investment's agricultural welfare effects: Study across Nigeria and in seven selected states (Q3 & Q4)</td></tr>
<tr><td>3 Agricultural mechanization (Q3/Q4) to include a workshop to produce blueprints to improve policy</td></tr>
<tr><td>4 Land Access, Migration Decisions and Youth Employment in the Nigerian Agricultural Sector (Q3/Q4) to include a workshop to produce blueprints to improve policy</td></tr>
</table>

5 Assessment of agricultural storage infrastructure and market characteristics in Nigeria (Q3 & Q4)	
6 Monitoring and evaluating the agricultural sector's role in macroeconomic adjustment (Q4)	
7 The political economy of informal food retail trade: The case of Nigeria's secondary cities (Q4)	
8. Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria [Q4]	
9 Access to land for agriculture vis a vis herder/farmer clashes [Q3, Q4].	
10 Development of a Policy Guideline/Note that outlines the steps on how to access land for agriculture in each of the 7 FTF Focus States[Q4]	

3.1.2: Second Conference of the Feed the Future Nigeria Agricultural Policy Project	
Lead: IFPRI/MSU	**Location:** Abuja
Justification: The goal of the conference is to promote visibility of the policy research and analysis undertaken that is relevant to the implementation of the Agriculture Promotion Policy. The conference will bring together experts as well as Nigerian graduate students and young research professionals (with a focus on the seven FTF focus states, University of Ibadan and FMARD and other stakeholders such as private, CSO, and farmer associations in the agricultural sector) on selected issues in agriculture and economic development that can enhance implementation of various policy issues in the agricultural sector.	
Methodology/Approach: A 2-3-day conference that will have paper and poster presentations on pertinent issues related to the Nigeria agricultural sector development.	
Outputs: Number of workshops and participants per focus states plus Abuja	**Outcomes:** Enhanced understanding of issues affecting the agricultural sector Policy recommendations for successful implementation of agricultural policies provided
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Large project dissemination activity and conference (Q3/Q4)	2)Number of participants attending project organized research and policy events (Custom) [235]

3.1.3: Support to FMARD policy processes	
Lead: IFPRI	**Location:** Abuja

<table>
<tr><td colspan="2">Justification: Policy makers often seek information and evidence on emerging issues or challenges for which a policy response is needed. This can range from simple statistics that describe current conditions or trends to an analysis of the potential tradeoffs among different policy options they may be considering. In some cases, policy makers also need support in the review of upcoming policies in terms of design and analysis.</td></tr>
<tr><td colspan="2">Methodology/Approach: The Nigeria Agricultural Policy Project will provide support to FMARD on various agricultural policy processes on a rolling demand basis. Such support will involve review of policy documents as well as technical assistance (such as contribution to and review of reports – already done in the case of the JSR process report prepared by the FMARD, with further contributions planned in Year 3) to policies implemented by FMARD (see APP, NAIP, JSR & CAADP, CAP-F). The Project will also respond to other requests as demanded from FMARD such as support to the Efficiency and Coordination Units in connection with the APP implementation as well as to other Departments under FMARD including the Agricultural Research Council of Nigeria (ARCN) and the National Agricultural Extension and Research Liaison Services (NAERLS).

Policy roundtables will also be organized in collaboration with the National Assembly following a recent request from Senator Abdullahi in a National Assembly meeting attended in July 2017 by the Director General of IFPRI Dr. Shenggen Fan and Dr. George Mavrotas, Chief of Party for the Nigeria Agricultural Policy Project. Similar policy roundtables will be organized jointly with ARCN in Year 3 following recent discussions on this front between Dr. George Mavrotas and the Executive Secretary Office of ARCN.</td></tr>
<tr><td>Outputs:
Policies reviewed
Meetings attended</td><td>Outcomes:
FMARD ability to implement policies enhanced</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1 Support to FMARD policies (e.g. APP, NAIP, CAADP, CAP-F) (Q1, Q2, Q3, Q4)</td><td rowspan="4">3)Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of United State Government assistance (USG) in each case:
1. Analysis
2. Stakeholder consult/public debate
3. Drafting or revision
Standard Feed the Future (FtF) Indicator EG.3.1-12 [1]</td></tr>
<tr><td>2 Support to the Efficiency and Coordinating Units of FMARD (Q1, Q2, Q3, Q4)</td></tr>
<tr><td>3 Support to ARCN (Q1, Q2, Q3, Q4)</td></tr>
<tr><td>4 Stakeholder learning forums jointly undertaken with NAERLS (Q2, Q4)</td></tr>
<tr><td>5 Policy round tables for the National Assembly (Q2, Q3, Q4)</td><td>2)Number of participants attending project organized research and policy events (Custom) [45]</td></tr>
</table>

Activity 3.2 Support for State Agricultural Policy Development (or Review) for FTF states

<table>
<tr><td colspan="2">3.2.1 Support for State Policy Development (or Review) Kebbi State and Cross River State (FTF states)</td></tr>
<tr><td>Lead: MSU and IFPRI</td><td>Location: Two FTF states</td></tr>
</table>

<table>
<tr><td colspan="2">Justification: Four FTF Focus States (Cross River, Delta, Ebonyi and Kebbi) have approached the Feed the Future Nigeria Agricultural Policy Project to support their effort at state agricultural policy formulation/review. In some states, prior to reaching out to the policy project, the intention was to merely adopt the Agriculture Promotion Policy (APP) as a state policy without any further input. Not even capturing the areas of agriculture where the state had comparative advantage. The project would work with two states in year 3 (Kebbi and Cross River States) to address the demand for a holistic state agricultural policy in tandem with the APP.</td></tr>
<tr><td colspan="2">Methodology/Approach:
Formulation of policy objectives
Evaluation of the performance of current policy
Definition of operational characteristics of the new policy set.</td></tr>
<tr><td>Outputs:
A well-informed state agricultural policy modelled after the APP but suited to enhance the states comparative advantage in agriculture.</td><td>Outcomes:
State level agricultural policies that are based on current data and is applied to the agricultural sector.</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1. Comprehensive Agricultural Policy review (development)
1.1 Situation analysis in Kebbi State (Q1)
1.2 Situation analysis in Cross River State (Q1)
1.3 Stakeholder engagement Kebbi State (Q2)
1.4 Stakeholder engagement in Cross River State (Q2/Q3)
1.5 Drafting/stakeholder review Kebbi State (Q3)
1.6 Drafting/stakeholder review Cross River State (Q3/Q4)
1.7 Validation/presentation in Kebbi State (Q4)
1.8 Validation/presentation in Cross River State (Q4)</td><td>3. Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of USG assistance in each case:
1. Analysis
2. Stakeholder consultation/public debate
3. Drafting or revision. Examples will include state polices, Federal polices (e.g. Ag ex-tension)

[0] Need further clarification on the indicator. The definition as reported in the meeting of Oct 27, 2017 differs from the PIRS. In the PIRS it states:

“Note that the indicator has been revised to acknowledge that these processes are not always linear: Newly drafted laws can be defeated by a legislative body and require redrafting or new analysis; approved regulations can prove difficult to implement and may need to be revised.

Because of this non-linear approach, double-counting is no longer a concern and is in fact appropriate: Operating units should indicate if multiple processes/steps were completed in a given year, as this more accurately represents work under a given activity. The disaggregate</td></tr>
</table>

	"Total policies passing through one or more processes/steps of policy change" will count the total number of policies that completed any process/step, regardless of the number of processes/steps each policy completed during the reporting year."

3b. Policy Communication and Outreach Strategy for the Nigeria Agricultural Policy Project: The project will revamp the website of the project and its current outreach strategy, promoting further the project's Working Paper Series and other dissemination outlets; strengthen further the seminar series to be organized (as well as think of new ways to disseminate project's findings – e.g. a combination of seminars, policy roundtables involving all key stakeholders in the sector, Policy Briefs accompanying more technical research output etc.); and also extend partnership with other research networks and institutes within the country to promote further the policy findings emanating from the project.

Activity 3.3: Media engagement and Training

3.3.1: Media engagement and Training (Federal Level)	
Lead: IFPRI	**Location:** Abuja
Justification: The media (newspapers, periodicals, radio, TV channels) play a critically important role in ensuring that policy formulation is transparent and inclusive. An important outcome of an active and professional media is that the government is held more accountable for its policy and budget proposals and implementation.	
Methodology/Approach: The Nigeria Agricultural policy Project will closely engage with the media in Nigeria through capacity building initiatives, brainstorming sessions, and frequent engagements. The Project will work closely with the following groups in year 3. • Nigerian Guild of editors: The Nigerian Guild of Editors (NGE) is a non-governmental, non-partisan, non-profit making organization, for the highest strata of working journalists who have attained the exalted position of editors in the journalism profession. • Nigerian Union of Journalists (NUJ): The Nigeria Union of Journalists is a professional media organization aiming to connect journalists nationwide with the information and opportunities they need to advance professionally and improve media in Nigeria. • News Media: The Project will have regular engagements on agricultural issues in Nigeria with relevant news media, including the News Agency of Nigeria and media unions who are umbrella bodies for the media in Nigeria. • Senate media (National Assembly). Following a recent request by Senator Abdullahi at a recent meeting he had at the National Assembly with Dr. Shenggen Fan (Director General of IFPRI) and Dr. George Mavrotas (Head of IFPRI Abuja Office and Chief of Party for the Project), the Project plans to organize training courses on policy communication with Senate media people since there is a strong demand for this type of course. A follow up meeting is planned with Senator Abdullahi in early Q1 of Year 3 to finalize details for this training course.	

Outputs: • Number of meetings held with the media • Number of trainings offered for the media	**Outcomes:** Increased capacity of Nigeria media to report on policy issues Enhanced understanding of the country's main policies and strategies
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Number of learning and brainstorming sessions undertaken with media (Quarterly) 2 National Assembly media training courses (Q2, Q3, Q4)	2)Number of participants attending project organized research and policy events (Custom) [30] 5) Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. Standard Feed the Future (FtF) Indicator EG.3.2-1 [30] 10)Number of for profit private enterprises (for profit), producer's organizations, water user's associations, women's groups, trade and agribusiness associations (such as farmer based organizations) and community-based organizations (CBOs) receiving USG assistance disaggregated by: New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) Standard Feed the Future Indicator EG3.2-4

3.3.2: Media engagement and Training at the State Level (Agricultural Communication and Grant Writing)	
Lead: IFPRI	**Location: FTF Focus States & Abuja**
Justification: Media practitioners in Nigeria acknowledge their limitations in adequate agricultural reportage. Lack of necessary skill sets to deliver on agricultural communication was identified during the interactive sessions with the media held in year 2. Agricultural communication requires specialized skillsets and until these skill sets are acquired the media's ability to effectively enhance agricultural reportage would be limited. Hence, it is necessary to strengthen the media's capacity in this regard. Furthermore, funding streams for the Media in Nigeria is recorded by practitioners as being inadequate, particularly where reliance is on budgetary allocations from the State (for state owned media houses). This is also true of the private sector, where publishers/CEO's have yet to adequately meet the basic funding requirements for an effective Media. Hence, the need to strengthen the media in Nigeria to innovate and thereby enable them access to available grants from relevant sources globally.	
Methodology/Approach: IFPRI will conduct on behalf of the Policy Project, a media training on effective agricultural and policy communication for media representatives in Abuja as well a media training for media representatives in each of the 7 FTF states. With the help of the Project's Policy Communications Unit, a training course will be organized in Abuja as well as in each of the 7 FTF states. In addition, experts from the Communications, Knowledge and Management (CKM) Division at IFPRI HQs in Washington DC who are very experienced on agriculture and media issues will also help to facilitate and provide support in some of the training courses to be organized in Year 3 of Pro-	

ject implementation. In collaboration with the relevant state chapters of Nigerian Union of Journalism, the Nigerian Guild of Editors and the Newspaper Proprietors Association of Nigeria, participants in the FTF Focus states would be selected to receive training.	
Outputs: Number of training sessions per focus state Number of media personnel trained per focus states	**Outcomes:** Improved ability of the media to communicate agricultural information (including output from scientific research) to various stakeholders in the policy process Improved ability of faculty of media to develop and deliver courses on agricultural communication for media Improved ability of media personnel to write grants to generate funds to enable them more effectively gather and present accurate information (including output from research) to feed into their media productions
Sub-activities [Timing]:	**Matching indicators [Target]:**
1. Development of course content [Q2]	5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. [5]
2. Identification and Selection of course participants across the FTF Focus States and Abuja [Q1/Q2]	NA
3. Delivery of courses in Abuja and the 7 FTF states [Q2, Q3, Q4)	5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. [50]
4. Follow up [Q4}	NA

3.4: Engagement with private sector

3.4.1: Engagement with private sector	
Lead: IFPRI	**Location:** FCT and 7FtF states
Justification: The private sector can play an important role in the development of the agricultural sector in Nigeria. The Government of Nigeria recognizes that a vibrant private sector is key to attaining some of the objectives outlined in the APP and other key policy documents	
Methodology/Approach: The Nigeria Agricultural Policy Project will interact closely with the Nigeria Agribusiness Group (NABG), an organized private sector platform that engages closely with the government at all levels in setting policy directions and regulatory reforms to enable	

sustainable inclusive socio-economic growth. Besides NABG, the Project will also work with the other stakeholders such as: • National Association of Microfinance Banks • All Farmers Association of Nigeria (AFAN)	
Outputs: Number of dissemination events undertaken with the private sector Number of meetings undertaken with private sector organizations	**Outcomes:** Increased awareness of issues affecting the private organizations in the agricultural sector
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Interact with and attend NABG stakeholder meetings (Q1, Q2, Q3, Q4)	9)Number of public private advocacy dialogues focused on policy that supports private sector investment (Custom) [4] 10)Number of for profit private enterprises (for profit), producer's organizations, water user's associations, women's groups, trade and agribusiness associations (such as farmer based organizations) and community-based organizations (CBOs) receiving USG assistance disaggregated by: New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) Standard Feed the Future Indicator EG3.2-4
2 Organize joint dissemination events with NABG (Q2, Q4)	

Activity 3.5: Engagement with other non-govt stakeholders (civil society and think tanks) with particular focus on FTF states, where possible

3.5.1: Engagement with non-govt stakeholders (e.g. civil society, NGOs, and think tanks) with particular focus on FTF states #1	
Lead: IFPRI/MSU	**Location:** Various
Justification: Besides the private sector, civil society, NGOs and think tanks play an important role in the agricultural sector and the Nigeria Agricultural Policy Project will also continue to work closely with such stakeholders in Year 3.	
Methodology/Approach: The Nigeria Agricultural Policy Project will participate in stakeholder meetings and organize events jointly with non-governmental stakeholders where applicable. The Project will work with the following stakeholders in year 3: • Agricultural Donor Working Group (ADWG). The purpose of the ADWG is to discuss major agriculture policies and issues with the leadership of the Government of Nigeria, coordinate donor support for the implementation of the Comprehensive African Agriculture Development Program, and improve donor collaboration and effectiveness. The Project will continue to actively participate in meetings organized by the ADWG every two months. Meetings are normally organized in Abuja. • Agricultural Policy Research Network (APRNet). APRNet is a network devoted to bridging the gap between research and policymaking for agricultural and rural development. The Project supports the network to fulfil its mandate and attends and contributes in the network's events in Abuja and Feed the Future states.	

- Association of Deans of Agricultural Universities (ADAN). The Association engages with various stakeholders on key issues related to agriculture and economic development in Nigeria. The Project will engage with the Association on policy issues in FCT and FTF states.
- Nigeria Association of Agricultural Economists This is the Professional Association of Agricultural Economists in Nigeria and brings together researchers and educators from all over Nigeria. The Policy project will engage with the association in its capacity building efforts. This includes jointly organizing conferences and seminars to support research on agriculture and as well as activities to support engagement with and dissemination of research findings to various project stakeholders.
- Youth initiative for sustainable agriculture (YISA). Youth Initiative for Sustainable Agriculture (YISA) is an Agro-knowledge based Organization of young graduates of Agricultural discipline and other young people with genuine interest and passion for Agriculture. The Project will work closely with YISA in Abuja in areas of youth involvement in agriculture.
- Civil Society Group-Scaling Up Nutrition in Nigeria. The Civil Society Group- Scaling-Up Nutrition in Nigeria is a non-governmental, non-profit making coalition, made up of organizations with a shared vision to transform Nigeria into a country where every citizen has food and is nutrition secured. The Project will attend stakeholder events organized by the group in FCT as well as share nutrition related research findings emanating from Project research work.

Outputs:	**Outcomes:**
Number of stakeholder learning forums undertaken to disseminate Project related findings/best practices Number of meetings with NGO's CSO's, think tanks etc.	Increased awareness of policy issues in the agricultural sector
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Meeting with various stakeholders in the policy process (APRNET) (Quarterly)	NA
2 Engage with associations that would enable the project to reach more broadly the Ag. Econ community in Nigeria (Nigerian Ag. Economics Association, ADAN) (Quarterly)	
3 Meeting with various stakeholders in the policy process identified during the course of the project (ADWG) (6 meetings per year? Quarterly)	
4 Attend stakeholder meetings (Quarterly)	

Program Management

4.1 Project Administration	
Lead: MSU/IFPRI	**Location:** Various
Outputs: • Annual workplan • Fully executed sub-contracts	**Outcomes:** Smooth and efficient administration of the project
Sub-activities [Timing]:	**Matching indicators [Target]:**
1Annual workplan development (Q4)	NA
2 Sub-contracting completed based on workplan (Q4)	
3 Financial management of project resources, efficient submission and reimbursement of invoices [Q1-Q4]	
4 Open data plan (Q4)	
5 Update project communication pieces as needed: pamphlet, poster	

4.2 Project Coordination	
Lead: IFPRI/MSU	**Location:** Nigeria
Outputs: • Stakeholder engagements	**Outcomes:** • Promoting stakeholder consultation in the project and improving likelihood of program buy in and success
Sub-activities [Timing]:	**Matching indicators [Target]:**
1 Meetings with various stakeholders to ensure consistency and to avoid duplication of action (Quarterly)	NA
2 Meetings with other USAID implementing partners in the area of agricultural policy reform to coordinate activities and communications outreach (Quarterly)	
3 Advisory Committee meetings to discuss the project (Q2, Q4)	
4 Management Team meetings every 2 weeks	
5 Coordination between project to avoid unnecessary overlaps and confusion among project collaborators and stakeholders	
6 Ensure that project outputs are available: project website, DEC	
7 Quarterly field visits with USAID to monitor progress	

<table>
<tr><td colspan="2">4.3 Reporting and Monitoring and Evaluation</td></tr>
<tr><td>Lead: IFPRI/MSU</td><td>Location: Nigeria</td></tr>
<tr><td>Outputs:
Data base of indicators
Survey report
Project quarterly reports</td><td>Outcomes:
Adherence to award requirements
Promoting stakeholder consultation in the project and improving likelihood of program buy in and success</td></tr>
<tr><td>Sub-activities [Timing]:</td><td>Matching indicators [Target]:</td></tr>
<tr><td>1 Collect indicator information for reporting purposes (Quarterly)</td><td rowspan="8">NA</td></tr>
<tr><td>2 Follow up on major conference (Q4)</td></tr>
<tr><td>3 Midline survey of the stakeholder assessment of agriculture and food security processes (Q2, Q3, Q4)</td></tr>
<tr><td>4 Financial Reports (Quarterly)</td></tr>
<tr><td>5 Weekly bullet point for USAID publication [Q1-Q4]</td></tr>
<tr><td>6 Quarterly reports (Q1, Q2, Q3)</td></tr>
<tr><td>7 Annual report (including indicators) (Q4)</td></tr>
</table>

Appendix A: Summary Year 3 Work Calendar

Component/Activity Description			Y3 2017/2018			
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Component 1: A Strategy for Enhancing National Agriculture and Food Security Policy Capacity						
	Activity 1.1 FMARD/National Trainings:					
	1.1.1 FMARD Capacity Building Activities					
		1 Policy analysis using Stata/Excel				
		2 Results based M&E				
		3 Policy communications				
		4 Extension policy reforms				
		5 Economywide modelling and macroeconomic adjustment				
		6 Technical training evaluations				
	1.1.2 National Training Universities, think tanks, research institutions, CBOs, NGOs)					
		1 Policy analysis using Stata/Excel				
		2 Results based monitoring and evaluation				
		3 Policy communications				
		4 Computer assisted personal interviews				
		5 Technical training evaluation (Quarterly)				
		6 Ad hoc training courses demanded by other universities from FtF focused states				
	Activity 1.2 State Trainings and capacity building efforts:					
	1.2.1 Data and Policy analysis training/workshop for ministry staff and academics in the 7 FTF states and Policy Analysis for Priority areas as part of research activity 2.2.3					
		1. Data analysis training for the 7 FTF states [Q2, Q3, Q4]				
		2. Training for ministry staff and academics in the 7 FTF states on writing policy briefs [Q2, Q3, Q4]				
		3. Production of 1 draft policy brief for each of the 7 FTF states. [Q4]				
	Activity 1.3 Nigeria Student Capacity Building					
	1.3.1 Project Scholars					

		1. Pre-arrival workshop/training on data analysis with Professor Jeffery Wooldridge (to be extended to other students and faculty in FTF states) Q2 or Q3				
		2. Securing visa for graduate students from Nigeria: [Q1, Q3]				
		3. Graduate student come for training at MSU: [Q1 - Q4]				
		4. Nigerian Graduate student presentations at MSU/IFPRI: [Q1]				
		5. Securing visa for Nigerian professors to visit MSU and IFPRI Headquarters: [Q1, Q3, Q4]				
		6. Nigerian professors visit MSU: [Q1]				
		7. Nigerian professor's presentations at MSU: [Q1]				
		8. Nigerian professors' meetings with various faculty at MSU: [Q1]				
		9. Blog used by scholars to increase dissemination of best practices. [Annual]				
		10. Students identify other avenues for outreach (e.g. TV, radio etc.): [Annual]				
		11. "Old" scholars give presentations in Nigeria at dissemination fora. [Q1, Q3]				
Component 2: Policy driven collaborative research and analysis.						
	Activity 2.1 FMARD/National Research and analysis:					
	2.1.1 Leveraging agriculture transformation for improving food and nutrition security in rural Nigeria					
		1 Form research team, request access to survey data, and review relevant literature (Q1/Q2)				
		2 Clean survey data and compile dataset for analyses (Q2)				
		3 Analyze data and perform estimations (Q3)				
		4 Draft research paper and policy note finalized (Q4)				
	2.1.2 Subnational panel data analysis of public investment's agricultural welfare effects: Study across Nigeria and in seven selected states					

		1 Research team formed (Q1/Q2)				
		2 Conceptual framework and methodology finalized (Q1)				
		3 Data collected and organized (Q2)				
		4 Team lead travels to Nigeria to engage face-to-face with team members and relevant government partners (Q2)				
		5 Preliminary data analysis completed (Q3)				
		6 Draft writeup of results completed (Q3)				
		7 Working paper completed (Q4)				
		8 Policy brief completed (Q4)				
		9.Research results presented at workshop in one of the 7 selected states				
	Activity 2.2 State Level Research and Analysis:					
	2.2.1 Understanding the landscape for land access in Nigeria and its relation to food security within the realm of various global factors -					
		Activity 1 - Focus Group Discussions [Q1]				
		Activity 1 - Data analysis/draft report writing [Q4]				
		Activity 1 - Dissemination of preliminary findings [Q4]				
		Activity 1 - Report writing [Q4]				
		Activity 2: Develop sample frame – [Q 1]				
		Activity 2: Develop Survey instrument - [Q 1]				
		Activity 2: Administration of survey – [Q1, Q2]				
		Activity 2: Analysis – [Q 3, Q4]				
	2.2.2 Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria					
		1. Development of downscaled production model for southeastern Nigeria and testing of scenarios using model [Q1]				
		2. Collection of data re: community-scale climate adaptation efforts [Q2-Q3]				
		3 Analysis of data Q3-Q4				
		4 Completion of report Q3-Q4				
	2.2.3 State level research on aquaculture in Kebbi State					
		1. Research team finalization [Q1/Q2]				

		2. Literature review and background information on the subsector and relevant government policies [Q1/Q2]				
		3.Data collection on aquaculture and fish production [Q2]				
		4.Workshop on data analysis and policy [Q2]				
		5.Validation [Q4]				
		6.Finalizing and dissemination of Policy Note [Q4]				
	2.2.4. Agricultural Mechanization					
	Part 1: Analyses of demand for agricultural mechanization					
		1 Research team formed (Q1/Q2)				
		2 Literature review on the linkages between the demand for agricultural mechanization and agroecological conditions, farming systems, complementary technologies (Q1)				
		3 Development of conceptual and empirical framework (Q2)				
		4 Data analyses based on LSMS-ISA (Q3)				
		5 Completion of report (Q4)				
	Part 2: Assessment of transaction costs on agricultural mechanization with a specific focus on agricultural finance					
		6 Literature review on experiences elsewhere on the patterns agricultural finance and mechanization growth and the role of credit history in agricultural contexts (Q1)				
		7 Preparations of small surveys (for farmers and retailers/lenders) (Q1)				
		8 Small surveys implemented in two selected states (Q2)				
		9 Data analyses and writing of draft working paper (Q3)				
		10 Completion of report (Q4)				
	2.2.5 Land Access, Migration Decisions and Youth Employment in the Nigerian Agricultural Sector					
		1 Research team formed (Q1/Q2)				
		2 Conceptual framework finalized and data cleaning				
		3 Data cleaning and collection of secondary data (field visits) completed				
		4 Review of relevant literature and methodology finalized				
		5 Preliminary data analysis completed				
		6 Draft write up of results completed				

		7 Working paper completed				
		8 Policy note completed				
	2.2.6 Assessment of agricultural storage infrastructure and market characteristics in Nigeria					
		1 Research team formed (Q1/Q2)				
		2 Dataset on disaggregated prices for Kebbi State				
		3 Pre-harvest market characteristics survey				
		3 Pre-harvest market characteristics survey dataset				
		4 Post-harvest market characteristics survey				
		5 Second round market characteristics survey dataset				
		6 Working paper on price transmission and seasonality				
		7 Policy brief on price transmission and seasonality				
		8 Research paper on market characteristics and storage infrastructure				
		9 Policy brief on market characteristics and storage infrastructure				
	2.2.7 Monitoring and evaluating the agricultural sector's role in macroeconomic adjustment					
		1 Study research team formed (Q1/Q2)				
		2 Construction of national level social accounting matrix (SAM)				
		3 Disaggregation of the SAM and linked microsimulation model for the 7 FtF states				
		4 Draft paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process				
		5 Final paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process				
		6 Final SAM and microsimulation module including documentation				
		7 Draft documentation for a Nigeria Economywide model with agricultural sector detail and seven key states broken out for relevant activities, factors, and households				
		8 Draft research paper that combines simulation of the economywide modelling framework with available facts on the ground to support, monitor, and evaluate the ongoing restructuring process				

		9 Final documentation for a Nigeria Economywide Model with agricultural sector detail and the seven key states broken out for relevant activities, factors, and households				
		10 A final research paper that combines simulation of the economywide modeling framework with available facts on the ground				
		11 The formation of a group of Nigerian analysts who have been engaged in the analytical process and have thus gained familiarity with the frameworks employed				
	2.2.8 The political economy of informal food retail trade: The case of Nigeria's secondary cities					
		1 Research team formed (Q1/Q2)				
		2 Identify survey company to help implement the questionnaires				
		3 Engage in background literature review on informal vending in Nigeria to inform the survey and interview questions as well as the sampling design for the surveys				
		4 Identify key contacts for interviews				
		5 Draft semi-structures interview templates				
		6 Draft survey questionnaires for IFPRI's Institutional Review Board approval				
		7 Enumerator training				
		8 Field surveys				
		9 Conduct semi-structured interviews				
		10 Drafting of paper on "The political economy of informal retail trade: The case of Nigeria's secondary cities				
Component 3: Strengthening evidence-based policy process and promoting impact						
	Activity 3.1 Outreach, engagement and Dissemination of Results from component 2					
	3.1.1: FMARD/National/ State Level Dissemination					
		1 Leveraging agricultural transformation for improving food and nutrition security in rural Nigeria				
		2 Subnational panel data analysis of public investment's agricultural welfare effects: Study across Nigeria and in seven selected states				
		3 Agricultural mechanization to include a workshop to produce blueprints to improve policy				

		4 Land access, migration decisions and youth employment in the Nigerian agricultural sector to include a workshop to produce blueprints to improve policy				
		5 Assessment of agricultural storage infrastructure and market characteristics in Nigeria				
		6 Monitoring and evaluating the agricultural sector's role in macroeconomic adjustment				
		7 The political economy of informal food retail trade: The case of Nigeria's secondary cities				
		8. Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria				
		9 Land Access in relation to agricultural commercialization, smallholder farmers and emergent investor farmers.				
		10 Development of a Policy Guideline/Note that outlines the steps on how to access land for agriculture in each of the 7 FTF Focus States				
	3.1.2: Second Conference of the Feed the Future Nigeria Agricultural Policy Project					
		1 Large project dissemination activity and conference				
	3.1.3: Support to FMARD policy processes					
		1 Support to FMARD policies (APP, NAIP, CAADP, CAP-F)				
		2 Support to the Efficiency and Coordinating Units of FMARD				
		3 Support to ARCN				
		4 Support to NAERLS				
		5 Policy round tables for the National Assembly				
	Activity 3.2 Support for State Agricultural Policy Development (or Review) for two FTF states					
	3.2.1 Support for State Policy Development (or Review) Kebbi and Cross River States (FTF states)					
		1.1 Situation Analysis Kebbi State (Q1)				
		1.2 Situation Analysis Cross River State (Q1)				
		1.3 Stakeholder engagement Kebbi State (Q2)				
		1.4 Stakeholder engagement Cross River State (Q2/Q3)				
		1.5 Drafting/Stakeholder Review Kebbi State (Q3)				
		1.6 Drafting/Stakeholder Review Cross River (Q3/Q4)				

		1.7 Validation/Presentation in Kebbi State (Q4)				
		1.8 Validation/Presentation in Cross River (Q4)				
	Activity 3.3: Media engagement and Training					
	3.3.1: Media engagement and Training (Federal Level)					
		1 Number of learning and brainstorming sessions undertaken with media (Quarterly)				
		2 National Assembly media training courses (Q2, Q3, Q4)				
	3.3.2: Media engagement and Training at the State Level (Agricultural Communication and Grant Writing)					
		1 Development of course content [Q2]				
		2 Identification and selection Of course participants across the FTF Focus States and Abuja [Q1/Q2]				
		3 Delivery of courses in Abuja and the 7 FTF states[Q2, Q3,Q4)				
		4 Follow Up [Q4}				
	Activity 3.4 Engagement with private sector					
	3.4.1: Engagement with private sector					
		1 Attend NABG stakeholder meetings (Q1, Q2, Q3, Q4)				
		2 Organize joint dissemination events with NABG (Q2, Q4)				
	Activity 3.5: Engagement with other non-govt stakeholders (civil society and think tanks) with particular focus on FTF states, where possible					
	3.5.1: Engagement with non-govt stakeholders (e.g. civil society, NGOs, and think tanks) with particular focus on FTF states #1					
		1 Meeting with various stakeholders in the policy process (APRNET) (Quarterly)				
		2 Engage with associations that would enable the project to reach more broadly the Ag. Econ community in Nigeria (Nigerian Ag. Economics Association, ADAN) (Quarterly)				
		3 Meeting with various stakeholders in the policy process identified during the course of the project (ADWG) (6 meetings per year? Quarterly)				
		4 Attend stakeholder meetings (Quarterly)				
Program Management						
	4.1 Project Administration					
		1Annual work plan development (Q4)				

		2 Sub-contracting completed based on workplan (Q4)				
		3 Financial management of project resources, efficient submission and reimbursement of invoices [Q1-Q4]				
		4 Open data plan (Q4)				
		5 Update project communication pieces as needed: pamphlet, poster				
	4.2 Project Coordination					
		1 Meetings with various stakeholders to ensure consistency and to avoid duplication of action (Quarterly)				
		2 Meetings with other USAID implementing partners in the area of agricultural policy reform to coordinate activities and communications outreach (Quarterly)				
		3 Advisory Committee meetings to discuss the project (Q2, Q4)				
		4 Management Team meetings every 2 weeks				
		5 Coordination between project to avoid unnecessary overlaps and confusion among project collaborators and stakeholders				
		6 Ensure that project outputs are available: project website, DEC				
		7 Quarterly field visits with USAID				
	4.3 Reporting and Monitoring and Evaluation					
		1 Collect indicator information for reporting purposes (Quarterly)				
		2 Follow up on major conference (Q4)				
		3 Midline survey of the stakeholder assessment of agriculture and food security processes (Q2, Q3, Q4)				
		4 Financial Reports (Quarterly)				
		5 Weekly bullet point for USAID publication [Q1-Q4]				
		6 Quarterly reports (Q1, Q2, Q3)				
		7 Annual report (including indicators) (Q4)				

Appendix B: Year 3 Indicator Targets

[Strategic Objective]												
Indicator	**Data Source**	**Baseline data**		**FY 2018**		**Quarterly Status – FY 2018**				**Annual Performance Achieved to Date (in %)**	**Comment(s)**
		Year	**Value**	**Annual Cumulative Planned target**	**Annual Cumulative Actual**	**Q1**	**Q2**	**Q3**	**Q4**		
Intermediate Result (IR): 1.1. Increased agricultural competitiveness 1.2 Improved business environment 3.2 Improved responsiveness of targeted government institutions 3.3 Increased capacity for civic advocacy, monitoring, and engagement											
Sub-IR: 1.3 Improved agricultural policy environment											
1. Number of high quality research reports published having undergone peer review (internal/external) and disaggregated by type (working papers and journal articles). Custom Indicator	Project records	NA	NA	11 Working papers							
2. Number of participants attending project organized research and policy events Custom indicator	Project records	NA	NA	680							

3. Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of USG assistance in each case: 1. Analysis 2.Stakeholderconsultation/public debate 3. Drafting or revision Examples will include state policies, Federal polices (e.g. Ag extension) Standard Feed the Future (FtF) Indicator EG.3.1-12	Project records	NA	NA	3							
4. Number of completed collaborative policy research work and analysis completed jointly with local partner (Custom)	Project records	NA	NA	7							
5. Number of individuals who have received USG supported short-term technical training in agricultural sector productivity or food security policy analysis training. Standard Feed the Future (FtF) Indicator EG.3.2-1	Project records	NA	NA	750							
6. Number of individuals who have received USG supported degree-granting agricultural sector productivity or food security training Standard Feed the Future (FtF) Indicator EG.3.2-2	Project records	NA	NA	5							

7. Number of government units or divisions that have received short-term training disaggregated by New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) Custom Indicator	Project records	NA	NA	11							
8. Number of agriculture policy communications developed and/or written for stakeholder consumption disaggregated by: Type of communication (policy brief, newspaper article, white paper, radio program, television program), main stakeholder group targeted (GON, private sector, civil society), and Lead in policy communication developed or written: GON, USG, private sector, civil society Custom Indicator	Project records	NA	NA	18							
9. Number of public private advocacy dialogues focused on policy that supports private sector investment Custom Indicator	Project records	NA	NA	4							

10. Number of for profit private enterprises, producer's organizations, water user's associations, women's groups, trade and agribusiness associations (such as farmer based organizations) and community-based organizations (CBOs) receiving USG assistance disaggregated by: New (receiving USG assistance for the first time) and Continuing (received USG assistance the previous year) Standard Feed the Future Indicator EG3.2-4	Project records	NA	NA	30							
11. Index (or scorecard] of quality of agriculture and food security policy processes in Nigeria, as measured by stakeholder evaluation to capture level of satisfaction and confidence	Baseline, mid-term and end-line	NA	NA	1.3							
12. Index (or scorecard] of quality of the institutional architecture for agriculture and food security policy processes in Nigeria, as measured by stakeholder evaluation survey to capture level of satisfaction and confidence	Baseline, mid-term and end-line	NA	NA	1.5							

Appendix C: MSU Budget, USD

	1.3.1: Project scholars	2.2.1 Understanding the landscape for land access in Nigeria and its relation to food security within the realm of various global factors	2.2.2 Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria	2.2.3 State level research on selected priority areas/crops of the state	3.2.1 Policy support for Kebbi State	3.1.1 and 3.5.1: Dissemination activities and engagement with non-govt stakeholders (e.g. civil society, NGOs, and think tanks) with particular focus on FTF states	Activity 4. 1: Program Management	Total
Total Personnel	$42,378	$33,125	$31,669	$14,127		$0	$95,916	$217,214
Total Travel	$67,055	$7,955	$7,955	$6,470		$0	$0	$89,435
Total Other Direct Costs	$192,931	$14,332	$23,132	$16,132	$59,524	$7,937	$1,000	$314,988
Total Indirect Costs	$78,615	$12,293	$14,202	$7,435	$15,476	$2,064	$25,198	$155,283
Total Direct and Indirect Costs	**$380,979**	**$67,705**	**$76,958**	**$44,164**	**$75,000**	**$10,001**	**$122,114**	**$776,920**

Appendix D: IFPRI Budget, USD

IFPRI Budget for Feed the Future Nigeria Agricultural Policy Project (NAPP), USD

Budget category		TOTAL $
Total direct labor		
Salary and wages	$	498,234
Fringe benefits	$	291,467
Consultants	$	406,910
Travel, transportation, and per diem	$	116,900
Facilities and supplies	$	285,525
Sub-awards	$	-
Allowances	$	131,007
Participant training	$	270,604
Other direct cost	$	221,576
Indirect Cost	$	377,778
General & administrative costs	$	-
Material overhead	$	-
Total Estimated Cost	**$**	**2,600,000**

IFPRI budget by Component

	Component 1	Component 2	Component 3	Project Management	Total
Direct costs	531,149	865,114	329,451	496,508	2,222,222
Indirect costs	90,295	147,069	56,007	84,406	377,778
Total	**621,444**	**1,012,184**	**385,458**	**580,915**	**2,600,000**

Appendix E: Proposed new capacity building activities for Year 3: Component 1.

Activity 1.1.1.4 Building Capacity for Developing and implementing Extension Policy Reforms

Proposed capacity building activity for Year 3 (Oct. 2017 – Sept. 2018) of the Nigeria Agricultural Policy Project – to be led by Dr. Suresh Babu (Senior Research Fellow and Head of Capacity Strengthening, IFPRI).

Nigerian agriculture continues to be an important contributor to the national economic growth. This contribution crucially depends on the productivity growth in the agriculture sector. The total factor productivity of Nigerian agriculture in turn depends on the innovation based knowledge famers have and apply in their crop, livestock, and fisheries production activities. Yet, the major source of knowledge and it delivery namely the public extension system has been facing institutional and capacity challenges in the past. There has been increased call for reforming the extension system in developing countries in the last 10 years and the countries such as Brazil, China, and India have moved ahead with such reforms. In Nigeria, there is a similar need to design and implement the extension policy and system reforms to achieve the expected productivity growth envisioned both in the ATA and APP.

As one of the three components of the Nigeria Agricultural Policy Project (NAPP) on Capacity Building, this proposed activity will focus on developing national and state level capacity for designing and implementing policy reforms in the extension and rural advisory services.
Specific objectives of the proposed capacity strengthening activity will include conducting a national level and two state level consultations to help produce needed capacity at the FMARD level and in the state level as a pilot for Extension System Policy Reforms.

The expected participants for the national level consultations will include the key policy makers and implementers (including but not limited to FMARD, ARCN, and other relevant departments) mentors at the federal level who are responsible for designing and implementing extension system and policy reforms. The audience at the state level will include the state level leaders of the agriculture development programs and other extension programs.

The activities at the state level will focus on two states as pilots to develop and streamline the contents to be used in the implementation of similar workshops for the rest of the states. The national level workshop will be considered as the training of the trainers who will further use the skills and knowledge develop to implement the state level workshops. These states will be selected form the Feed the Future focus states – see Benue, Cross River, Delta, Ebony, Kaduna, Kebbi, and Niger.
The expected outcomes of this activity will include a set of learning materials for the national and state level consultations. Further based on the outcome of the workshops the process and the outcomes will be documented in a discussion paper and a policy note.

The timeframe for the activity will be as follows: The first national level training will take place in the 2nd Quarter of FY 2018 (see Jan. to March 2018) and the state level activity will take place in the 3rd Quarter of FY 2018 (see April to June 2018). In the final Quarter of Year 3 (see July to September 2018) a discussion paper and a policy note will be prepared for publication.

Activity 1.1.1.5 Capacity building in economywide modeling and macroeconomic adjustment

Proposed capacity building activity for Year 3 (Oct. 2017 – Sept. 2018) of the Nigeria Agricultural Policy Project – to be led by Dr. Channing Arndt (Senior Research Fellow, IFPRI)

This training activity is designed to articulate with the proposed research effort entitled "Monitoring and Evaluating the Agricultural Sector's Role in Macroeconomic Adjustment." IFPRI has considerable experience in designing and running these kinds of training efforts and maintains to significant pool of existing material from which to draw. The training effort will focus on social accounting matrices, fundamental macroeconomic adjustment mechanisms, and economywide modeling.

For the purposes of the formation of a group of Nigerian analysts who are capable of engaging in a collaborative research effort examining the issues and using the frameworks set forth in the "Monitoring and Evaluating the Agricultural Sector's Role in Macroeconomic Adjustment" research effort, the training effort will rely upon self-taught, distance learning, and face-to-face modules. The idea is to offer low cost but effective training in self-taught and distance learning modes. Trainees who have exhibited interest and capabilities will be invited to the more detailed face-to-face sessions.

Particular effort will also be made to support researchers within the Federal Ministry of Agriculture and Rural Development (FMARD) (and other staff members depending on demand in other ministries e.g. the Ministry of Planning and Ministry of Finance) by organizing training courses on economywide modeling in Abuja or in another appropriate location to be determined in due course. For the purposes of informing relevant government officials on the frameworks, a shorter training session will be prepared.

Exact logistics will depend upon numerous factors. It is expected that the self-taught and distance learning modules will be launched in Q1. These will continue in Q2 and culminate in a face-to-face course, potentially to be held in February 2018 at Ahmadu Bello University (ABU). Ideally, both groups of participants will assemble at ABU with the more intuitive, policy oriented training delivered first and then only the group of analysts staying for the more technical sessions thereafter.

Appendix F: Description of Year 3 policy driven collaborative research and analysis activities: Component 2

Activity 2.1.1: Leveraging Agriculture Transformation for Improving Food and Nutrition Security in Rural Nigeria

Research Team Lead: Dr. Olivier Ecker (Senior Research Fellow, IFPRI)

Background & Motivation

After years of neglect, the Government of Nigeria began to reform the agricultural sector in 2011, following the strategic directions set by the "Agricultural Transformation Agenda (ATA)" (FMARD 2016). The ATA's core purpose was to help Nigeria to refocus attention to agriculture, and the strategy's main goal was to rebuild the agricultural sector (FMARD 2016). The current five-year strategy—denoted the "Agriculture Promotion Policy (APP)" and implemented in 2016—builds on the achievements made under the ATA. The APP aims at addressing two key challenges of Nigeria's agriculture: (1) the inability to meet the domestic food requirements and (2) the inability to successfully serve the export market for agricultural products (FMARD 2016). Despite vast agricultural potential, Nigeria imports food—mostly staple foods—worth billions of US dollars annually. Many Nigerians—including a large proportion of the farming population—lack adequate food for a healthy diet and suffer from malnutrition (FMARD 2017). In rural areas, chronic undernutrition affects an estimated 43 percent of children under five years (NPC & ICF Intl. 2014), and an estimated 75 percent of children in the same age group are anemic (NMEP et al. 2016). These alarmingly high prevalence rates of both forms of malnutrition are likely caused by inadequate nutrient intakes (in addition to infectious diseases and inappropriate child care and feeding practices) (FMARD 2017). Moreover, the single, most common shock to people's livelihoods is food price increases, and food shortages due to agricultural seasonality are widespread (NBS et al. 2016). Households typically cope with food shortages by reducing their food consumption (NBS et al. 2016). Yet, even transitory food shortages can have irreversible nutritional consequences—especially for children.

To go forward, the Government of Nigeria has set four policy priorities to overcome the current challenges of the agricultural sector: (a) food security, (b) import substitution, (c) job creation, and (d) economic transformation (FMARD 2016). Principles of the APP include: agriculture as a government-enabled, private sector-led business; commercial agriculture as a driver of rural economic growth and employment generation; prioritization of crops for improved domestic food self-sufficiency and increased export earnings; market orientation to stimulate agricultural production; and nutrition-sensitive agriculture to address child undernutrition and other forms of malnutrition (FMARD 2016). Complementing the APP, the Government of Nigeria developed the Agricultural Sector Food Security

and Nutrition Strategy 2016–2025 (AFSNS) to guide the activities of the Federal Ministry of Agriculture and Rural Development (FMARD) and the wider agricultural sector in Nigeria for improved food security and nutrition (FMARD 2017). The AFSNS is based on the understanding that nutrition-specific interventions—such as micronutrient supplementation, breastfeeding, and immunization, which all address the immediate causes of malnutrition (inadequate nutrient intakes and infectious diseases)—are necessary but insufficient for achieving adequate nutrition at large (FMARD 2017). Nutrition-sensitive interventions, which are usually implemented at scale and address the underlying causes of malnutrition (including food availability, income poverty, and poor infrastructure), are required at least just as much. Agriculture provides a unique platform for nutrition-sensitive interventions, because it is the source of food and (most) nutrients; it provides the livelihood of the majority of Nigeria's food insecure population; it affects food prices; and it influences women's control over resources and the time they have available for child care and feeding (FMARD 2017). The AFSNS defines several strategic priority areas that include: enhance value chains for improved nutrition; and diversify household food production and consumption and increase access to micronutrient-rich foods (FMARD 2017).

To identify effective policy instruments along the APP's principles and corresponding to the AFSNS's priorities, a good understanding of the linkages between farming systems, rural market integration, household food consumption, and nutritional outcomes as well as of the potential impacts of available policy options on this nexus is beneficial. However, research-based evidence in this direction is missing in the context of Nigeria. Both the APP and AFSNS documents emphasize the importance of research for setting the policy agenda and criticize the lack of policy relevance of the existing research (FMARD 2016, 2017).

Research Goal & Objectives

The goal of the proposed study is to provide such demand-driven, rigorous research and hence to contribute to improved, evidence-based decision making in the ongoing agricultural reform process. The study has two objectives: First, it will provide a regional overview of household food and nutrition security across Nigeria, seasonal differences in this situation, and changes over time. The study thereby complements previous nutrition-related studies by researchers of the International Food Policy Research Institute (IFPRI; e.g. Benson et al. 2017) and others. It is expected to provide additional insights into the reliability of available estimates of child undernutrition prevalence that are subject of an ongoing debate. Thus far, there is no study for Nigeria that utilizes available, representative household food consumption data for food and nutrition security analysis—an untapped source of information that can help to better understand food insecurity and malnutrition patterns and contextualize (controversial) estimates of nutritional outcomes. The analysis will pay particular attention to the situations and trends in the seven focus states of the Feed the Future (FtF) initiative of the United States Agency for International Development (USAID) in Nigeria (Benue, Cross River, Delta, Ebonyi, Kaduna, Kebbi, and Niger). The analysis may help the Government of Nigeria, USAID, and other development partners to better target food and nutrition-related policies and programs and further increase their efficiencies.

Second, the study will econometrically explore the (causal) effects of agricultural production patterns on food and nutrition security indicators among farm households. It will account for key determinants of agricultural transformation in Nigeria such as household market access, food prices, agricultural seasonality, agroecological conditions, and farm household characteristics. The rationale underlying the second part of the study is that agricultural commercialization and intensification of farming systems are typically accompanied by specialization of production on few profitable crops (or livestock, poultry, or aquaculture products) at the farm level, which leads to reduced farm production diversity and low household food self-sufficiency levels (Boserup 1965; Pingali and Rosegrant 1995; Ruthenberg 1971). In return, farm households increasingly rely on food markets to maintain (or improve) their level of and diversity in food consumption. Hence, farmers' ability to successfully engage in agricultural commercialization and intensification without compromising their food and nutrition security is subject to existing market failures that may not allow them to separate production from consumption decisions (Morduch 1995; von Braun 1995). In the presence of consumer market failures, policy-induced changes in farm production patterns, as well as regular agricultural seasonality, may have critical nutritional implications. Given Nigeria's vast regional differences in rural infrastructure endowment and agricultural production conditions between the North and the South, the study will be conducted separately for these two parts of the country in order to be able to derive differentiated policy recommendations from the empirical results. The study's findings are expected to provide new insights that can help the Government of Nigeria to formulate and implement effective policies along the APP's principles and corresponding to the AFSNS's priorities.

Methodology & Data

Consistent with the research objectives, the proposed study will include two analyses: The first analysis will be (quantitatively) descriptive. It will provide estimates of average calorie and micronutrient intakes per capita and prevalence rates of respective deficiencies in Nigeria at the national and geopolitical zone levels and for rural and urban areas at each level. The estimations will be conducted for two years (2012-13 and 2015-16) and each for the post-planting and post-harvest seasons. Changes in average calorie and micronutrient intakes and deficiency rates over the three-year period and between the different seasons will be assessed (using t-tests). These estimates will be related to estimates of perceived household food insecurity (measured by the Household Food Insecurity Access Scale; Coates at al. 2007), child undernutrition (measured by anthropometry), and child anemia (measured by blood test for hemoglobin concentration) at the aggregate level (using comparisons of means and prevalence rates) and the household/individual level (using correlation analyses). Similar assessments will be made for all seven FtF focus states, and the estimates will be compared to the respective geopolitical zone estimates to assess the states' relative performance.[12]

The second analysis will econometrically estimate the (causal) effects of farm production diversity on calorie and micronutrient intakes and adequacies of farm households in North and South Nigeria. It will account for key determinants of agricultural transformation and control for farm household

[12] Benue and Niger states are located in the North-Central zone; Cross River and Delta states are located in the South-South zone; Ebonyi state is located in the South-East zone; and Kaduna and Kebbi states are located in the North-West zone. Note that the used GHS-Panel is not designed to be representative at the state level. However, the number of observations for these states appear to be sufficient to generate reliable estimates.

characteristics. The econometric model will adopt an instrumental variable (IV) approach and exploit cross-sectional and inter-temporal variations in the used household panel datasets. The estimations will apply panel data from the post-planting and post-harvest seasons of the same year—for both 2012-13 and 2015-16—to explore seasonality effects and panel data from the post-planting seasons in 2012-13 and 2015-16 as well as the post-harvest seasons of both years to explore longer-term effects.

The main datasets for both analyses will be the second and third wave of the Nigeria General Household Survey Panel (GHS-Panel). The GHS-Panel is implemented in collaboration with the World Bank Living Standards Measurement Study (LSMS) team as part of the Integrated Surveys on Agriculture (ISA) program. The GHS-Panel is a nationally representative survey (of 5,000 households in the first wave), which is also representative of the geopolitical zones at both the urban and rural level. The survey includes a detail household food consumption module that allows to calculate calorie and micronutrient intakes. These intakes will be related to individual calorie and micronutrient requirements (available from the nutrition literature) to determine households' adequacy status. The GHS-Panel also includes a module for assessing perceived household food insecurity and—for the post-harvest season—a child anthropometry module. For the descriptive analysis, the GHS-Panel datasets will be combined with data from the Nigeria Demographic and Health Survey (DHS) 2013 and the Nigeria Malaria Indicator Survey (MIS) 2016. For the econometric analysis, the GHS-Panel datasets will be combined with agroecological and geospatial datasets compiled by IFPRI and food market price data collected by the Famine Early Warning System Network (FEWSNET).

Outputs

The proposed study will produce the following outputs:

1. Research paper: Detailed description of analytical approach, study findings, and policy implications
2. Policy note: Summary of key study findings and policy implications
3. Workshop Presentation: Presentation (using PPT) of analytical approach, key study findings, and policy implications to policy makers, program implementers, analysts, and the interested public in Abuja, Nigeria

Timeframe

The timeframe of the proposed study comprises the coming USAID fiscal year—from October 2017 to September 2018. The study will be implemented as follows:

Q1: Form research team, request access to survey data, and review relevant literature

Q2: Clean survey data and compile datasets for analyses

Q3: Analyze data and perform estimations

Q4: Draft research paper and policy note and give presentation at workshop

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Activity 2.1.2: Subnational panel data analysis of public investment's agricultural and welfare effects: Study across Nigeria and in seven selected states

Research Team Lead: Dr. Tewodaj Mogues (Senior Research Fellow, IFPRI)

1. Background/Rationale

Public expenditures and agricultural performance

Agriculture is often considered to be the sector with the greatest potential for pro-poor growth in Nigeria. While it only contributes 21 percent to GDP, yet 48% of total employment is in agriculture, 52% of the population is rural (of which in turn 53% are below the poverty line), and 78% of all land area is dedicated to agriculture (WDI 2016).

The way that public expenditures are allocated by governments can importantly shape the performance of the sector (Mogues, Fan and Benin, 2015). Along with other public policies, public expenditures in Nigeria can create incentives—or disincentives—to farmers and agribusiness to invest in the sector (MAFAP 2013a/b/c/d/e/f/g). The World Development Report on agriculture (World Bank 2007a) asserted that effective resource allocation to the agricultural sector, such as for the delivery of services like extension, credit, research and development, and plant and livestock disease control, are critical to the strong performance of the agricultural sector. In Nigeria, the public sector still plays a major role in providing and financing such services—although private service providers are also central, for example in input supply and output processing and marketing.

Importance of subnational public expenditures

As in other countries, the public sector involved in agricultural investments in Nigeria is not monolithic, but consists horizontally of different agencies and parastatals, as well as vertically of different tiers of government, i.e. the federal, state, and local governments. In many developing countries, especially in Africa, subnational governments play a relatively limited role in overall public spending of the country. However, in large federal states like Nigeria, this is far from the case. Specifically, the 36 states of the Federal Republic of Nigeria, the Federal Capital Territory and the 774 Local Governments in Nigeria all perform a critical role in service delivery and public expenditure outcomes. State and local governments account for about 46% of public spending across all sectors in Nigeria (World Bank 2007b). Detailed data and research on the relative shares of federal, state, and local government spending in agriculture in Nigeria has not been assembled to date. Therefore, the equivalent figure in agriculture, i.e. the share of subnational agricultural spending in public agricultural spending across all tiers, is not known. However, it is likely to be larger than the share of aggregate subnational expenditure in aggregate Nigerian expenditure, given that there is a relatively stronger role for state and local governments in agriculture as compared to several other sectors such as energy, defense, or certain types of infrastructure.

2. Research question

Despite the potentially high weight of subnational in total spending in Nigeria, no rigorously derived evidence exists to date, to the best of our knowledge, on the impacts that subnational expenditures in agriculture have on agricultural and economic performance, and how these returns compare to those from expenditures in health, education, infrastructure, and other sectors. Recent studies, including Olomola et al. (2014) and Mogues et al. (2012), have provided quantitative albeit only descriptive trends and patterns in public expenditures in agriculture at the federal, state, and local government levels. However, detailed trends are produced at the subnational level only in a case-study approach, i.e. for a small sample of three states and three LGAs, albeit from diverse zones of the country. Two recent studies also conducted qualitative analyses on the political economy drivers of public expenditure decision-making in support of agriculture, based on key informant interviews in case study LGAs and states (Mogues and Olofinbiyi, 2016; and Olofinbiyi and Mogues, 2016). We propose to address this knowledge gap by conducting econometric analysis of the impacts of subnational (state and local government) public expenditures on agricultural productivity and economic welfare indicators.

3. Methodology

Past econometric peer-reviewed analysis of public expenditure impacts in and for agriculture have been conducted in the context of African countries such as Ethiopia (Mogues 2011), Ghana (Benin et al. 2012), and Uganda (Fan and Zhang, 2008), and in Asian countries such as China (Fan, Zhang and Zhang, 2004), India (Fan, Gulati and Thorat, 2008) and Thailand (Fan, Yu and Jitsuchon, 2008).

Data on state-level and LGA-level public spending will be drawn upon at the aggregate and for broad

functional categories,[13] as well as data on intergovernmental transfers to states and LGAs, which will serve as key instruments in the identification strategy of the analysis. Administrative data on a range of other state and LGA level characteristics will also be employed, as these will serve as needed control variables and in other capacities in the research. Outcome variables will include agricultural productivity and economic performance indicators. A careful examination of available data at the state and local level will determine the final indicators to be used in the study. In addition to the econometric analysis using data on all states and all LGAs, in-depth and separate quantitative analysis will be performed at the state- and LGA-level for the following seven states: Benue, Cross River, Delta, Eboni, Kaduna, Kebi, and Niger.

Further discussions with key public officials and technical experts in Nigeria, primarily in international organisations conducting analysis on public finance, the Federal Ministry of Planning and Budget, Federal Ministry of Finance, Central Bank of Nigeria, and other key agencies, will also contribute to refining the specific indicators considered of primary importance to the current policy considerations.

4. Research Team and Activities/Outputs

The core IFPRI research team will consist of Dr. Tewodaj Mogues (based in Washington DC, senior researcher and team lead), Dr. George Mavrotas (based in Abuja, senior researcher), and Ms. Motunrayo Oyeyemi (based in Abuja, junior researcher). In addition, the project will involve collaboration with at least one Nigerian researcher, based in one of the seven selected states included in the research. This collaborator is to be determined in the course of the first quarter of the project.

The following table summarizes the planned deliverables and outputs under this project for the duration of the fiscal year October 2017 – September 2018:

Activities / Outputs	Q1: Oct-Dec 2017	Q2: Jan-Mar 2018	Q3: Apr-Jun 2018	Q4: Jul-Sep 2018
Research team formed				
Conceptual framework and methodology finalized				
Data collected and organized				
Team lead travels to Nigeria to engage face-to-face with team members and relevant govt partners				
Preliminary data analysis completed				
Draft write-up of results completed				
1 NSSP Working Paper completed				
1 NSSP Policy Note completed				
Research results presented at a workshop in one of the 7 selected states				

[13] Experience in conducting data collection for past descriptive analysis on public expenditure patterns and trends at the subnational level in Nigeria (Olomola et al. 2014 and Mogues et al. 2012) has revealed that going beyond the broad functional categories to obtained a highly-detailed breakdown of public expenditures would require field visits to each of the states and LGAs. The focus on broad categories is thus necessitated by the prohibitive the time and resource requirements required for obtaining finegrained spending data for each state and LGA.

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Activity 2.2 State Level Research and Analysis:

Activity 2.2.1 Understanding the landscape for land access in Nigeria and its relation to food security within the realm of various global factors -

Research Team Lead: Dr. Oyinkan Tasie (Assistant Professor, MSU)

Background/Motivation:

Land access is critical to Nigeria's policy objective of enhancing agriculture to meet food security, enhance nutrition and more important stimulate the economy particularly with dwindling revenue from the oil and gas sector. However, to date Nigeria (and indeed) several countries in sub-Saharan Africa have unsuccessfully addressed issues that mitigate agricultural development and thereby impede delivery on food security and nutrition goals and targets. One issue that has gained governments' priority attention is the 'conflicting interests' between herder (largely nomadic) and crop farmers. Failure to address this issue has resulted in untold loss of lives and property. In a bid to address this issue, the current Nigerian administration has put forward a policy to establish grazing reserves across the country; but this is being opposed to by several state governments with some enabling legislation to foreclose the application of such policies within their jurisdiction. Under the project, there is ongoing a collaborative study that looks at this issue. The collaboration is with Nigerian faculty and personnel of the planning research and statistics units of the relevant state ministries of agriculture.

Further, for sustainability, a solution must incorporate a clear policy/guideline on how land can be accessed for agriculture. This appears to be non-existent. The Federal Ministry of Agriculture and Rural Development is in the process of developing one. The project is in discussion with FMARD and the relevant state ministries of agriculture and land to address this gap by developing a land policy note that addresses this issue for each of the respective focus states.

Finally, with the rapidly growing investor confidence in Nigeria's agriculture, there remains limited information about land structure in the country. More importantly, an understanding of how these investments affect small holders access to inputs and markets has yet to be studied. Hence, the importance of a study that provide information to help support government efforts to ensure that growth in Nigeria's food system is inclusive of small holders. The research activity under this component leverages substantially from other funding sources which include DFID and Bill and Melinda Gates Foundation.

Output

The proposed study will produce the following outputs:

1. Research paper: Detailed description of analytical approach, study findings, and policy implications
2. Policy note: Summary of key study findings and policy implications for each of the 7 FTF States on the issue of herder/crop farmer access to land
3. Workshop Presentation: Presentation (using PPT) of analytical approach, key study findings, and policy implications to policy makers, program implementers, analysts, and the interested public at the respective State Ministries of Agriculture

Timeframe

The timeframe of the proposed study comprises the coming USAID fiscal year—from October 2017 to September 2018. The study comprised of three activities will be implemented as follows:

Activity 1:

Q1: Focus Group Discussions

Q4: Data Analysis/Draft Report Writing

Q4: Dissemination of Preliminary Findings

Q4: Report Writing

Activity 2

Q1: Develop sample frame

Q1: Develop survey instrument

Q1/Q2: Administration of Survey

Q3/Q4: Analysis

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Activity 2.2.2 Environmental Research: Sub-national adaptation and/or resilience strategies in Nigeria

Research team leads: Dr. Laura Schmitt-Olabisi (MSU) and Dr. Saweda Liverpool-Tasie (MSU)

Background/Rationale

West Africa is expected to be one of the global regions to be hit the hardest by climate change in the agricultural sector (Parry et al. 2005). Mean annual rainfall in the Sahel region is declining and becoming more erratic while the growing season gets shorter and shorter. With this in mind, the Nigerian Agricultural Resilience Framework (NARF) was launched to find ways and means to prevent, mitigate and adapt to the negative effects climate change may have on agriculture in Nigeria. Among other things, NARF was meant to seek agricultural practices to prevent, mitigate and adapt to various shocks. Responding adequately to various shocks might require new and different agricultural practices from current practices. For example, adaptation will require the development and adoption of new varieties of traditional crops that are drought and disease resistant as well as early maturing. It may also require the development and adoption of completely new crops, new cropping systems, or new management strategies. Given that West Africa has experienced some of the most variable climate on the planet for thousands of years, strategies for enhancing agricultural resilience and adapting to climate change have evolved in the region. However, these strategies can be modified and enhanced to build a resilient agricultural policy in Nigeria, through a participatory research approach that works with and learns from community-level efforts. Evidence from southern Africa and Asia indicates that cropping systems that have undergone diversification and communities that have developed mechanisms for group learning and adaptation are more resilient in the face of climate change. By focusing attention on community-level dynamics and interventions, this project will shed light on mechanisms to promote self-determination and community-led strategies to promote agricultural resilience.

Objectives

The objectives for this study on enhancing regional and community-scale climate adaptation include the following:

1) Quantify and simulate the state-level system dynamics model for southeast Nigeria around the region's staple food crops (rice and or maize) to the year 2060, incorporating potential impacts of climate change, economic development, environmental degradation, etc.

Justification: stakeholders at meetings in Ibadan and Abuja identified rice as a crop of concern under climate change/variability. Southeast Nigeria, as one of the wetter regions of the country, is facing challenges of flooding and pollution that are different from the drought and unpredictable rainfall patterns facing the northern part of the country. In order to provide a comprehensive climate adaptation analysis, we are therefore studying these two different agro-ecological regions.

2) Use this model to develop conclusions around effective ways to build climate resilience for staple food production in southeast Nigeria

Justification: a quantitative model will allow us to run scenarios of management and policy options that could ameliorate the impacts of climate variability on yields and production. Many of these potential policy options have already been identified by stakeholders at the Abuja and Ibadan meetings last year and are listed in the meeting reports.

Methodology: We will use System dynamics modeling (SD) for objeectives 1 and 2. This is a technique that has been used since the 1960's to investigate solutions to complex problems over time. It has been applied in fields as diverse as business management, health, international relations, natural resource management, and urban planning. An SD model consists of a series of differential equations depicting relations between variables, and the output is calculated at sequential time steps.

Conduct inventory of community-level climate adaptation strategies in two key Nigerian states.

Justification: previous work in Nigeria and other West African countries has revealed that agricultural communities already have local mechanisms for dealing with climate change and variability. We wish to determine how these mechanisms are being used in Nigeria, their perceived benefits, and how they might be scaled up or disseminated to enhance resilience.

Methodology: We will analyze previous data sets, including the LSMS, for information on adaptation to climatic variability, and will collect interview and focus group data in villages in Kaduna/Kebbi and Ebonyi that have been particularly susceptible to climate variability in the past.

Activities / Outputs	Q1	Q2	Q3	Q4
1. Development of downscaled production model for southeastern Nigeria and testing of scenarios using model [Q1]				
2. Collection of data re: community-scale climate adaptation efforts [Q2-Q3]				
3. Analysis of data [Q3-Q4]				
4. Completion of report [Q3-Q4]				

Outcomes:
This research activity expects to provide evidence to support state level efforts (and national thinking) about strategies that can be used to build a resilient agricultural sector in Nigeria. .By focusing attention on community-level dynamics and interventions, this project will shed light on mechanisms to promote self-determination and community-led strategies to promote agricultural resilience in Nigeria. Working with stakeholders through the entire process is expected to secure more buy-in among relevant state actors.

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Activity 2.2.3 State level research on aquaculture in Kebbi State

Research Team Leads: Dr. Saweda Liverpool-Tasie (MSU), Dr. Michael Olabisi (MSU) or other Faculty at MSU

1. Background/Rationale

During year 2 of the Feed the Future Nigeria Agricultural Policy Project, a training on data analysis and presentation was organized in Abuja for the Directors of Planning, Research and Statistics from 34 of the 37 states of Nigeria and their Directors, Project Monitoring and Evaluation from the extension arms (Agricultural Development Programs-ADPs). The training was designed and facilitated by Dr. Saweda Liverpool-Tasie of Michigan State University (MSU) and faculty from several Nigerian Universities. It included modules on how to plot and interpret agricultural data such as crop yields, production and land area under cultivation. Following the training, participants worked in groups led by Nigerian faculty and supported by MSU faculty to further analyze the agricultural data on a key priority crop for their state and generated short policy notes documenting their analysis of the agricultural data in light of government programs. The project supported the dissemination of the completed notes in the FtF focus states between July and September 2017. During the handing over of the policy notes to the various state level Government officials, there was a general appreciation of the policy notes and requests made for assistance documenting on other priority crops and livestock in the states. Various states had specific questions they wanted answered on specific areas or subsectors and requested for the project's assistance in

this regard. In line with the project goal to support state government efforts to plan and implement sustainable agricultural policies based on analyses and programs that integrate scientific research, the policy project proposes to conduct state specific research on the requested focal areas that align with USAID priority areas in FtF focus states. The general idea is to conduct research on aquaculture in Kebbi State, with due consideration of the various state policies and programs. The research results will generate evidence to guide decision making at the state level, to strengthen the subsector.

The research will be conducted by MSU faculty alongside faculty of institutions of higher learning in the various FtF states (and possibly University of Ibadan) as well as staff of relevant departments in the various state ministries of agriculture.

2. Objectives

This proposed research activity demonstrates how the policy project can potentially achieve its 3 goals at the state level:

1. To strengthen the capacity of Nigerian analysts to undertake and disseminate relevant evidence-based policy analysis.
2. To promote and foster informed **policy dialogue** among all stakeholders in the agricultural sector.
3. To support state government efforts to improve their **capacities to plan and implement** effective policy analyses and programs, and demand and absorb policy research in their policy process.

The research conducted under this activity will be co-led by Nigerian scholars working with MSU faculty and staff of departments in the state ministries of agriculture. This provides opportunity for capacity strengthening. Working with staff of the relevant departments of the state ministries of agriculture (with opportunities for engaging other government and private sector stakeholders) increases the likelihood of buy-in by the stakeholders and potentially improves dialogue between stakeholders. The research will also provide empirical evidence to guide states in developing programs and policies to appropriately support the relevant subsectors. Furthermore, the research activity is meant to serve as input into the Policy project's support for the review and development of state level agricultural policies.

3. Data and Methodology

The data used for this research activity will leverage on primary and secondary data in Kebbi on aquaculture. The Nigeria Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) will provide background information on the relevant subsector. However, since the LSMS-ISA data is not representative at the state level (but at the geopolitical zone level in Nigeria), additional data at the state level will be required. Depending on the availability of data at the state level, primary data collection will be done to supplement, as necessary. Typically, a value chain approach will be adopted to provide a more comprehensive overview of the entire supply chain relevant to the subsector in question.

4. Outputs/Deliverables/Milestones

The following table summarizes the planned deliverables and outputs under this study for the duration of the fiscal year October 2017 – September 2018:

Activities / Outputs	Q1	Q2	Q3	Q4
1. Research team finalization [Q1/Q2]				
2. Literature review and background information on the subsector and relevant government policies [Q1/Q2]				
3.Data collection on aquaculture and fish production [Q2]				
4.Workshop on data analysis and policy [Q2]				
5.Validation [Q4]				
6.Finalizing and dissemination of Policy Note [Q4]				

Expected Outcomes

Overall, the proposed study is expected to support state level efforts to improve aquaculture in Kebbi State. Through provision of information (generated through research teams involving stakeholders) about key priority area in the state (articulated by the state) analyzed within the local policy environment, this study is expected to feed into state policy formulation and implementation processes. Furthermore, the expected outcome of this research study is strengthened capacity for research and empirical analysis by faculty of institutions of higher learning in Kebbi as well as staff of the state ministries of agriculture.

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Activity 2.2.4: Agricultural Mechanization

Research Team Leads: Dr. Hiroyuki Takeshima (Research Fellow, IFPRI) and Dr. Patrick Hatzenbuehler (Associate Research Fellow, IFPRI)

Background and research questions

This work will investigate the determinants of adoption of agricultural mechanization, interactions between various agricultural mechanization technologies (for example, tractors and intermediate tools like draft animals), the impacts of mechanization adoption on agricultural and rural sector transformation in Nigeria, and the extent to which transaction costs inhibit credit provision and mechanization adoption from reaching a socially optimal level there.

Agricultural mechanization patterns in Nigeria, seen through international and historical perspectives, are characterized by low adoptions of tractors despite that shares of the agricultural sector in GDP (20~25%) and employment (50%), even though in Asia, where GDP and employment shares are similar, tractor adoptions are much higher. Partly driven by such a gap, the Nigerian government has been increasingly keen on promoting the mechanization of its agricultural sector.

Demand for agricultural mechanization in Nigeria may depend considerably on the extent to which production technologies, including intensive tillage, raise the returns from their use. Given the diversity of agroecological conditions and farming systems, as well as spatially uneven supply of complementary technologies, demand for agricultural mechanization is likely to vary considerably across space in complex ways. In addition, recent studies in Asia suggest that, agricultural mechanization may have broader effects on agricultural production structures, specializations, and rural transformation, than simply saving labor for certain farming operations. Such general equilibrium factors need to be also partly accounted for, because they provide feedback effects that can further change the demand for agricultural mechanization. Therefore, in this study, we plan to investigate how the adoption and demand for agricultural mechanization vary across locations within Nigeria, and how such variations are associated with diversity in agroclimatic conditions, farming systems, socioeconomic conditions, and more general equilibrium factors (e.g., wages, prices of other farm inputs like land). The results from this analysis are expected to be very useful for the Nigerian government, which has been implementing the Agricultural Equipment Hiring Enterprises (AEHE) program to support private enterprises in the agricultural mechanization sector across the country in order to facilitate the provision of custom hiring services of various agricultural machines, including tractors, to smallholders.

We'll also focus on the effect of transaction costs on decision making by both parties involved in a mechanical tool retail transaction. Diao, Silver and Takeshima (2016) identified inadequate information on existing technologies among buyers and general failures in credit markets as primary inhibitors to further adoption of improved mechanical tools among African farmers. In countries where agricultural mechanization has grown, such as in Asia, private sector entities, like tractor retailers, are the primary suppliers of credit to machinery buyers, who have sufficient business incentives needed to overcome the transaction costs associated with implementing their investments. Therefore, it is important to investigate the current context in Nigeria with regard to informational distortions that raise the cost of mechanical technology adoption among farmers, identify ways in which retailers currently overcome transaction costs in order to implement sales, and determine whether the current situation is socially optimal or whether there is opportunity for entities in the private and public sectors to intervene to improve mechanical tool market efficiency.

Methodology

This work will rely on secondary data, such as LSMS-ISA, combined with additional small survey data in the selected focus states as needed. Among the FTF focus states, our analyses primarily cover Kaduna State where the private sector such as tractor retailers are relatively more active, and Benue State (straddling over to the western part of Taraba State where LSMS-ISA consistently indicates one of the highest tractor uses in the country). The survey will be particularly useful for the transaction cost and finance elements of the study. More details on potential survey design are included in the transaction cost and finance section below.

Analyses of demand for agricultural mechanization

Demand for agricultural mechanization is investigated from various angles. Part of the focus will be on how heterogeneous the demand for mechanization is, and how it is associated with the heterogeneity in agroclimatic conditions, farming systems, agricultural research systems, as well as socioeconomic conditions. This will be done by revisiting the farming household typology analyses conducted on Nigeria in the earlier phase (Takeshima et al. 2013).

The nature of demand for mechanical technologies will also be analyzed from the viewpoint of potential substitutions between tractors and animal tractions. As was mentioned above, tractors have been primarily used, with many examples throughout the world, for replacing draft animals for tillage, among other uses. Depending on the situations observed through LSMS-ISA, the interrelationship between tractors and animal tractions are estimated through various empirical methods, including direct estimations through production functions, and reduced-form regressions. Fluctuations in government policies (particularly subsidized tractor distributions by various state governments) and exchange rates, which lead to changes in the accessibility of tractor custom hiring services, may be used as part of the exogenous sources of variations for identifying the demand for mechanization. Any broad impacts that tractor adoptions have, will, therefore, cause adjustments in agricultural productivity and rural economic structure. The results will then be used to assess the spatial variations in potential demand for tractors. In addition, building on the recent literature, the demand analyses for mechanization will also indirectly incorporate the returns for households, including their effects on returns-to-scale in agriculture, technical efficiency, and farm sizes (Takeshima 2017; Takeshima, Adhikari, Shivakoti, Kaphle & Kumar. 2017; Takeshima, Houssou, Kolavalli, Diao 2017). To the extent possible, the analyses will also incorporate relevant general equilibrium effects, such as how agricultural mechanization by neighboring farm households may affect household production and consumption decisions. While the analyses cover the whole country, more focus will be placed on the Kaduna and Benue states.

Assessment of transaction costs on agricultural mechanization with a specific focus on agricultural finance

The second component of this study includes a more in-depth investigation of the role of transaction costs and access to finance on agricultural mechanization growth in Nigeria. Specifically, the analyses involve documenting the experiences in a few selected comparable countries, through the review of relevant literature, particularly regarding what roles agricultural finance played in those countries with regard to mechanical technology adoption and use. The study will also characterize the main transactions cost associated with mechanization technology diffusions and agricultural finance, how the private sector overcomes some of the market imperfections (e.g., information asymmetry or the lack of knowledge on borrowers' repayment behaviors, moral hazard of borrowers), while failing to overcome other information constraints that may be effectively provided by the public sector. These questions will be answered through development and implementation of a pair of surveys, one aimed

to assess farmer perceptions on information availability and the other targeted toward retailers and credit providers (e.g., banks) to identify views of market conditions among equipment providers/facilitators. These surveys will be implemented in two above-mentioned USAID focus states in the first and second quarters of the 2017-18 fiscal year. The surveys can be implemented in coordination with a Nigerian university faculty and graduate student team, with close collaboration between the state agricultural development project (ADP) and private farm input dealers. The results from the surveys will be combined to characterize the key transaction costs that influence participation in the mechanical tool market, and to assess the feasibility of implementing private or public sector based strategies that reduce transactions costs, and, thus, facilitate growth in agricultural credit provision and mechanization adoption and usage.

Outputs

- A Working Paper on the linkages between the demand for agricultural mechanization in the context of heterogeneity in agroclimatic factors, farming systems, socio-economic conditions;
- A Working Paper on the transaction costs associated with facilitation of agricultural mechanization investments, determination of whether current mechanization market conditions are socially optimal, and identification of ways to reduce transactions costs through private and public-sector mechanisms; and,
- Policy Notes associated with each of the above working papers.

Outcome

This work will contribute to the following:

- Improved knowledge regarding the broad impacts that the adoption (or the lack of it) of agricultural mechanization has on the agricultural production structure, rural sector transformation, and rural employment;
- Improved knowledge regarding the heterogeneous nature of demand for agricultural mechanization across locations, and incorporation of results into the designs of government's Agricultural Equipment Hiring Enterprises (AEHE); and,
- Characterization of the main mechanical tool market distortions that raise transaction costs and inhibit mechanization adoption and use.

Timeline

	Q1	Q2	Q3	Q4
Part 1: Analyses of demands for agricultural mechanization				
Literature review on the linkages between the demand for agricultural mechanization and agroecological conditions, farming systems, complementary technologies				
Development of conceptual and empirical framework				
Data analyses based on LSMS-ISA				
Completion of the report				
Part 2: Assessment of transaction costs on agricultural mechanization with a specific focus on agricultural finance				
Literature review on experiences elsewhere on the patterns agricultural finance and mechanization growth and the role of credit history in agricultural contexts				
Preparations of small surveys (for farmers and retailers/lenders)				
Small surveys implemented in two selected states				
Data analyses and writing of draft working paper				
Completion of report				

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Activity 2.2.5: Land Access, Migration Decisions and Youth Employment in the Nigerian Agricultural Sector

Research Team Leads: Dr. Hosaena Ghebru (Research Fellow, IFPRI) and Dr. George Mavrotas (Senior Research Fellow, IFPRI) – with support from Dr. Mulubrhan Amare (Associate Research Fellow, IFPRI)

3. Background/Rationale

Creating productive employment opportunities for youth is the major concern for most developing countries in the world. The need for jobs is especially critical where the largest segment of the population is young and increasing number of this group seek for employment. This is particularly important in sub-Saharan Africa where about 85 percent of youth (defined by the ILO as all those between the ages of 15 and 24 years) are poor, 70 percent live in rural areas where agriculture is the main source for their income and subsistence, and 11 million youth are expected to enter the labor market every year for the next decade (World Bank 2014 and Adesugba and Mavrotas 2016a). As a result, the Assembly of Heads of State and governments of the African Union has declared the years 2009-2019 as the decade of youth development in Africa. Having a large and growing population of young people with little job creation in the formal sector, Sub-Saharan Africa (SSA) largely fits to this reality (Brooks et al. 2013a, b) and Nigeria can be taken as a show case of the above situation (Adesugba and Mavrotas, 2016a, provide further discussion on this).

Recent evidence suggests that agriculture is still the largest employer of labor in most African countries, especially Nigeria. This sector would continue to employ the majority of the labor force in the next decade, but the share of those youth working in the agricultural sector, especially in the production value chain, is slowly declining (Yeboah and Jayne 2016). On-farm agricultural activities, especially those related to crop production, are seasonal in most rural areas of Nigeria. Consequently, youth involved in agriculture during the production season often tend to exit this sector to take non-farm jobs to ensure stable income in the off-season (Nagler and Naudé 2014). Some even migrate to urban areas until the next planting season. While records on youth exiting the agricultural sector in

Nigeria are difficult to come by, previous studies suggest that this exit occurs at a relatively higher rate than in other sectors since the discovery of oil. A recent study by Maïga, Christiaensen, and Palacios-Lopez (2015) indicates that youth in Nigeria now spend 62.8 percent less time employed in agriculture than adults. Youth in the southern parts of the country exit at a faster rate than those in the North.

The majority of youth in Nigeria live in rural areas where farming has been traditionally the main livelihood of the people. However, Nigeria currently faces severe land scarcity in some parts of the country where population densities have become very high and farm sizes have become very small. In a country where there is no well-functioning land market and where the credit market is very thin and where there are no many large farms that can provide enough farm wage employment, access to farmland is the most important factor that determines whether a rural youth can depend on agricultural livelihood as well as whether a rural youth would migrate or stay at home.
Studies have shown that ownership of land for agriculture or long-term lease and land security could increase the amount and rate of investment in agriculture and of youth entry into the agricultural sector. Growth in production in Nigeria has been attributed largely to farmland expansion rather than to an increase in actual productivity (Treichel, Teal, and Mousley 2010; Penda 2012). Land tenure and security is slowly evolving to meet the needs of agricultural production, but access to land is declining. Youth involved in this sector have limited access to land except when it is inherited, bought, or leased. Land lease time is usually short and influenced by land tenure practices. Even when land is available, in states such as Kwara and Oyo—where the "back to land" program was initiated—youth participation is low, at about 15 percent and 43 percent, respectively, despite the high level of youth awareness about the program (Yahaya 2003; Ariyo and Mortimore 2011).

There are two equally competing hypotheses (pull versus push factors) that are argued to cause youth in the rural agrarian population to opt for migration and/or engage in non-farm activities. The migration and livelihood choice literature mention both 'pull' and 'push' factors as reasons for migration and present evidences supporting both forces (Ellis 1998). Ellis (1998) argues that the notions of push versus pull factors can be equivalently interpreted as involuntary versus voluntary as well as desperation versus choice as they are ways of broadly categorizing alternative sets of circumstances resulting in livelihood diversification. In practice, Ellis (1998) further argues, individuals change their livelihood strategy being influenced by multiple factors. Sometimes a single factor may dominate over all other factors for an individual in a specific context. But, usually a cumulative combination of factors represents challenges or/and opportunities for different individuals in order to make them change their livelihood strategy.

Off-farm economic opportunities and wage income differentials between agriculture and non-agriculture sector are identified as the major 'pull' factor by many studies (see Rigg 2006). On the other hand, insecure land access, landlessness, market failures, erosion of assets (for example, land subdivision at inheritance), seasonality, risk, and disasters leading to livelihood collapse are identified as the major 'push' factors by several studies.

In the context of Nigeria, studies indicate that issues like access to and equitable distribution of land, land transfer rights, land disputes and other tenure security issues have long been problems and points of serious controversy surrounding the Nigerian land tenure system since the 1978 Land Use Act (LUA) of the country. In response to these issues and other hindrances to efficient land administration, the Nigerian Federal Government established a Presidential Technical Committee for Land Reform (PTCLR) on April 2, 2009, mainly to undertake systematic land registration nationally; and making recommendations that will ensure effective, simplified, sustainable and successful land ad-

ministration in Nigeria. The titling program is expected to revitalize the land market in Nigeria, increase investment opportunities, encourage mortgage lending, assure security of livelihoods and property, and reduce transaction costs for property right transfer.

4. Objectives

This study, thus, hypothesizes that in the absence of vibrant labor intensive non-agriculture sector, access to secure land rights is an important push-factor that drives youth in the rural agrarian society to look for non-agricultural livelihood options. In today's Nigerian context, it is highly plausible to argue that population growth puts pressure on land; and the rural youth don't have secure (perpetual) access to land and are hampered by ambiguities in transferability of land through purchase, sale, leasing, inheritance, assignment under traditional rules, and mortgage. And these render the rural youth to be underemployed or unemployed and to look for non-agricultural livelihood strategies-which are also scarce in the Nigerian context and sometimes less rewarding (Adesugba and Mavrotas, 2016b).

As indicated above, although there are some studies that try to identify the underlying causes of rural-urban migration and non-agricultural employment in Nigeria, to the best of our knowledge, studies that examine the impact of access to land and tenure security on youth's decision regarding livelihood strategy and migration are non-existent in the case of Nigeria, contrary to what has been the case in other countries (see e.g. the recent study by Kosec et al. 2016 on Ethiopia). In this study, by controlling for other socioeconomic factors that pertain to rural-urban migration, we will test the hypothesis that access to land and tenure security is an important push-factor that drives youth in the rural Nigeria to migrate and look for non-agricultural livelihood options. Specifically, we test whether access to land and tenure security may have an impact on youth's decision on spatial and occupational mobility in Nigeria with a particular focus on the 7 FtF focus states (see Benue, Cross River, Delta, Ebonyi, Kaduna, Kebbi and Niger). The study will also build on IFPRI's recent work on the youth employment and agricultural transformation nexus in Nigeria (see Adesugba and Mavrotas 2016a, 2016b) which has attracted among others the attention of the Vice President of the country in connection with the preparation of the new Agriculture Promotion Policy (APP) of the Buhari Administration (FMARD 2016).

3. Data and Methodology

For this purpose, 3-wave panel datasets from the Nigeria Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) collected in 2010-2011 (5000 households), 2012-2013 (4719 households), and 2015-2016 (4115 households) GHS-Panel Surveys. This study will particularly benefit from the rich and comprehensive land tenure module integrated into the second wave survey (collected in 2012-2013). This provide a unique opportunity to test our aforementioned hypotheses on the role tenure security plays in dictating occupational and spatial mobility of the youth in Nigeria. This is particularly so as both follow up surveys (2012-13 and 2015-16) integrate a comprehensive tracking questions on occupation and locations of migrant household members which enables analysis on key variables of interest on migration (comparing short-distance/temporary versus long-distance/permanent migration) as well as comparisons on employment on agriculture versus non-agriculture sectors. This rich dataset will also be complemented by secondary (administrative) data to be collected with field visits to selected areas from the 7 states.

5. Outputs/Deliverables/Milestones

The following table summarizes the planned deliverables and outputs under this study for the duration of the fiscal year October 2017 – September 2018:

Activities / Outputs	Q1	Q2	Q3	Q4
Forming research team – identifying local research partner/collaborator				
Conceptual framework finalized and data cleaning				
Data cleaning and collection of secondary data (field visits) completed				
Review of relevant literature and methodology finalized				
Preliminary data analysis completed				
Draft write-up of results completed				
1 Working Paper completed				
1 Policy Note completed				
Dissemination workshop in one of the 7 selected states				

Expected Outcomes

Overall, the proposed study is expected to fill a key knowledge gap in Nigeria on how tenure security affects youth spatial and occupational mobility and, thus, is expected to inform required policy actions and crucial reform interventions to enhance tenure security and thereby facilitate employment opportunities and rewarding livelihood choices for the Nigerian youth – specifically, on the 7 selected FtF focus states.

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Activity 2.2.6: Assessment of Agricultural Storage Infrastructure and Market Characteristics in Nigeria

Research Team Leads: Dr. Patrick L. Hatzenbuehler (Associate Research Fellow, IFPRI) and Dr. George Mavrotas (Senior Research Fellow, IFPRI)

Background

The Nigerian Federal Ministry of Agriculture and Rural Development (FMARD)'s Agricultural Promotion Policy 2016-20 outlines a series of proposed policy interventions to *inter alia* increase domestic production, enhance linkages between farmers and markets, and reduce post-harvest losses through supply chain and storage facility development (FMARD 2016). However, these goals cannot be achieved in isolation. Accomplishment of the productivity enhancement goal will be difficult unless simultaneous efforts are made to improve farmer access to markets and/or commercial and on-farm storage infrastructure. Access to markets in the context of production surpluses facilitates an auspicious cycle in which surplus production is sold and the proceeds can be used to diversify consumption bundles and buy improved inputs, and, hence enhancing future productivity (Barrett 2008). The timing of these production and consumption activities that occur within and between crop years means that there are dynamic complexities in farmer decision making. The presence of commercial and/or on-farm storage allows for produced supply to be carried across periods in order to optimize intertemporal production and consumption decisions, and also prevents steep price declines during supply gluts (Wright and Williams 1982; Wright 2011). Since low prices discourage expansions in production, storage infrastructure is essential to meeting production increase goals, especially in the context of imperfect market integration in which intermarket trade does not occur instantaneously.

The recent price transmission analysis by Hatzenbuehler, Abbott, and Abdoulaye (2017) provides insights into the current degree of integration of Nigerian agricultural markets. They found that while urban Nigerian agricultural crop prices generally move closely with each other, urban and rural prices commonly move independently. However, the degree of independence between urban and rural prices varies across crops and states (Hatzenbuehler, Abbott, and Abdoulaye 2017). The implication of these results is that some rural areas are relatively isolated from other markets, and are, thus, more at risk of steep seasonal price declines caused by excess production. The rural, isolated markets that have the poorest commercial and on-farm storage infrastructure are those that would be particularly likely to experience such precipitous price declines.

Research Questions

Two research questions naturally arise from these observations:

1) What are the specific rural markets that are most isolated, and thus, are most at risk of steep price declines caused by a supply glut?
2) What are the commercial and on-farm storage infrastructure characteristics in Nigerian agricultural markets, and how do these characteristics vary in rural, isolated markets relative to those in more interconnected markets?

Empirical Methods and Data

In order to investigate the first research question, a series of price transmission models that account for seasonality will be implemented. The estimates on the seasonality and price transmission parameters will provide insight into both the degree of seasonality and market integration. These methods are extensions on those implemented by Hatzenbuehler, Abbott, and Abdoulaye (2017). Clearly this requires time series data that are disaggregated across space, which is the main hurdle to overcome for implementation of the analysis to answer the first question. While most price data that are regularly available from the Nigerian National Bureau of Statistics (NBS) are statewide aggregates, it has been learned in recent discussions with the Director of Prices at NBS that disaggregated time series data are available upon official request. Obtaining these data may require hiring NBS officials as consultants for a few days of data processing. Limiting the analysis to one state – the study plans to focus on Kebbi State - will help ensure success of the data request.

Investigation of the second question requires implementation of surveys on market characteristics in the same state for which the price transmission analysis is implemented. This survey would ideally be designed and implemented by a graduate student in the context of her/his master's or Ph.D. thesis. The surveys would obtain information on such variables as the number of traders participating in the market, average volumes of trade, commercial storage capacity, and description of the main markets with which trade occurs. Since these variables likely vary at different times during a crop year, the survey would ideally be implemented at twice within fiscal year 2017-18 (one before harvest, and one after harvest).

Expected Outcomes of the Study

The empirical price transmission results and market characteristics survey data will provide a clearer understanding of current conditions in rural agricultural markets in Kebbi State. Identification of the markets that are relatively isolated from other markets will allow entities such as the Kebbi State Ministry of Agriculture and the FMARD to make location-specific policy interventions. These could include, for example, rural road infrastructure development and on-farm/commercial storage facility investments that would allow farmers to better optimize their market participation

and production activities throughout a crop year. The ability to provide location-specific recommendations provides the opportunity to more efficiently allocate scarce public funds to where they are most needed.

Timeline and Deliverables

First quarter:
- Form the research team of the study including local researchers
- Dataset on disaggregated prices for Kebbi State; and,
- pre-harvest market characteristics survey.

Second quarter:
- Pre-harvest market characteristics survey dataset, and;
- post-harvest market characteristics survey.

Third quarter:
- Second round market characteristics survey dataset;
- Working Paper on price transmission and seasonality (research question 1); and,
- associated Policy Note that identifies most isolated markets with lowest current storage infrastructure, which are, thus, most in need of policymaker attention.

Fourth quarter:
- Working Paper on market characteristics and storage infrastructure (research question 2);
- associated Policy Note that describes the characteristics of the most isolated markets and what types of policy interventions can help improve market conditions.

Additional Activities
- Seminar presentations based on Working Paper results to interested stakeholders; and,
- journal article that synthesizes results from both working papers.

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Activity 2.2.7: Monitoring and Evaluating the Agricultural Sector's Role in Macroeconomic Adjustment

Research Team Lead: Dr. Channing Arndt (Senior Research Fellow, IFPRI)

Background

The agri-food system will be a key sector as Nigeria confronts profound and wrenching economic transformations. After more than a decade of very firm oil prices, world prices for crude oil dropped dramatically towards the end of 2014. Since the end of 2014, inflation adjusted world oil price levels have languished at less than half of the average level observed from 2008 through 2014. Oil price futures project essentially flat real prices to 2025 from today's levels.

For Nigeria, relatively low oil prices for the indefinite future demands a series of difficult macroeconomic adjustments. Prominently, Nigeria must unwind nearly a half a century of Dutch Disease. Large oil exports resulted in incentives to produce non-tradeable goods, such as construction and an array of other services. Tradeable production, notably of agricultural and food products, was stunted as these commodities could be purchased on international markets in exchange for oil. With low oil prices, a key macroeconomic challenge is to shift real resources (labor and capital) away from the production of non-tradeable, such as services, and towards the production of tradeable, such as food production and processing.

It is worth highlighting four salient points about this process in the Nigerian case. First, replacing imports with domestic production is likely to be a very important part of the process in the near to medium terms. This is so because (i) import volumes are large and many importing sectors have existing domestic competitors and (ii) export volumes (outside of oil) are very small with few (non-oil) firms linked to international markets. Because it is *relatively* easy to expand an existing productive base and relatively hard to establish a foothold in international markets as an exporter, displacement of imports with domestic production is likely to be the most macroeconomically significant element of the restructuring process in the short to medium term. This does not mean that exporting is unimportant. It merely recognizes that even very rapid growth rates from very small volumes of non-oil exports still amounts to relatively small volumes of non-oil exports in the short to medium term.

Second, because the agriculture and food sector produces mainly tradeable goods, it is highly likely to be a key player in the restructuring process. The agriculture and food sector has strong potential to outcompete imports of food products, which comprise about 15-20% of merchandise imports. In addition, agricultural exports are relatively straightforward (though not easy) in terms of initiating exports at scale. This restructuring should provide a significant stimulus to agriculture, particularly for more traded commodities.

Third, the shifts in incentives favoring greater agricultural production and fewer food imports have potentially large welfare implications. The urban poor have almost surely seen their living standards decline as prices for key goods, notably food, rise relative to urban wages. Rural dwellers, where many poor people are located, have greater prospects for benefiting from the restructuring as price shifts favor the rural economy. The extent of benefits depends upon the scale and nature of the supply response. If there is a large supply response and that response generates substantial employment, then rural households may benefit in the near, medium and long terms.

Finally, existing policies, particularly those designed to protect domestic producers from import competition in an era of high oil prices, may be inappropriate for an era with low oil prices and a depreciated Naira exchange rate. Especially for sectors with good prospects, the policy focus needs to shift from preventing contraction due to import competition to facilitating expansion, outcompeting imports, and entering export markets. Excessive support to non-competitive industries elongates the painful restructuring process by parking critical resources (e.g., land) in low value activities and by distracting limited policy and administrative resources.

Objectives

The proposed analytical effort seeks to support, monitor, and evaluate the ongoing process of restructuring the Nigerian economy (in relative terms) towards the production of tradeable goods and away from the production of non-tradeable goods. This process is national nature; however, it can be expected to play out differently across sectors and across states. The effort will emphasize (i) the response of the agricultural sector, including upstream elements, such as fertilizer provision, and downstream elements, such as food processing and (ii) the welfare implications of the process. It will also focus on seven key states: Benue, Cross River, Delta, Ebonyi, Kaduna, Kebbi, and Niger (see the seven Feed the Future focus states of USAID/Nigeria) allowing for comparison of national level trends with trends in these key states.

Methods

The effort will produce an updated social accounting matrix (SAM) of the Nigerian economy using all available data and a related household micro-simulation module, based on the Nigerian LSMS-ISA survey, that links coherently to the household accounts in the SAM. An economywide model, appropriately tailored to specific features of the Nigerian economy and relying on the SAM and micro-simulation module as inputs, will then be constructed. These frameworks will then be supplemented by efforts to follow actual trends in the key states.

In broad terms, the proposed analytical frameworks will permit a rigorous prediction of the production and welfare shifts that are expected. These results can then be cross-checked with actual outcomes to determine whether the economies of the seven states in focus, as well as the national economy, are restructuring in the expected manner or not. If not, we will attempt to determine why not. For example, it is possible that current fertilizer policies may not lead to desired outcomes and may even result in the perverse outcome of reduced fertilizer availability/use in domestic markets. More generally, the analytical effort would seek to identify constraints to the restructuring process and to design policies both for alleviating these constraints and for smoothing the process overall.

The proposed methods are very well suited to the analysis of large shocks and follow in the footsteps in analyses conducted by Arndt et al. (2012 and 2016). Other examples include Dyer and Taylor (2011) and Horridge et al. (2005).

Deliverables by quarter

Q1

Identification of national partners in the research process (i.e. form the research team for the study).
A preliminary national level social accounting matrix (SAM) and linked microsimulation module. The construction of the SAM and microsimulation model will be undertaken in close collaboration with the National Bureau of Statistics, the Federal Ministry of Agriculture and Rural Development (FMARD), other relevant institutions, and identified national partners.
A short paper outlining the macroeconomic challenge facing Nigeria and the role of the agricultural sector in confronting that challenge.

Q2

A preliminary disaggregated social accounting matrix (SAM) and linked microsimulation module with the seven key states in particular focus. The construction of the SAM and microsimulation model will be undertaken in close collaboration with the National Bureau of Statistics, the Federal Ministry

of Agriculture and Rural Development (FMARD), other relevant institutions, and identified national partners.
Dissemination of the macroeconomic challenges paper in the popular press and via dissemination events.
A draft paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process.

Q3

A final paper reviewing major policy stances with emphasis on those with potential to speed or impede the ongoing restructuring process.
Final SAM and microsimulation module including documentation.
Draft documentation for a Nigeria Economywide Model with agricultural sector detail and the seven key states broken out for relevant activities, factors, and households.
A draft research paper that combines simulation of the economywide modeling framework with available facts on the ground to support, monitor, and evaluate the ongoing restructuring process. It will include an assessment of constraints to rapid adjustment, especially policy constraints, and a detailed assessment of the likely welfare implications of the ongoing restructuring process. The agricultural sector will receive particular attention.

Q4

Final documentation for a Nigeria Economywide Model with agricultural sector detail and the seven key states broken out for relevant activities, factors, and households.
A final research paper that combines simulation of the economywide modeling framework with available facts on the ground.
The formation of a group of Nigerian analysts who have been engaged in the analytical process and have thus gained familiarity with the frameworks employed.
Dissemination event and an additional article published in the popular press.

Outcome

The effort seeks to enhance the role of the agricultural sector in speeding and softening the ongoing economic restructuring process in a way that positions the Nigerian economy, notably the seven key states, for a sustained period of rapid, diversified and inclusive economic growth.

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ACTIVITY 2.2.8: The Political Economy of Informal Food Retail Trade: The Case of Nigeria's Secondary Cities

Research Team Lead: Dr. Danielle Resnick (Senior Research Fellow, IFPRI)

Background and Overview

The informal retail sector has long been the linchpin of food security and employment for the urban poor in African cities as well as a major supplier of domestically-produced agricultural goods. Notwithstanding the trend of supermarket expansion in the region, urban residents continue to depend heavily on informal markets and street vendors for daily purchases and use supermarkets only periodically for bulk purchases of staples.[14] Most of the eggs, fish, meat, and milk sold to the poor in urban Africa are from informal markets.[15] More broadly, a survey of over 6,000 households in low-income neighborhoods in 11 African cities found that 70 percent of urban households regularly purchase their foods from the informal market or street vendors.[16] Street vending and informal trade are especially important sources of livelihoods and financial independence for women, who are the primary sellers of street foods and perishable goods, such as fruits and vegetables.[17] Moreover, the economic potential of informal food retail for transforming national value-chains could be substantial through improving linkages with farm production in rural areas. Urban food markets, both informal and formal, are increasingly the end destination for farmers in Africa.[18] These dynamics may be even more pronounced in secondary cities and towns where industrial linkages to agriculture are relatively strong.[19]

Notwithstanding the potential of informal traders to enhance rural-urban linkages, promote agricultural transformation, enhance food access for the poor, and provide employment, governments demonstrate a highly ambivalent and volatile attitude toward the sector. Many informal vendors face high levels of harassment, ranging from daily efforts at extortion by police officers to arrests, confiscation of merchandise, demolition of stalls, physical harm, and forced relocation to peripheral locales.[20] One reason for such harassment involves government concerns over the food safety of informally retailed foods due to poor hygiene practices of vendors and their low access to clean water,

[14] Weatherspoon, David and Thomas Reardon. 2003. "The Rise of Supermarkets in Africa: Implications for Agrifood Systems and the Rural Poor," *Development Policy Review,* Vol. 21(3): 333–355; Battersby, Jane and Jonathan Crush. 2015. "Africa's Urban Food Desserts," *Urban Forum* 25, no. 2: 143–151.

[15] Grace, Delia, Kohei Makita, Erastus Kang'ethe, Bassirou Bonfoh, and Kristina Roesel. 2015. "Taking Food Safety to Informal Markets," chapter 2 in Kristina Roesel and Delia Grace (eds.), *Food Safety and Informal Markets: Animal products in sub-Saharan Africa.* New York, NY: Routledge.

[16] Frayne, Bruce et al. (2010). "The State of Urban Food Insecurity in Southern Africa." Urban Food Security Series No. 2. Queen's University and AFSUN: Kingston and Cape Town.

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[18] Minten, Bart, Thomas Reardon, and Kevin Chen. 2017. "Agricultural value chains: How cities reshape food systems," chapter 5 in the *Global Food Policy Report.* Washington, DC: IFPRI.

[19] Dorosh, Paul and James Thurlow. 2014. "Can Cities or Towns Drive African Development? Economywide Analysis for Ethiopia and Uganda," *World Development.* Vol.63: 113-123. Secondary cities are loosely defined as having populations less than 750,000 people. See: World Bank. 2009. *Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation.* Washington, DC: World Bank.

[20] Kamete, A. Y. 2013. "On handling, urban informality in southern Africa," *Geografiska Annaler Series B*, Vol.95(1), 17–31.

sanitation, and electricity. Yet, these periods of harassment often alternate with periods of accommodation, or a "state of exception" when laws are suspended and informal retailers are allowed to operate unmolested.[21]

These patterns are also prevalent in Nigeria where supermarkets and small grocery stories constitute only one-third of Nigeria's food retail sales while informal open-air markets represent the major source of food retail.[22] Informal retail trade is also a major source of employment for women, who control a large share of market activity and commodity trading in Nigeria.[23] They are further seen as an outlet for processed foods and could foster stronger linkages for Nigeria's agricultural value chains, such as in poultry.[24] Yet, vendors in Nigeria are often viewed as a nuisance by local and state governments.[25] Many Nigeria states have banned street vending in recent years, including notably Lagos where the governor has instituted a "zero tolerance" policy. Others include Abuja, Enugu, and most recently Kaduna state. In Niger state, there has been repeated demolition of vendors' stalls in Tunga and Central markets. Nonetheless, some other states have adopted a more accommodating approach. This includes Cross Rivers state where the governor sent a Hawkers' Rights Bill to the House of Assembly in 2016 to legalize hawking in the state.

Research Questions

The proposed research questions aim to address the role of informal food vendors in secondary cities as a key component of agricultural transformation and food security while also examining how their treatment by government officials affects their own food security and their ability to facilitate agricultural transformation. More specifically, the research would center on three clusters of questions:

1) **What are the institutional relationships and regulatory environment underlying governance of informal food vending in Nigeria's secondary cities?**

    - *What drives differential levels of government harassment of informal food vendors across space and time?*
    - *How common is such harassment in the selected case study cities and how does that harassment manifest?*

2) **What impact does harassment have on food security, growth and employment?**

    a. *How do informal retailers source the food they vend and how does harassment affect agricultural value-chains?*
    b. *How do the costs of harassment affect income and employment prospects for the urban poor, especially women?*

[21] Lourenço-Lindell, Ilda. 2010. "Introduction: the changing politics of informality – collective organizing, alliances and scales of engagement," introduction in Ilda Lourenço-Lindell (ed.), *Africa's informal workers: collective agency, alliances and transnational organizing in urban Africa.* London, UK: Zed Books: 17.

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[24] Liverpool-Tasie et al. 2016. "Growth and Transformation of Chicken and Eggs Value Chains in Nigeria," *Feed the Future Innovation Lab for Food Security Policy Research Paper 22.* East Lansing, MI: Michigan State University.

[25] See Onwuneme, and Adanna Anosike. 2016. "The dilemma of managing the challenges of street vending in public spaces: The case of Enugu City, Nigeria," *Cities.* Vol.59: 95-101.

3) **What policy options exist for improving the governance of informal vendors in a way that promotes their livelihood options while contributing to clean, livable cities?**

   a. *To what degree can policy and institutional coherence be improved?*
   b. *In what areas do informal food vending associations require greater capacity for effective lobbying?*

Methodology

Much of the analysis of urban informality and food retail centers on primate cities and in Nigeria especially, Lagos has been the main focus of inquiry. By contrast, this research will focus on secondary cities in two of Nigeria's Feed the Future (FtF) states. Given the divergent trends in their treatment of traders, the research intends to pursue a comparative case study analysis will be conducted in Niger and Cross Rivers states. Attention will be directed to the capital cities in these two states, Minna and Calabar, respectively.

To address the above questions, two main methods will be employed. One consists of semi-structured interviews with key policymakers at the LGA and state levels as well as with organizations of informal food traders, such as the Federation of Informal Workers of Nigeria (FIWON) and the Association of Food Vendors of Nigeria (AFVN), which helps to train food vendors on food safety and hygiene principles. The aim of the interviews with policymakers to help construct an institutional map of which actors are in charge of which elements of street vending, both across ministries and across levels of government. A second method will be a survey with informal food sellers in two LGAs within each city. The sample in each LGA is proposed to be 500 vendors for a total sample of 2000 across both cities. Survey modules will place prime attention on uncovering the role of the vendors in the agricultural value chain, including where they source their materials, their food handling practices, and their experience with local government authorities. In addition, they will be asked about their understanding of the formal regulatory and institutional environment overseeing street vending in their state.

Timeline

- **1st quarter of FY2017/2018:**
  - Form a team with local collaborators in the two selected states
  - Identify survey company to help implement the questionnaires
  - Engage in background literature review on informal vending in Nigeria to inform the survey and interview questions as well as the sampling design for the surveys
- **2nd quarter of FY2017/2018:**
  - Identify key contacts for interviews
  - Draft semi-structured interview templates
  - Draft survey questionnaires for IFPRI's Institutional Review Board approval
- **3rd quarter of FY2017/2018:**
  - Enumerator training
  - Field surveys
  - Conduct semi-structured interviews

- **4th quarter of FY2017/2018:**

Drafting of paper on "The political economy of informal retail trade: The case of Nigeria's secondary cities" for submission by September 2018.

Appendix G: Response to USAID comments on Work plan Component 2 – Policy Driven Collaborative Research and Analysis

USAID Comment 1: According to the award agreement (page 41), priorities on the research topics will be carried out in consultation with FMARD, development partners, and other key stakeholders. Please specified the stakeholders consulted and provide the report on the consultations that led to the selection of the topics as an annex. Based on our understanding of the award agreement (page 42), The research conducted is to enable the researchers and their network to inform policy debates with empirical evidence to increase interaction between the supply of information (Nigerian researchers) and the demand for information (FMARD and other stakeholders).

As already mentioned in the submitted Work plan for Year 3 of the Project, and in connection with the above Component 2 on Policy Driven Collaborative Research and Analysis, the proposed research topics for Year 3 are the outcome of a consultation process with a wide range of stakeholders, the particular government priorities in the new APP strategy, and taking also into account research capacity and expertise at both IFPRI and MSU. More precisely, the topics chosen reflect numerous discussions the members of the Project management team had during the course of 2017 with a very broad group of stakeholders which include among others the following individuals in Nigeria (the list below is by no means exhaustive, however, it is indicative of the wide range of individuals consulted and the overall consultation process followed; the list also does not include the various IFPRI and MSU experts and colleagues consulted as part of the consultation process):

The Members of the Project's National Advisory Committee (NAC)
Honorable Minister of Agriculture and Rural Development, Chief Audu Innocent Ogbeh
Dr. Adrew Kwasari (senior advisor to the Honorable Minister Chief Audu Ogbeh)
Dr. Adeyinka Onabolu, (senior advisor to the Honorable Minister Chief Audu Ogbeh)
Mr. Baye Sylvester (FMARD)
Mr. Bello Abdulmajeed (Assistant Director, Planning and Policy Coordination (FMARD))
Dr. Bamidele Omotola (UNICEF)
Dr. Roselyn Gabriel (National Committee on Food and Nutrition/Federal Ministry of Budget and National Planning)
Mrs. Ifeoma Anyanwu (Gender Advisor, FMARD)
Mr. Suleiman Aliyu (FMARD)
Dr. Chris Osa Isokpunwu (senior advisor, Ministry of Health)
Dr. Larry Umunna (Head of Technoserve, Abuja Office)
Dr. Karina Lopez Enye (Save the Children Fund)
Dr. Anthony Onoja (President, APRNet)
Dr. Julius Ajah (University of Abuja)
Prof. Chris Daudu (Ahmadu Bello University)
Prof. Bolarin Omonona (University of Ibadan)
Ms. Emmy Simmons (Member of the Global Panel on Agriculture and Food Systems on Nutrition and Co-Chair, Partnership to Cut Hunger and Poverty in Africa)
Ms. Fatimah Sani Nass (FOMWAN, Kebbi State)

Dr. Kofi Debrah (IFDC and Chief of Party, FtF Agro-Inputs project)
Senator Dr. Aliyu Sabi Abdullahi (Chairman of Senate Committee on Media & Public Affairs representing Niger North Senatorial District, National Assembly, Abuja).
Prof. Y. Abubakar (former ARCN Executive Secretary)
Prof. Ambrose A Voh (Jr) (Acting ARCN Executive Secretary)
Dr. Abdullahi Nasir (ARCN)
Dr. El Hadj Adama Toure (Lead Agricultural Economist, World Bank)
Dr. Adetunji Oredipe (Senior Country Officer, World Bank)
Dr. Gloria Joseph-Raji (Senior Economist, Macroeconomics & Fiscal Management, World Bank Abuja Office)
Ms. Atsuko Toda (formerly, IFAD Abuja Office and currently AfDB)
Dr. Ibrahim Amado (Lead Economist, African Development Bank, Abuja Office)
Mr. Kojo Sagu Sagoe (GIZ/CARI, Abuja Office)
Mr. Fakunle Aremu John (GIZ/CARI, Abuja Office)
Dr. Victor Ajieroh (Bill and Melinda Gates Foundation)
Dr. Mairo Mandara (Director, Bill and Melinda Gates Foundation, Abuja Office)
Dr. James Garrett (IFAD and Bioversity)
Dr Adora Asonye (senior advisor to the Finance Minister)
Mr. Sunday Uhiene (NEPAD Secretariat)
Mr. Salasi Idris (Head of IFDC Nigeria Office)
Dr. Manson Nwafor (IITA Abuja/ECOWAS)
Prof. Ade Olomola (NISER)
Dr. Titilola Akindeinde (Head of Policy Development Facility Phase II, Abuja Office)
Mr. Suleiman Salisu (Pan African Youth Network for Agriculture)
Dr. Abebe Shimeles (Acting Director, Development Research Department, African Development Bank)
Prof. Olu Ajakaiye (Executive Chairman, African Centre for Shared Development Capacity Building, Nigeria)
Dr. Ogho Okiti (Head of Time Economics, Nigeria)
Dr. Alfred Dixon (Head, Partnership Coordination Office, IITA-Ibadan)
Professor Godwin Abu (University of Makurdi)
Dr. Olawale Olayide (University of Ibadan)
Mr. Aliyu Abdulhammeed (MD/CEO of NIRSAL)
Dr. Peter Wobst (Director, Decent Rural Employment Team, FAO Rome)
Ms. Elena Arnal (Decent Rural Employment Team, FAO Rome)
Ms. Francesca Dalla Valle (Youth Employment expert working on the Nigerian YEAP, FAO Rome)
Dr. Makinde Kehinde (AGRA)
Prof. Mrs. F.M. David-Abraham (Head of Deans of Agricultural Universities)
Dr. Paul Ilona (HarvestPlus, Nigeria Director)
Dr. B. Maziya-Dixon (Senior Scientist, IITA Ibadan)
Mr. Ridwan Sorunke (ACIOE Associates)
Mr. Innocent Ogirinye (Youth Initiative for Sustainable Agriculture)

USAID Comment 2: According to the award agreement, page 42, the analytical component is meant to be more focused on demand driven and shorter-term policy analyses that originate from requests of FMARD and their development partners. So, what is the status of this or is this what is presented here as component 2? If so, who were the FMARD and their development partners consulted?

The analysis part of Component 2 is a demand-driven exercise following demand and requests from FMARD on an ongoing basis and not in connection with a specific year during the Project's life. A good example here is the youth employment work by IFPRI in 2016 which attracted the attention of H.E. Professor Yemi Osinbajo, Vice-President of the Federal Republic of Nigeria, and has been already influential in the overall APP process. Another recent example is the request by FMARD to IFPRI to support the JSR process and provide advice and comments towards the preparation of the JSR report. IFPRI and Dr. George Mavrotas (in his capacity also as a nominated by the FMARD member of the JSR Steering Committee) has very actively responded to this request on behalf also of the Project and he has already provided very useful and influential (according to FMARD) comments and technical support towards the preparation of the final JSR report.
The Project plans to continue providing support and technical advice to FMARD on a demand-driven basis during the course of Year 3 of the Project.

USAID Comment 3: It seems that the agricultural mechanization work is only limited to tractor for land preparation. How about mechanization for other farm and post-harvest operations?

We will certainly cover also the mechanization for other farm and post-harvest operations such as mechanical threshing. We initially focused on the tractor for land preparation because it is a typical mechanization process that has occurred universally around the world so that more information is available that allows us to provide international perspectives. In addition, mechanization of farm operations has commonly followed certain sequences elsewhere, whereby tractor use for land preparation (together with some other stationary mechanization like water pumping or mechanical threshing) pre-ceded the mechanization of other operations like planting or harvesting. Therefore, understanding the tractor use for land preparation is one of the first steps to understand the mechanization potential in Nigeria. Furthermore, recent literature suggests that tractor use for land preparation has important transformative effects on the agricultural sector (Takeshima 2017). Therefore, we will continue to keep one of our focuses on the tractor for land preparation. However, in states like Benue, the level of mechanization may be lower than in Kaduna, and more relevant mechanization at current stage may be smaller machines like threshing or other more intermediate mechanization tools. We will therefore also cover those types of mechanization as well.

USAID Comment 4: You may also wish to look at research in the feasibility of small scale mechanization service provision models.

We will certainly incorporate the analyses on the mechanization service provision models, through the analyses on the demand for mechanization, taking into account the diversity of farming systems and respective farm-power needs, and farmers' awareness and willingness-to-pay for different types of mechanization services, as well as through the qualitative assessment of the machinery supply chains, which affect the investment decisions by the service providers.

Takeshima H. (2017). Custom-hired tractor services and returns to scale in smallholder agriculture: A production function approach. *Agricultural Economics* 48(3), 363–372.

USAID Comment 5 on the choice of Kebbi State in the topic on the Assessment of Agricultural Storage Infrastructure and Market Characteristics in Nigeria: What informed this choice?

Kebbi State was chosen for this study for a number of reasons. First, since it is in Northern Nigeria, which has a drier climate than Southern Nigeria, there is greater risk for drought related production shortfalls than is the case for states located further south. This means that regions in Kebbi State, especially rural areas, more often need to rely on storage and/or trade to meet deficit consumption than states further south. The analysis could be done for any of the other Northern Nigerian states, as well as for a broader region, but focusing initially at a state level provides opportunity to identify and recommend policy interventions that could be implemented by the state government. A second reason why Kebbi State was chosen is because it shares a border with the Republic of the Niger (Niger hereafter) and So-koto and Zamfara states. The World Food Programme VAM price database has prices for a number of markets in Niger that border Kebbi State as well as a few for Sokoto and Zamfara states. Thus, there is opportunity to do both a concentrated price transmission analysis on local markets within Kebbi State using disaggregated data from the National Bureau of Statistics (NBS), and also a broader regional analysis, while only gathering NBS prices for Kebbi State. The expectation is that markets within Kebbi State have similar characteristics to its neighbor regions, and so the findings for Kebbi State would likely be broadly applicable for other neighbor regions. The empirical and survey methods are designed to be replicated in other states. This initial study will provide insights into how this analysis can be useful for state and federal level policymakers who seek to improve storage infrastructure and market efficiency at their different levels of jurisdiction. Additionally, limiting the analysis to one state at this stage makes the data request to NBS manageable, which makes the study implementation timeline feasible. Lastly, Kebbi State is one of the USAID-Nigeria the Future focus states, so of the Northern Nigeria states that appear relevant based on climatic and market characteristics based criteria, it was selected due to its USAID-Nigeria partner status.

WFP. VAM Food and Commodity Price dataset. World Food Programme of the United Nations. Rome, Italy. Online at: http://foodprices.vam.wfp.org/.