



# FEED THE FUTURE

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



## Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites

**MARKETS II 2015 MID-TERM UPDATE**

APRIL 2012 – MARCH 2015



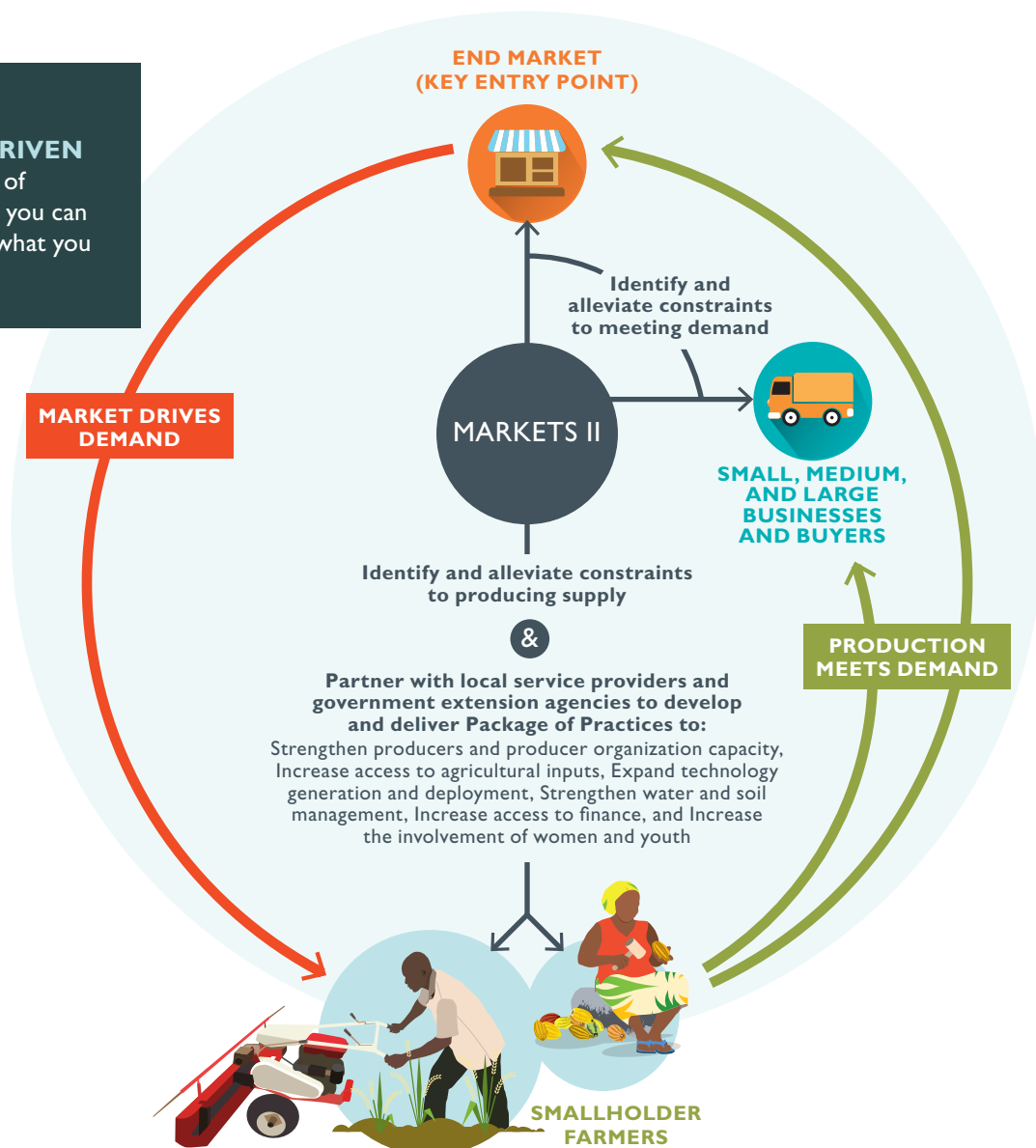
**USAID**  
FROM THE AMERICAN PEOPLE

# Background

The Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites (MARKETS II) is USAID/Nigeria's flagship project under Feed the Future (FTF). It aims to sustainably improve the performance, income, nutrition, and food security of poor Nigerian rural farmers or smallholders in an environmentally friendly manner. MARKETS II uses proven private sector demand-driven market

interventions, focusing on constraints in the agricultural value chain. Key objectives include smallholder farmer access to increased income, ready markets, better inputs (improved seeds and optimal use of fertilizer), adequate finance, better water and pesticide management, appropriate technology, and extension services. They also include improved nutritional use of grown or purchased food.

A market-led, **DEMAND-DRIVEN APPROACH** of "produce what you can sell," not "sell what you can produce."



ON THE COVER: Amina and Fatima are members of Batagi Munchita Bayijinre Women Cooperative Multi-purpose Society in Niger state. MARKETS II trained them on the use of improved rice varieties, nursery establishment, line transplanting, and panicle harvesting.

# Reducing Poverty

In Nigeria, 68% of the population lives in poverty, living on less than \$1.25 per day<sup>1</sup>, and 66% live on less than \$1.00 per day in rural areas<sup>2</sup>. By putting high-quality, low-cost appropriate technologies and best practices in the hands of hundreds of thousands of rural poor and smallholder farmers while linking them to demand-driven private sector partners, MARKETS II is improving productivity, incomes, resilience, and access to diverse quality food. The project plays a key role in **SCALING UP AGRICULTURAL TECHNOLOGY INTERVENTIONS TO MEET MARKET DEMAND AND FIGHT RURAL POVERTY** in Nigeria.

Combining efforts with private sector companies and public agencies leads to **greater benefits** for farmers and rural populations.

The number of rural households receiving agriculture, food security assistance, and access to finance has increased **950%** from 2012-2015.

FY2012  
65,808

FY2015  
**691,233**

Nigerian Agricultural Enterprise Curriculum (NAEC) is a gold-standard training program tailored to enhance literate and non-literate farmers' understanding of productivity, revenues and profits. It improves farmers' financial skills, record-keeping, market analysis, and planning. MARKETS II trains master trainers and individuals from national and international organizations, including their beneficiaries. We also bring NAEC to Internally Displaced Persons.

**\$139 million**  
Rural and agricultural loans facilitated

**32,546**

Vulnerable households benefitted, including Internally Displaced Persons

**\$17 million**

Private sector investment to support project activities

**131**

Public-private partnerships facilitated

LIFE OF PROJECT  
TARGET  
**\$420**

FY2015  
TARGET  
**\$346**

FY2012  
TARGET  
**\$277**

Annual expenditure targets on purchase or upgrading of assets (US\$)<sup>3</sup>

Asset ownership is an indicator of the wealth status of a particular community.

**\$709 million**

Value of sales for MARKETS II commodities

**1,596,557MT**

Volume of sales for MARKETS II commodities

**336,169**

Farmers adopted new technologies and management practices

MARKETS II Package of Practices (PoPs) transfers agronomic best practices to large numbers of rural farmers and their families via lead farmers and step-down training. Its nutrition module contributes to improving proper nutrition for good health and ensures gender neutrality for food security, as men have significant influence on household spending. PoPs also inform on Ebola and Avian Influenza identification, prevention, and necessary actions.

MARKETS II also targets agricultural value chain segments that are more favorable for the involvement of women and youth, such as service providers, processing, and micro-enterprises.

1. See [data.worldbank.org/indicator/SI.POV.DDAY](http://data.worldbank.org/indicator/SI.POV.DDAY)

2. [www.nigerianstat.gov.ng/pdfuploads/Nigeria%20Poverty%20Profile%202010.pdf](http://www.nigerianstat.gov.ng/pdfuploads/Nigeria%20Poverty%20Profile%202010.pdf)

3. The Naira to US\$ exchange rate has fluctuated since project inception, and is presently ₦196.188 = \$1. For the indicators presented, calculations utilize ₦157.15 = \$1 as this was the exchange rate at the time of baseline and was used to set their targets.

All results presented are actuals to date (April 2012-March 2015)



# Value Chain Activities

MARKETS II works in five value chains: cocoa, cassava, rice, sorghum and aquaculture. Two sub-value chains, soybean and maize, provide raw materials for aquaculture fish feed. The project transfers improved technologies through training where best practices and Package of Practices (PoPs) for each value chain are promoted and demonstrated to improve quality, yield, and efficiencies. Complementing the PoPs, the project provides training across all value chains in Nigerian Agricultural Enterprise Curriculum (NAEC) and Micro Enterprise Fundamentals (MEF) and facilitates access to credit.

The project contributed to the Federal Ministry of Agriculture and Rural Development's (FMARD) Agricultural Transformation Agenda (ATA), which

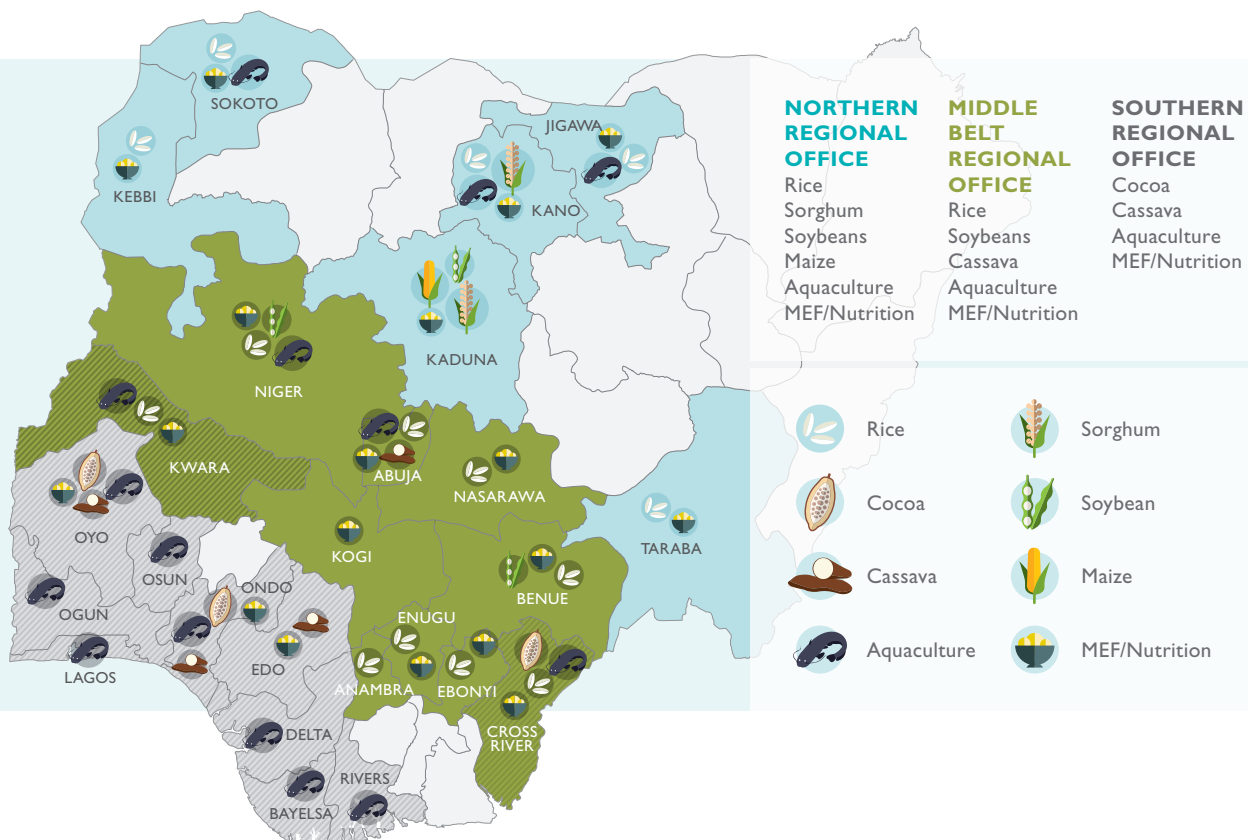
included among its outcomes adding 20 million metric tons (MT) of food to the domestic food supply by 2015 and import substitution via local production<sup>1</sup>. MARKETS II continues to support the Government's agricultural development objectives. We present FMARD targets alongside MARKETS II productivity results to reflect our contribution to national goals.

## ENVIRONMENTAL PRACTICES

We incorporate appropriate pesticide and organic fertilizer utilization and handling to complement chemical fertilizers and to lessen environmental and health dangers to consumers and farming families. Examples include urea deep placement (UDP) and integrated pest management. UDP significantly reduces fertilizer quantity, atmospheric emissions, and water pollution from run-off. Integrated pest management ensures minimal chemical application and includes selection of disease resistant varieties, crop rotation, timing of planting to exclude insect growth stages, and intercropping.

I. Agricultural Transformation Agenda SCORE CARD 2013 Report January 1, 2013 – December 31, 2013.

## AREAS OF INTERVENTION





## Rice

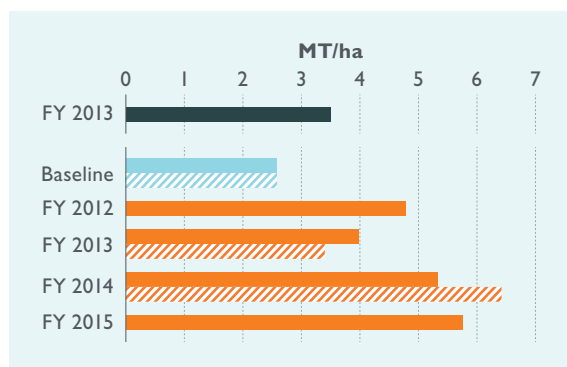
MARKETS II promotes improved yield varieties, dry and wet season production, Urea Super Granules for fertilizer deep placement, line transplanting, and appropriate mechanization (e.g. tillers,

threshing machines, direct paddy seeders, and fertilizer applicators).



### RICE GAME CHANGER: ADOPTION OF LONG-GRAINED VARIETIES

Nigeria imports 42 percent of long-grain rice, spending US\$2.2 billion, to meet total rice demand. MARKETS II worked with rice millers to make an informed selection of long-grained varieties, which competes with imported rice. These varieties are now acceptable to millers, smallholder farmers, and have gained nation-wide acceptance. Project smallholder rice farmers went from producing the national average of 2.5MT/ha to averaging 6MT/ha for irrigated dry-season rice while increasing their gross margins by 97 percent.



FMARD target

MARKETS II actual for rain-fed rice

MARKETS II actual for irrigated rice

MARKETS II PRODUCTION TOTAL: 1,032,194 MT

Higher results in FY2012 are due to yields from farmers experienced with MARKETS and Bridge to MARKETS II projects. Subsequent years include new MARKETS II farmers.

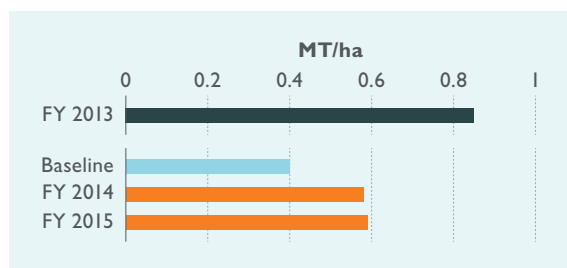


## Cocoa

The project promotes farmers' access to high yielding and improved varieties of cocoa for planting new farms and rehabilitating existing farms.

Agricultural best practices to

increase productivity: pruning, phyto-sanitary management, soil fertility management, and integrated pest management. Post-harvest best practices: crack pods with wooden clubs instead of sharp objects to avoid fungal and bacterial diseases; trays to allow fermentation uniformity; and raised drying platforms for air circulation and to avoid dampness. We promote companion cropping to increase farmer revenue during new plantations' early years. Also, MARKETS II conducts beekeeping and pollination training to improve cocoa yields via increased pod-bearing flowers and to provide additional income through honey sales and pollination services.



FMARD target

MARKETS II actual

MARKETS II PRODUCTION TOTAL: 42,349 MT



### COCOA GAME CHANGER: ACHIEVING CERTIFICATION

Cocoa certification attracts higher export prices for farmers. Our cocoa trainings meet the increased productivity and higher quality certification requirements. MARKETS II farmers receive higher prices for their certified cocoa. Reputable traders will exclusively buy certified cocoa if it is available on the market.



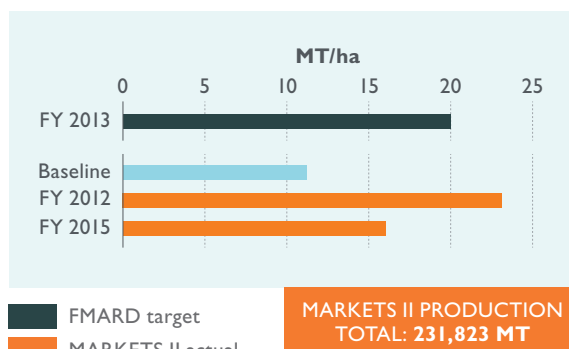
## Cassava

MARKETS II promotes high-yielding cassava varieties and tests cassava specific fertilizers prior to recommending it to farmers. As cassava takes more than a year to harvest, the project encourages intercropping with short-term crops to diversify income between cassava harvests.



### CASSAVA GAME CHANGER: HIGHER YIELDING CASSAVA VARIETIES

Cassava is key to more than 80 percent of Nigerians for food security. MARKETS II introduced our smallholder farmers to higher yielding cassava planting material. Project farmers achieved a 45 percent yield increase and added 231,823MT to the domestic food supply since FY2012.



*Higher results in FY2012 are due to yields from farmers experienced with MARKETS and Bridge to MARKETS II projects. Subsequent years include new MARKETS II farmers.*



## Aquaculture

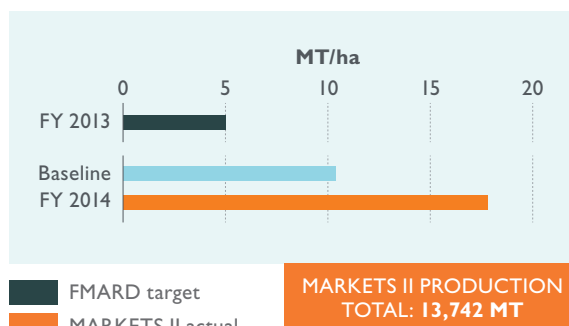
To broaden producer marketing opportunities, MARKETS II diversified options to include tilapia along with the initial catfish farming. Nationally, fish farmers harvest an average

of 10MT of catfish/ha per production cycle. The project trained farmers in fingerlings selection/production, feeding techniques, and pond water sanitation to achieve 18MT/ha. Training on catfish production and post-harvest processing and packaging resulted in increased income for fish farmers. Costly imported feed led us to assist in reducing input costs by supporting the local fish feed industry through increasing maize and soybean productivity, and linking farmers with fish feed producers. We also work with research institutes and feed manufacturers to develop locally produced alternatives to imported fishmeal.



### AQUACULTURE GAME CHANGER: IMPROVED SMOKING TECHNIQUES

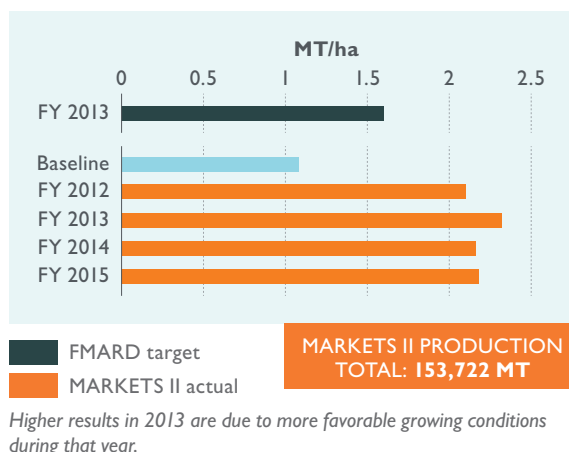
When fish pass a certain marketable size, Nigerian aquaculture farmers must sell at prevailing prices, continue feeding the fish at an economic loss, or face fish losses. MARKETS II introduced improved (non-carcinogenic) smoking techniques, where fish have no direct contact with smoke. The processed fish not only attracts higher prices, it allows farmers to choose when to sell. This has resulted in higher incomes and increased shelf life.





## Sorghum

The project promotes improved sorghum varieties and is testing yield capacity of new hybrid varieties before recommending it to farmers. Best practices promoted include thinning to two plants per hill combined with correct timing of fertilizer application, rate, and type. We demonstrate locally fabricated sorghum threshers and recommend crop rotation for soil benefits and higher yields.



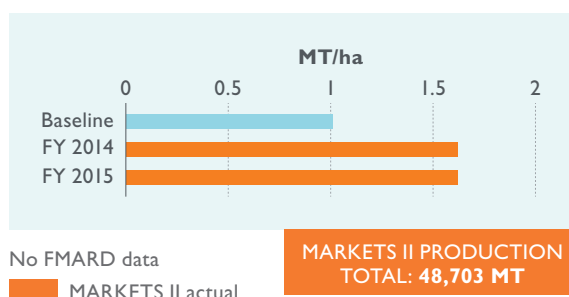
### **SORGHUM GAME CHANGER: HIGHER YIELDING SORGHUM VARIETIES**

Production has very low national average yields (1MT/ha). MARKETS II involved key private sector partners to develop improved open-pollinated sorghum varieties. Their success resulted in the partnership now developing hybrids. We expect the new hybrids to double existing yields and contribute to food security. Project farmers have increased cost efficiencies by 107 percent and yields by 102 percent (2.32MT/ha) since the project started.



## Soybean

Soy is a main source of protein in local commercial fish and poultry feed so it is linked to MARKETS II aquaculture value chain, while also being important to family meals. To



achieve high yields, environmental preservation, and soil fertility, the project recommends close planting, Rhizobium inoculant, appropriate harvesting, and crop rotation with maize and sorghum. We recommend threshers for post-harvest handling. MARKETS II conducts beekeeping and pollination training to improve soybean yields via increased pod-bearing flowers and to provide additional income through honey sales and pollination services. Nutrition, new product, and small business (MEF and NAEC) training is provided to farm families and micro- and small-scale soy processors, in addition to instruction on the use of soy and soy-other ingredient combinations.



### **SOYBEAN GAME CHANGER: CLOSE PLANTING**

MARKETS II encountered soybean farmers planting soy as if it were maize, using distant spacing. This creates few harvestable plants and many weeds competing for nutrients. The project worked with farmers to uptake close planting, which ensures quick canopy closure, controls weeds, and provides 1.5 times more plants to harvest than prior farming methods. Project farmers increased yields by 60 percent and contributed 48,703MT of soybean to the domestic food supply since FY2012.



## Maize

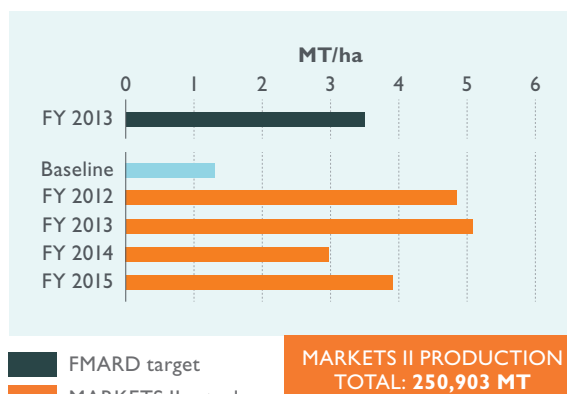
Maize is the main source of energy in locally manufactured commercial fish and poultry feed so it is linked to MARKETS II aquaculture value chain, while also being important

to family meals. MARKETS II promotes improved varieties and fertilizer 'planting' to increase its utilization and reduce leaching. The project promotes crop rotation with soybeans for soil fertility and enhancing farm families' nutrition. We also recommend threshing machines for increased post-harvest efficiency. Nutrition, new product and small business (MEF and NAEC) training is provided to micro- and small-scale maize processors and farm families, in addition to the use of maize and maize-other ingredient combinations.



### MAIZE GAME CHANGER: IMPROVED AGRONOMIC PRACTICES

Nationally, farmers harvest low maize yields due to recycled seeds and poor agronomic practices. For maize, the biggest game changer is increased yield through improved agronomic practices. Long-term MARKETS II farmers have more than doubled yields from 1.3 MT/ha to 5.08 MT/ha by adopting best practices for spacing, fertilizer application, weeding, and harvesting practices.



Higher results in FY2012 are due to yields from farmers experienced with MARKETS and Bridge to MARKETS II projects. Subsequent years include new MARKETS II farmers. Higher results in 2013 are due to more favorable growing conditions during that year.

## Collaboration Partners

Abakaliki Rice Millers Association  
Aba Malting Plant Ltd  
Allied Atlantic Distilleries Ltd  
Annes Agro Processing Industries Ltd  
Armajaro Nigeria Ltd  
Azemor Agribiz Ltd  
Bank of Agriculture (BoA)  
Bank of Industry (BoI)  
Competitive African Rice Initiative (CARI)  
Da All Green Seeds Ltd  
Dawakin Kude MFB  
De-Ideal Agro Allied Services Ltd  
Department for International Development (DFID)  
Development Exchange Centre (DEC)  
Diamond Bank Nigeria PLC  
Durante Fish Industries Ltd  
Ecobank Nigeria Ltd  
Federal Ministry of Agriculture and Rural Development (FMARD)  
Feedtech Nigeria Ltd  
First Bank Nigeria Plc  
Fortis Microfinance Bank Plc  
Foundation for Partnership Initiatives in the Niger Delta (PIND)  
Grand Cereals Ltd  
Grofin MFB

Hanigha Nigeria  
Hule & Sons Nigeria Ltd  
Idaewor Farms Ltd  
International Fund for Agricultural Development (IFAD)  
JAIZ Bank Plc  
KAFFO Mines Ltd  
Kano Fisheries Institute  
Labana Global Ltd  
Lentus Foods and Agro Ltd  
Lift Above Poverty Organization Micro Finance Bank (LAPO MFB)  
Mamora Seeds Nigeria Ltd  
Matna Food Company Ltd  
Mikap Nigeria Ltd  
Multi-Trex Integrated Foods Plc  
National Cereals Research Institute (NCRI)  
Nigerian Breweries  
Niji Foods Ltd  
Notore Chemicals Industries Ltd  
Novum Associates (NOVUM)  
Novus Agro Nigeria Ltd  
Olam Nigeria Ltd  
Omor Small Scale Processors  
ONYX Rice Company  
Popular Rice Mill and Farms

Quarra Rice Ltd  
Seraph Nigeria Ltd  
Skretting Nigeria Ltd  
Skye Bank Nigeria Plc  
States' Agricultural Development Projects (ADPs)  
Sterling Bank Plc  
Strategic Seeds Nigeria Ltd  
Syngenta Nigeria Ltd  
Tafkin Bauna Farms Ltd  
Tara Agro Industries Nigeria Ltd  
TECNI Seeds Ltd  
Thai Farm International Ltd  
Umza International Farms Ltd  
Union Bank Plc  
United States Agency for International Development (USAID)  
Warawa MFB  
Wema Bank Nigeria Plc  
West African Cotton Company Ltd (WACOT)  
Women Development MicroFinance Bank (WD MFB)  
World Bank – Government of Nigeria  
Project Fadama III  
YARA Commodities Ltd