



PROGRESS REPORT 2007 – 2014



The AGRA Vision

A prosperous, equitable and food-secure Africa, achieved through rapid and sustainable agricultural growth driven by increasingly productive and profitable smallholder farming.

AGRA's Mission

Our mission is to catalyze an agricultural transformation in Africa – one that assures food and nutritional security and lifts millions out of poverty. Improving the livelihoods of smallholder farmers requires technology driven, sustainable productivity increases, coupled with improved access to affordable financing, efficient markets, and better agricultural policies.

AGRA's Goals

- At least double the yields of smallholder farmers in focus geographies;
- Double the incomes of 20 million smallholders, through productivity improvements and access to finance and markets; and
- Support the realization of an agricultural transformation in selected countries.

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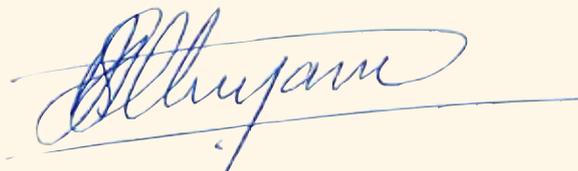
Preface

AGRA was founded with an ambitious vision of a prosperous, equitable and food-secure Africa, achieved through rapid and sustainable agricultural growth driven by increasingly productive and profitable smallholder farming. Its mission is to catalyze an agricultural transformation in Africa – one that assures food and nutritional security and lifts millions out of poverty. Each year, AGRA and its partners, which include public and private sectors organizations and agencies, international research and development agencies, and local institutions, make measurable progress towards this vision and mission.

We are again making available our annual performance scorecard that tabulates the achievements of AGRA-funded and supported programs in the 16 countries in which we are investing. The information presented here demonstrates what can be achieved through sustained investments in Africa agriculture, in partnership with grantees, agencies, national agriculture research institutions, private seed companies, and a number of other stakeholders.

This Report presents the cumulative progress we have achieved through AGRA's leveraged investments from 2007 to 2014. In addition to the general combined results presented, the 2014 results also present the total dollar investment in individual countries and the number of projects that AGRA has funded. For ease of access, the extent and results of our investments are presented both in tabular form and as infographics. In addition, impact stories from partner countries are provided that show how people's lives are being transformed each day by the investments of AGRA and its partners.

It is our hope that the results and impact stories presented here will inspire and motivate all partners and stakeholders engaged in transforming African agriculture to redouble their efforts to improve the lives and livelihoods of smallholder farmers across the continent.



Dr. David Sarfo Ameyaw

Director – Strategy, Monitoring and Evaluation
AGRA



About this Progress Report

AGRA was established to catalyze the transformation of smallholder agriculture into a highly productive, efficient, sustainable and competitive system, while also protecting the natural resource base on which agriculture depends. We have expanded the scope of our operations since 2007, the year AGRA was founded, but our fundamental approach remains unchanged. We work closely with hundreds of grantees and dozens of partners to develop practical ways to improve the productivity, production and livelihoods of the millions of smallholder farmers that constitute the core of Africa's agricultural sector.

A vital aspect of our work entails tracking our outputs and measuring the impact of our investments and collective efforts. In 2012, we began publishing an annual scorecard that highlights key outputs and intermediate (near-term) outcomes resulting from our direct investments and those made in collaboration with various partners. The annual scorecard is based on quarterly reports that track our progress relative to established targets. The purpose of this monitoring and evaluation work is to help ensure accountability, demonstrate results, and strengthen management decision-making and planning.

AGRA takes a value chain approach in its work. We address a range of interrelated challenges faced by smallholder farmers all along the agricultural value chain – beginning with improving the efficiency and effectiveness of input markets for seed and fertilizers, but also improving farm-level productivity, post-harvest handling, and access to financial and farm output markets. We also work with specific countries when asked to support the development of better agricultural policies (see Figure 1).

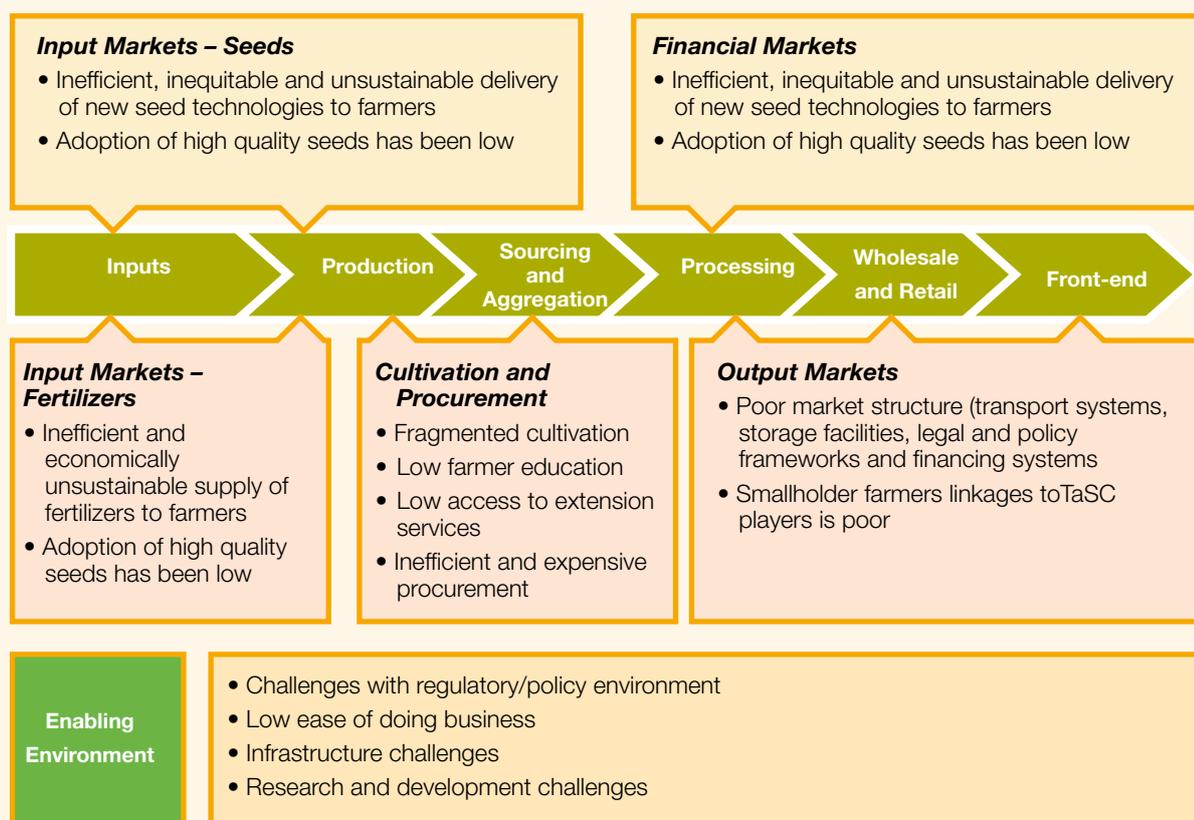
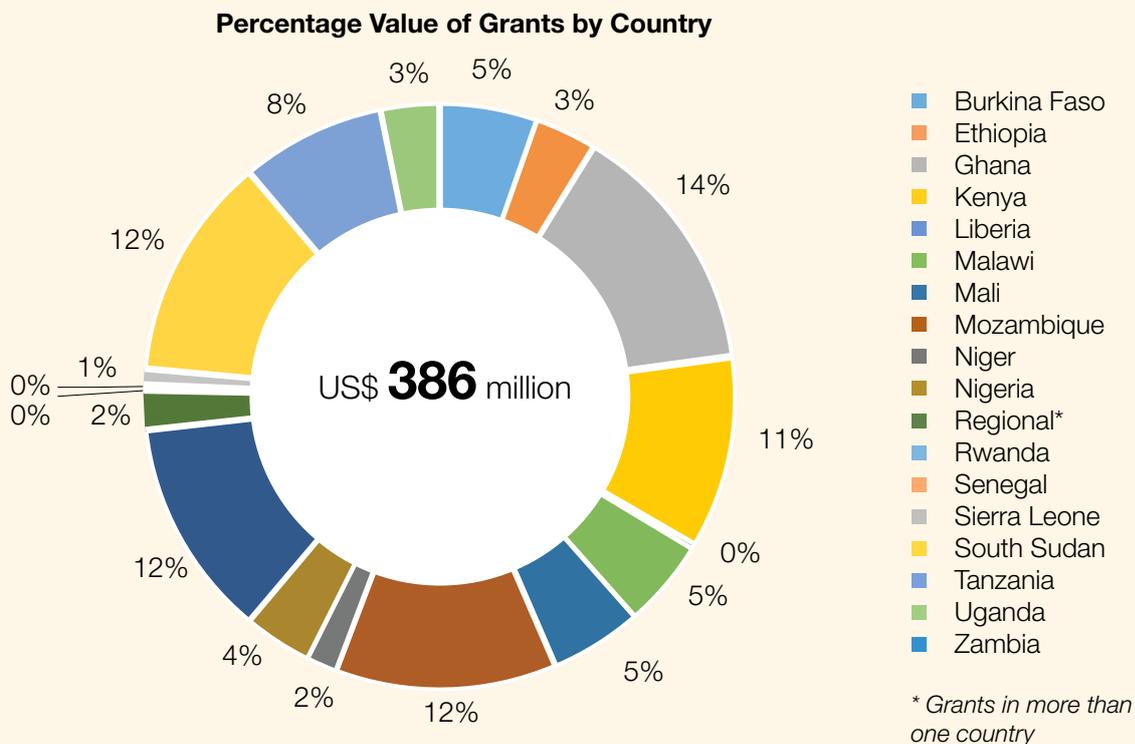
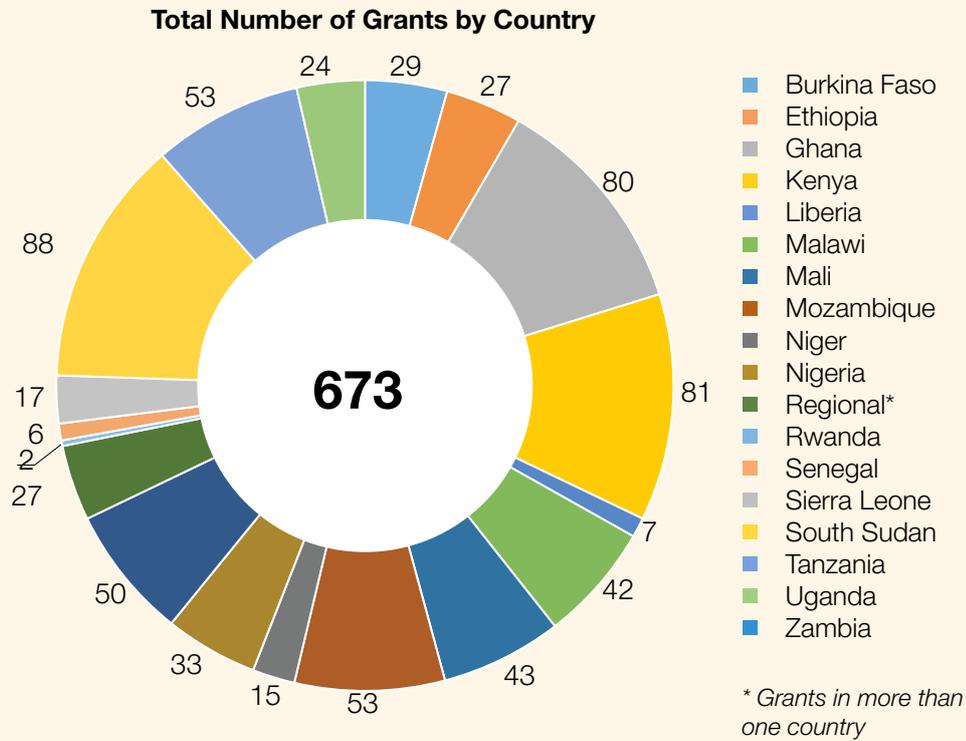
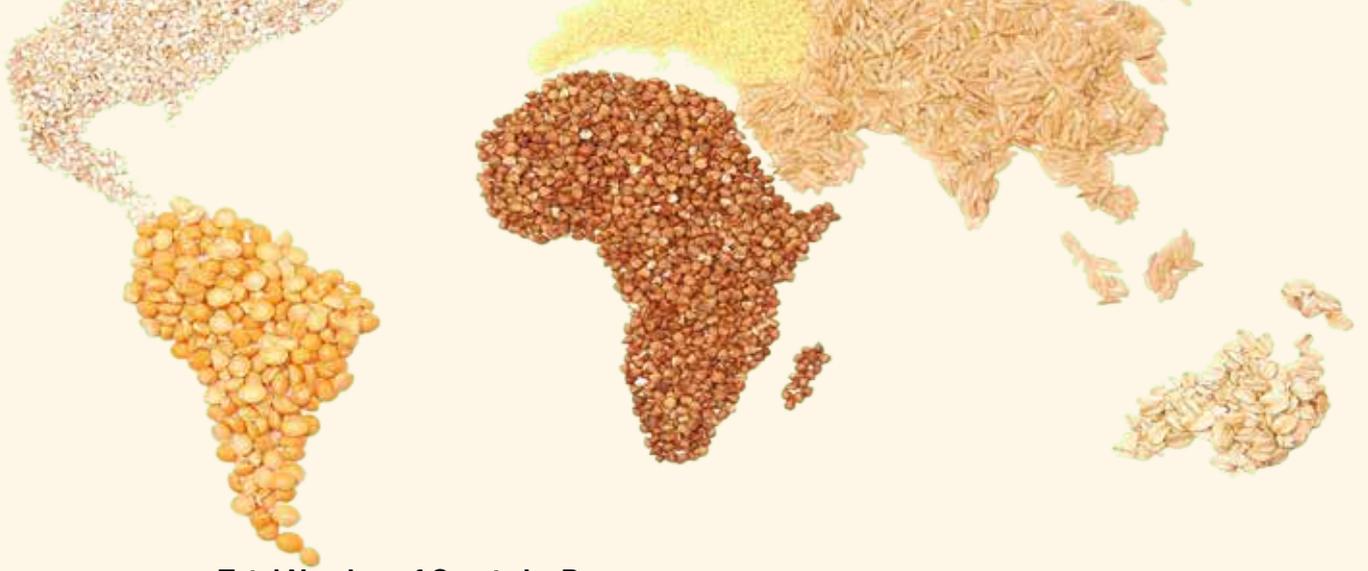


Figure 1. The interrelated challenges affecting the productivity of smallholder farmers along the agricultural value chain and in the policy arena require AGRA, its grantees and its partners to address constraints in coordinated and integrated ways.

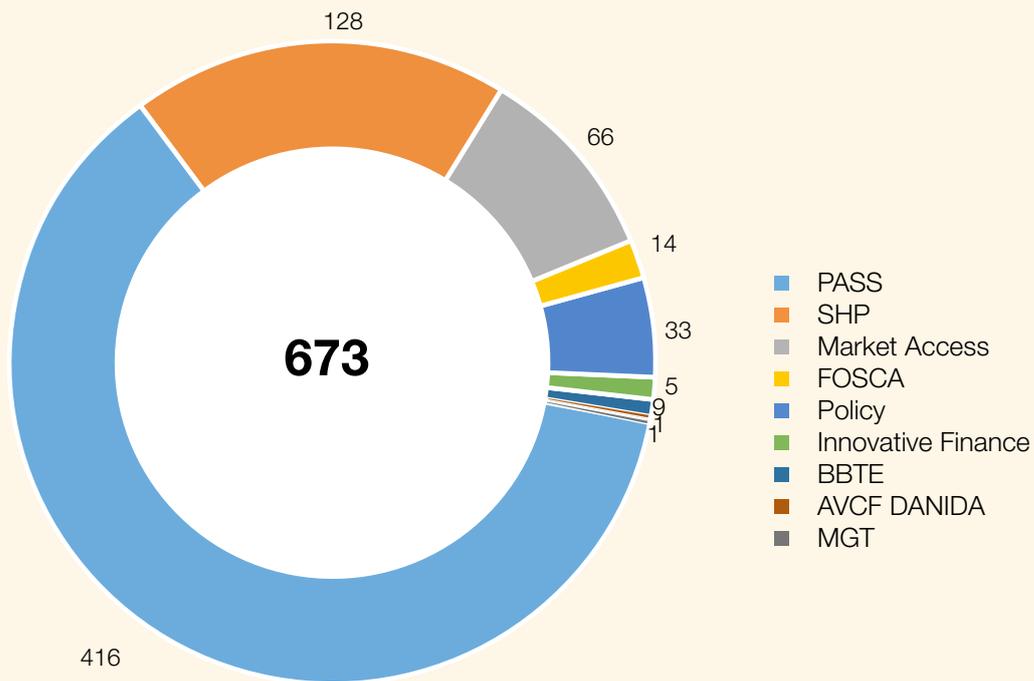
In 2014, AGRA worked in 17 countries across sub-Saharan Africa. Taken together, they have an approximate total population of 665 million people, with about 436 million of those living in rural areas.

Since its inception, AGRA has funded 673 projects at a cost of US\$ 386 million. We have invested about 44% of our resources (US\$ 168.5 million) in four “breadbasket” countries: Ghana, Mali, Mozambique and Tanzania. The following graphs show the distribution by country.

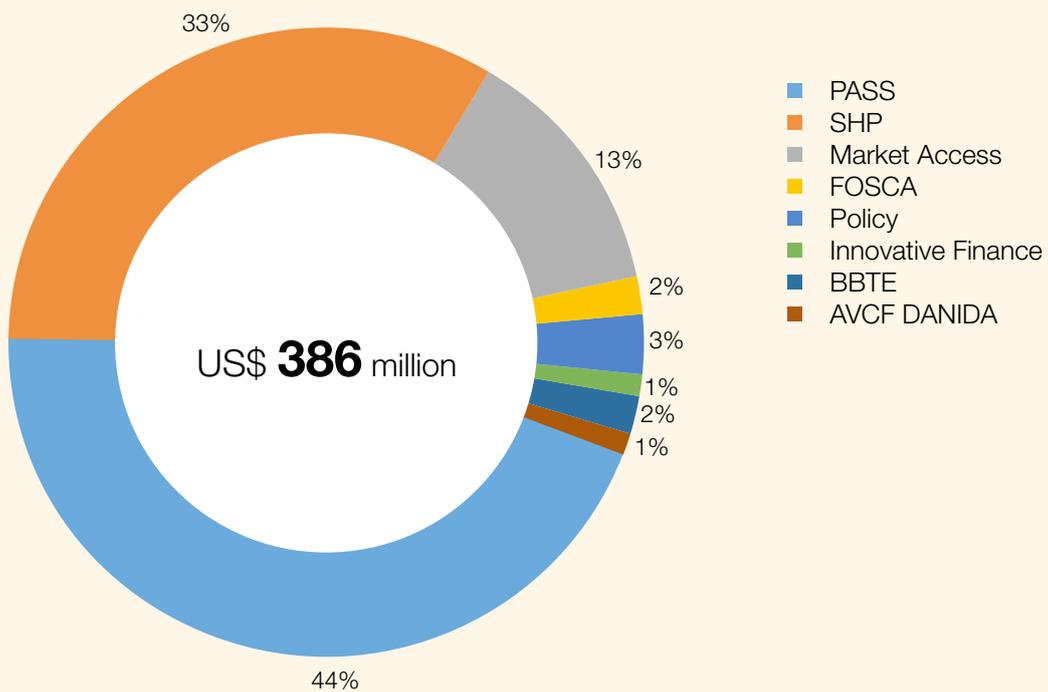




Total Number of Grants by Program



Percentage Value of Grants by Program



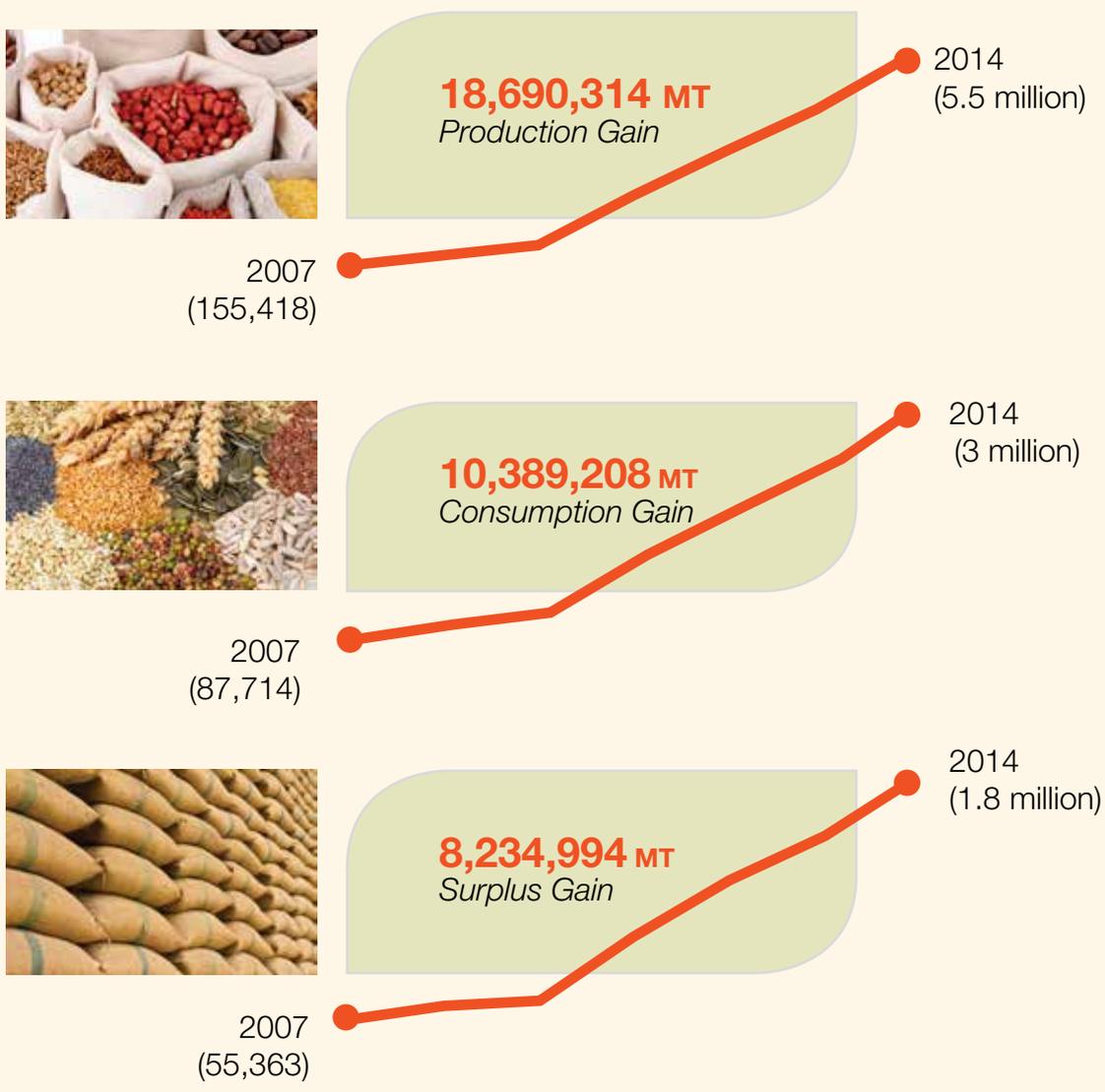
AGRA Achievements

Intermediate Outcomes

1 An estimated **15.3 million smallholder farmers in 16 African countries are now benefitting from improved seeds produced by AGRA-supported seed companies.** Since its inception in 2007, AGRA has made significant investments in various kinds of support to **91** local private seed companies to produce and sell improved seed varieties. In 2007, fewer than **10** seed companies were operating in all of sub-Saharan Africa (not including South Africa), producing less than **2,400 MT** of certified seed. By the end of 2014, total production and sale of certified seed by AGRA-supported seed companies had risen to about **120,920 MT**. Over the eight-year period, 2007-2014, an estimated **343,242 MT** of improved seed have been produced and sold by AGRA-supported companies.



2 On average, the use of improved seed and agronomic practices enabled farmers to more than double their yields, leading to the production of an additional **5.6 million MT** of cereals, pulses, soybeans and groundnuts in 2014 alone. In monetary terms, this represents about **US\$ 3.1 billion** in additional income for these farmers. Cumulatively, farmers have achieved a total increase in production of an estimated **18.7 million MT** by using improved seed varieties produced by AGRA-supported seed companies, along with rising amounts of fertilizer. This extra production has provided smallholders with about **US\$ 5.2 billion** in additional income since AGRA began its work in 2007.

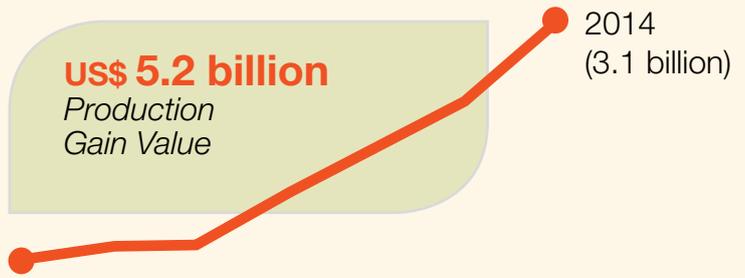


3 The increase in farm-level production and productivity has led to significant gains in direct household consumption, as well as marketable surpluses. In 2014, smallholder households produced about **3.0 million** additional MT of cereals, pulses, soybeans and groundnuts for their own consumption, along with an estimated **1.8 million MT** surplus for the market. Cumulatively, household consumption increased by some **10.4 million MT**, while the marketable surplus increased by about **8.2 million MT**; these increases are valued at an estimated **US\$ 2.9 billion** and **US\$ 1.7 billion**, respectively.



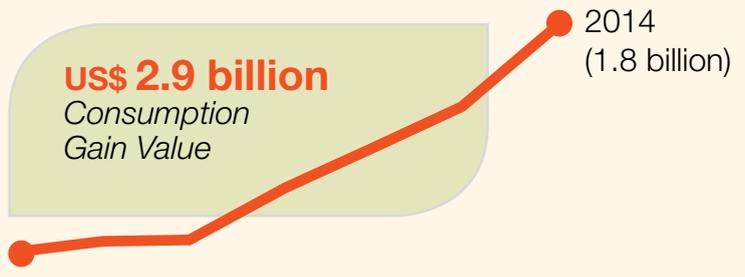
us\$ 5.2 billion
Production
Gain Value

2007
(40,355,902)



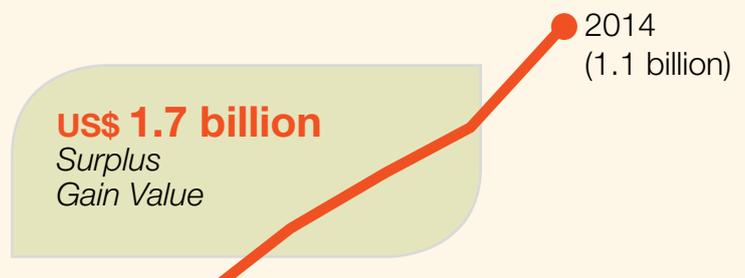
us\$ 2.9 billion
Consumption
Gain Value

2007
(22,399,981)



us\$ 1.7 billion
Surplus
Gain Value

2007
(14,639,686)



Outputs

AGRA's investments have resulted in a number of key outputs in our focus geographies:

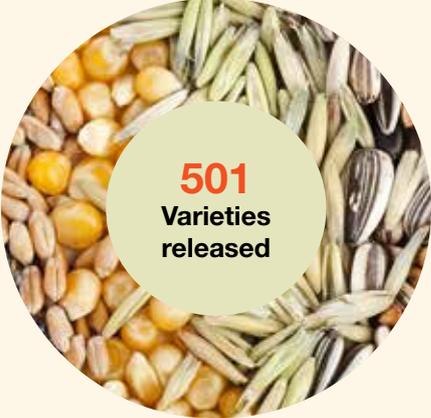


192
Total funded PhDs
 (152 Crop Breeding;
 40 Agronomy)

76
PhD graduates in
 crop breeding whose
 research has led to the
 release of
110
 new varieties

9
PhD graduates in
 agronomy whose work
 is contributing to
 farmer adoption of
 agronomic practices

AGRA focuses mainly on staple foods and supports the following major crops in various countries: rice, cassava, maize, beans, sorghum, millet, beans, cowpeas, chickpeas, pigeon peas, soybeans, groundnuts, sweet potatoes, wheat, and teff. A total of **501 new varieties** have been released in **14 countries**, thanks largely to AGRA-supported research and development.



501
Varieties
 released



328
Varieties
 commercialized

343,242 MT
Seeds
 produced

539,954 MT
Commodities aggregated
 by farmers at a value of
US\$154.6
 million

620
Aggregation
centers supported
 by AGRA

1,339,030 MT
Inorganic fertilizer
 sold by AGRA
 supported
 agrodealers

AGRA-Funded PhD Graduates

PhD Graduates in Plant Breeding

Country	Gender	Crop	Institutions/ employer	Country	Gender	Crop	Institutions/ employer
Burkina Faso	Male	Rice	INERA Kamboinse	Malawi	Male	Groundnut	Indigenous Seed Company Ltd.
	Male	Maize	INERA Bobo Dioulase		Male	Pigeon pea	Tobacco Research Board
	Male	Sweet potato	INERA Kamboinse		Male	Bean	AGRA – Malawi
	Male	Cowpea	AVRDC-Mali		Male	Rice	DARS
Ethiopia	Female	Wheat	EIAR Ambo	Mali	Male	Rice	IER
	Female	Sorghum	EIAR Debre Birham		Male	Maize	IER
	Female	Maize	EIAR Bako	Mozambique	Male	Groundnut	IIAM
	Female	Sorghum	ACCI		Male	Cowpea	Eduardo Mondlane University
	Male	Soybean	EIAR Jimma		Male	Maize	IIAM
Ghana	Male	Maize	CSIR	Male	Maize	IIAM	
	Female	Sweet potato	CRI Kumasi	Niger	Male	Groundnut	INRAN
	Male	Cowpea	Ministry of Agriculture - Ghana		Male	Pearl millet	INRAN
	Male	Rice	CSIR- CRI		Male	Sorghum	INRAN – Niamey
	Male	Rice	AFRICA rice	Nigeria	Female	Maize	WACCI
Kenya	Female	Bean	HDA		Male	Groundnut	Antika Enterprises
	Male	Sweet potato	KARLO		Male	Maize	Ladoke Akintola University of Technology
	Female	Maize	KARLO		Male	Cassava	Root and Tuber crops research Umudike Nigeria
	Male	Maize	KARLO				
	Female	Soybean	KARLO		Tanzania	Male	Maize
	Female	Pigeon pea	KALRO	Female		Rice	Ministry of Agriculture, Food Security and Cooperatives
	Male	Cassava	KARLO	Male		Cassava	DRD, SRI
	Male	Finger Millet	KARLO				
	Male	Cassava	KARLO				
	Male	Sorghum	KARLO				
	Male	Rice	KARLO				
	Male	Sorghum	AGRA-South Sudan				
	Male	Bean	Egerton University				
	Male	Maize	KARLO				
	Male	Maize	KARLO				
Female		KARLO					
Male	Bean	KARLO					

PhD Graduates in Plant Breeding

PhD Graduates in Agronomy

Country	Gender	Crop	Institutions/ employer	Country	Gender	Research Theme	Institutions/ employer
Uganda	Male	Finger Millet	NARO	Burkina Faso	Female	Fertilizer use efficiency	INERA
	Male	Cassava	NARO	Burkina Faso	Female	Fertilizer use efficiency	INERA
	Male	Sorghum	NARO	Burkina Faso	Male	Water and fertilizer use	INERA
	Male	Banana	NARO	Ghana	Male	Decision support tools	KNUST
	Female	Bean	CIAT	Mali	Male	Fertilizer use efficiency	IER
	Female	Maize	NARO	Niger	Male	Nutrients & water use Interaction	INRAN
	Male	Maize	Buginyanya Zonal Agricultural Research and Development Institute	Nigeria	Female	Fertilizer use efficiency	University of Nigeria
	Male	Rice	NARO	Nigeria	Female	Decision support tools	University of Nigeria
	Male	Bean	NARO	Nigeria	Female	Nutrients & water use Interaction	Federal College of Agriculture Moor Plantation Apata, Ibadan, Nigeria as a Lecturer
	Male	Maize	NARO				
	Male	Sweet potato	NARO				
	Male	Cowpea	NARO				
Zambia	Male	Bean	ZARI – Mt Makhulu				
	Male	Cassava	ZARI				
	Male	Cassava	ZARI				
	Male	Sweet potato	NARO				
	Male	Maize	SCCI				
	Male	Maize	ZARI				

Key: Institutions & Organizations

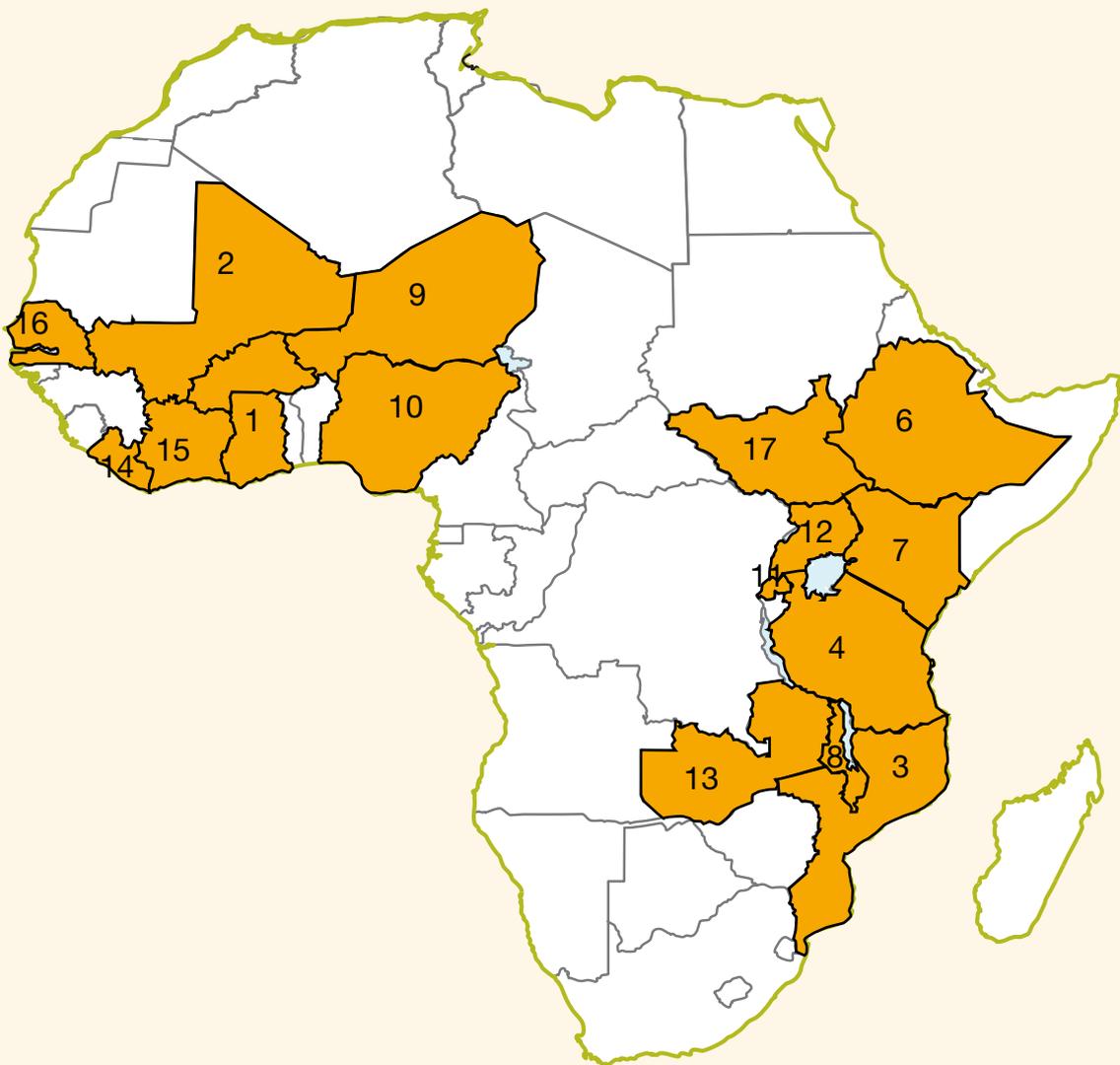
EIAR	Ethiopian Institute of Agricultural Research	IIAM	Instituto de Investigação Agrária de Moçambique	ZARI	Zambia Agriculture Research Institute
ACCI	African Centre for Crop Improvement	IER	L'Institut d'Economie Rurale	INRAN	Niger National Research Institute
CIAT	Centro Internacional de Agricultura Tropical	INERA	Institut de l'Environnement et de Recherches Agricoles	INERA	National Research Institute
CSIR	Council for Scientific and Industrial Research	INRAN	Institut National de la Recherche Agronomique du Niger	SCCI	Seed Control and Certification Institute
CRI	Crops Research Institute	DRD	Department of Research and Development	SRI	Sugarcane Research Institute
HDA	Horticulture Development Authority	KARLO	Kenya Agriculture Research and Livestock Organization	WACCI	West Africa Centre for Crop Improvement
DARS	Department of Agricultural Research Services	NARO	National Agriculture Research Organization		

Released varieties developed by AGRA-supported PhD graduates in crop breeding

Country	Research Station	Crop	Varieties Released	No. of Varieties	Commercialized by
Burkina Faso	IIERA	Cowpea	Tiligre (KVX 775-33-2G); Kom-Calle (KVX 442-3-25 SH); Gourgou(TZ1 GOURGOU); Nafi (KVX 771-10G)	4	NAFASO, FAGRI, Agro Production, ASK Donsin, EPSAB Tenkodogo, Wendpanga Koupela, Min of Agriculture, COPROSEL
Kenya	KARO-Kakamega	Finger Millet	I.E 4115; KACIMMI142; OKHALE-1; U-15	4	Farmers groups, Kari Kakamega Seed Unit
	KARO- Mtwapa	Cassava	KME2; KME3; KME4; Karibuni (KME-0108)-Clone 119; Tajirika (KME-0208)-Clone 0642; Shibe (KME-0408)-Clone 1432; Siri (KME-0308)-Clone 1260; Karemba (KME-0508)-Clone 1838; Nzalauka; (KME-0608)-Clone 3342	9	CARPA, KARI Seed unit
	KARO-Muguga	Maize	KH500-48A (MU03-011); MU07-010(KH500-50A); MU08-005 H Kari Muguga; MU07-018(KH500-51A); KM1101	5	Wakala seeds,Olerai Seed Co, Elgon Kenya, East Africa Seed Co.
	KARO-Mwea	Rice	Mwea Irrigated Rice -1; Mwea Irrigated Rice -2; Komboka; SARO5	4	
	KARO-Kakamega	Sorghum	P95118A/ICSR92074 (SBH01)	1	FreshCo, East Africa Seed Co, Wakala Seeds
	KARO	Sweet Potato	KSP047; KSP072; KSP084, KSP154	4	KARI Seed Unit
Malawi	Chitedze Agricultural Research Station	Beans	Mnyambitira (KK03/KK25/68/S-F); KK25/Mal/19/S-F; Mal/KK25/9/S-F; KK25/Mal/112/S-F; Namtupa (Nag/KK25/168/S-F); KK25/Nag/184/S-L; Mal/KK35/443/S-L	8	CPM, Exagris, Peacock
		Pigeon pea	Mwaiwathualima (ICEAP00557); ICEAP 01485/3	2	Demeter Seed Company, Funwe Farm Limited, Peacock
Mali		Maize	Tieba	1	
Mozambique	Instituto de Investigação Agrária de Moçambique	Maize	Hluvukane (LP23/LP19//LP21); Olipa (QS7707); DIMBA (EV8430SRDMR); GEMA (Suwan-1- Synt); ZM523; MOLOCUE (CZH5011)	6	Dengo Commercial, Semente Perfeita, Bonymar, IAF, Morais Comercial, Lozane, MozSeed
		Groundnut	Otitela(35B)	1	
Nigeria	University of Port Harcourt	Rice	UPIA 1 (IWA 1); UPIA 2 (IWA 2); UPIA 3 (IWA3)	3	
Rwanda	Rwanda Agricultural Board	Sweet potato	Maryoha (RW11-17); Giramata (RW11-1860); Terimbere (RW11-2560); Ndamirabana (RW11-2910); Mbakungahaze (RW11-4923); Izihirwe (RW11-2419); Gihingumukungu (97-063); Ukerewe	8	Farmer groups
South Sudan		Rice	Nerica 1; Nerica 4; Nerica 10	3	
Uganda	NARO	Banana	Kabana 7H	1	Farmer groups
		Beans	NABE 15(NARBL 144); NABE 16(NARBL 233-2); NARLB 220 (NABE 17); NARBL110-2 (NABE 18); NARBL 50-1(NABE 19); NARBL 50-3 (NABE 20); NARBL 53-3 (NABE 21); NARBL 40-3 (NABE 22); NARBL 252 (NABE 23)	9	
		Cowpea	SECOW-3B (MU-93 x Blackcowpea-6-8); SECOW -4W (MU-93 x Ecirikukwai-14-15; SECOW -5T (IT882D-889 x Blackcowpea-1-2)	3	NASECO, Victoria, Pearl and CAII, East African Seeds
		Groundnut	Serenut 5R; Serenut 6; Bugondo (SGV 99018 - Serenut 7T); Sweetnut (SGV 99044 - Serenut 9T); Giant (SGV 99031 - Serenut 11T); Ekalam (SGV 99052- Serenut 13T); Achieng (SGV 99019 - Serenut 8R); Rosenut (SGV 99024 - Serenut 10R); Nasarri Red (SGV 99048 - Serenut 12R); Nakabango (SGV 99064 - Serenut 14R)	10	Sasakawa global 2000, Seed companies (Pearl, Victoria, USTA), Farm Africa Ltd, Abi ZARDI, Kyere farmer group, Pajule farmers
		Maize	YARA41(MU03-014); YARA42(MU03-017)	2	Victoria seeds
		Rice	NERICA1; NERICA10; Komboka; NamChe-1 (WAB95-40); NamChe-2 (NM7-1); NamChe-3 (NM7-8); NamChe-4 (ART3-10); NamChe-5 (NM7-6); NamChe-6 (NM7-7)	9	NASECO, Uganda Seed Trade Association, Arolim Seed Compnay, FICA
Zambia	ZARI	Maize	AGP 4 (MMV 415); AGP 12 (MMV 530); AGP 27 (MMV 420); AGP 32 (MMV 405); MMV 508	5	
		Rice	Longe 1(parentage - IR 79966-B2-52-2); Longe 2 (IR 82635-B-B-145-1); Longe 3 (IR78913-B-22-B-B-B)	3	
		Sweet Potato	L2-101/1/1-Kanga; Orange Chingowwa-Chiwoko; 15/1 Olympia; L4-140/4/4-Kokota; L2-103/8/1- Chomfwa	5	

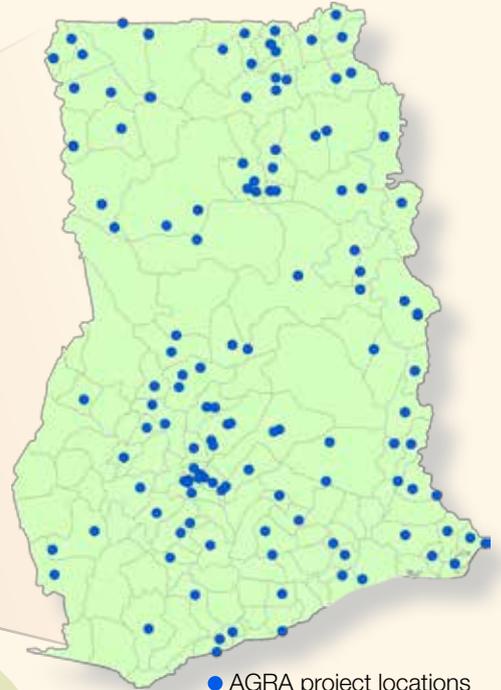
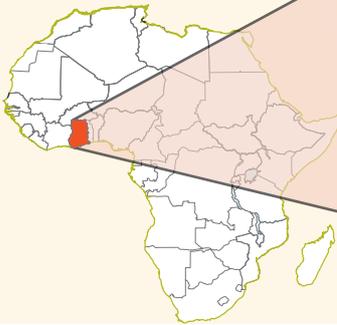
Selected AGRA Country Profiles and Impact Stories

- | | | |
|-----------------|-------------|------------------|
| 1. Ghana | 8. Malawi | Other Countries |
| 2. Mali | 9. Niger | 14. Liberia |
| 3. Mozambique | 10. Nigeria | 15. Senegal |
| 4. Tanzania | 11. Rwanda | 16. Sierra Leone |
| 5. Burkina Faso | 12. Uganda | 17. South Sudan |
| 6. Ethiopia | 13. Zambia | |
| 7. Kenya | | |



AGRA at a glance

Ghana



26.44 million Total population

12.24 million Rural population

80 AGRA funded grants in Ghana at a cost of US\$ **54.3 million**

18 PhDs funded in plant breeding and agronomy



203,902 ha Planted by farmers using fertilizer, organic manure and good agronomic practices

42 Varieties released

Maize	
Cowpeas	15
Soybean	10
Cassava	7
Ground nuts	4
Rice	3

106,649 MT Aggregated by farmers at a value of US\$ **18.6 million**

227,110 Farmers using fertilizer, organic manure and good agronomic practices

46,869 Farmers trained in structured systems: contract farming, warehouse receipt systems, commodity exchange, and warrantage

Ghana Country Dashboard

AGRA has invested widely in Ghana, especially in the northern region in the area established as the breadbasket of the country. The following dashboard summarizes the main achievements by AGRA and its partners in Ghana.

Capacity Development	Technology Development and Commercialization	Technology Adoption (Estimates)
<p>18 PhDs funded in plant breeding (13) and agronomy (5)</p> <p>31 MSc students funded in crop science (26) and soil science (5)</p> <p>34 lab technicians trained in plant and soil analysis best practices</p> <p>3,782 lead farmers trained in agronomic practices</p> <p>675,813 (est.) farmers aware of or have some knowledge about agronomic practices</p> <p>2,605 farmer organizations trained in the use of agronomic practices</p> <p>51,332 farmers trained in business development, group dynamics and leadership</p> <p>46,869 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>314 extension agents trained in best agronomic practices</p> <p>5,250 agrodealers trained</p>	<p>42 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Cassava (10) • Cowpea (3) • Groundnut (4) • Maize (15) • Rice (7) • Soybean (3) <p>36 improved seed varieties commercialized by public and private seed enterprises</p> <p>11 seed companies supported by AGRA</p> <p>5,982 MT of seed produced by AGRA supported seed companies</p> <p>128,819 MT of inorganic fertilizer sold to farmers</p>	<p>204,620 farmers using improved seed varieties</p> <p>152,521 hectares planted with improved seed varieties</p> <p>227,110 farmers using fertilizer, organic manure and good agronomic practices</p> <p>203,902 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has funded **18 PhD candidates** in plant breeding and soil science, and **31 crop and soil science MSc students**. Six of the PhD candidates have graduated [5 in crop breeding (maize, sweet potato, cowpea and rice) and 1 in agronomy (systems modeling)]; they are working in 5 separate institutions in Ghana [the breeders are employed by the Council for Scientific and Industrial Research, CRI-Kumasi, the Ministry of Agriculture and Africa Rice, and the agronomist is serving as a lecturer at the Kwame Nkrumah University of Science and Technology (KNUST)]. As can be seen in the dashboard, we have invested significantly in a range of capacity building efforts.

A total of **42** new varieties have been officially released, **36** of which have been disseminated to farmers. **Eleven** seed companies have been supported by AGRA, and they have so far produced about **5,982 MT** of certified seed. In Ghana, an estimated **227,110** farmers are now cultivating their crops using new agronomic technologies on about **203,902** hectares.

AGRA's policy node in Ghana has helped the government to revamp its seed policy law and regulations, and is now involved with others in a review of the country's land policies

AGRA's Seed Policy Action Node in Ghana has helped the government to revamp its seed and plant variety protection laws and regulations, which in turn has helped to increase the production of foundation and certified seed several fold. Our Soil Health Policy Action Node facilitated evidence-based debate on how to improve the efficiency and targeting of the country's fertilizer subsidy program, which has helped farmers obtain better and more timely access to quality fertilizers at affordable prices, increase fertilizer use, and achieve higher yields, production and incomes. With respect to markets, we have helped organize farmer groups along commodity value chains and to develop the country's strategy for improving post-harvest management. In addition, we have developed a land tenure and property rights risk assessment tool and strengthened the capacity of local land policy advocacy organizations.

AGRA has worked with two banks (UT Bank and Stanbic-Ghana) and one financial NGO (CARD-FNGO) to provide short- and medium-term loans totaling **US\$ 7.61 million**. As of the end of 2014, **25,568 farmers, 53 SMEs** and **10 agrodealers** have accessed these loan facilities. AGRA and its partners provided the participating financial institutions with **US\$ 8.60 million** in risk-sharing funds, of which **US\$ 6 million** was provided by DANIDA.

Aggregating their way out of poverty

In Gaa, a major grain-growing center in Ghana's Northern Region, stands an imposing 200-ton capacity grain warehouse that is transforming the lives of smallholder farmers.

Three years ago, the once-dilapidated structure was renovated with funds from AGRA provided to the Ghana Grains Council to implement the "Ghana Warehouse Receipt Promotion Project". This was part of a broader initiative to improve farmers' productivity and to set up functional warehouse receipting systems in the nation. One of the beneficiaries is the Gaa Farmers Association, comprising 60 smallholder growers of rice, maize and soybeans.

Before the project, Gaa farmers did not believe in the power of collective marketing. They also experienced extensive grain losses to weevils and rodents. "We would lose two out of every ten bags of maize that we stored in our homes", says the Association's warehouse manager, Alhassan Musah. "It was terrible!" Given that each bag weighs 180 kilos, this was a considerable loss that was replicated across more than 1,000 farming units, comprising a collective loss of more than 360 tons of maize each season.

Gaa farmers are now taking food security into their own hands as they staunch previous grain losses using the improved storage provided by the community warehouse. They are also commanding better prices for their grain and changing their fortunes. In 2013 alone, using the community warehouse system the Gaa Farmers Organization marketed a total of 125.6 tons of high quality grains, valued at US\$ 27,493, on behalf of about 50 Association members.

AGRA's partner, the Ghana Grain Council, approached the Gaa Farmers Association to participate in the initiative. For the grain warehouse to be filled to capacity, the farmers needed to be given better access to agricultural inputs, and to be taught the basics of good agronomy. Through linkages with Tizaa Rural Bank, farmers received credit for seed and fertilizer purchases. With AGRA funding, the Ghana Grain Council purchased basic grain handling and quality grading equipment, such as moisture meters, weighing scales, tarpaulins, and sample spears, and trained the Association's members on how to use the equipment. Other training aspects included proper grain handling practices in order to maintain grain quality, effective record keeping, and price negotiation skills to take advantage of interest from bulk grain buyers, such as the Savanna Farmers Company and Gundaa Produce Limited. To maintain the warehouse operations, the Association charges farmers nominal storage fees.

The Gaa Farmers Association members have each planted maize, rice and soybean on acreages ranging from two to 30 acres, and they collectively producing about 200 tons per season, with each farmer storing an average of 50 bags of maize in the warehouse.

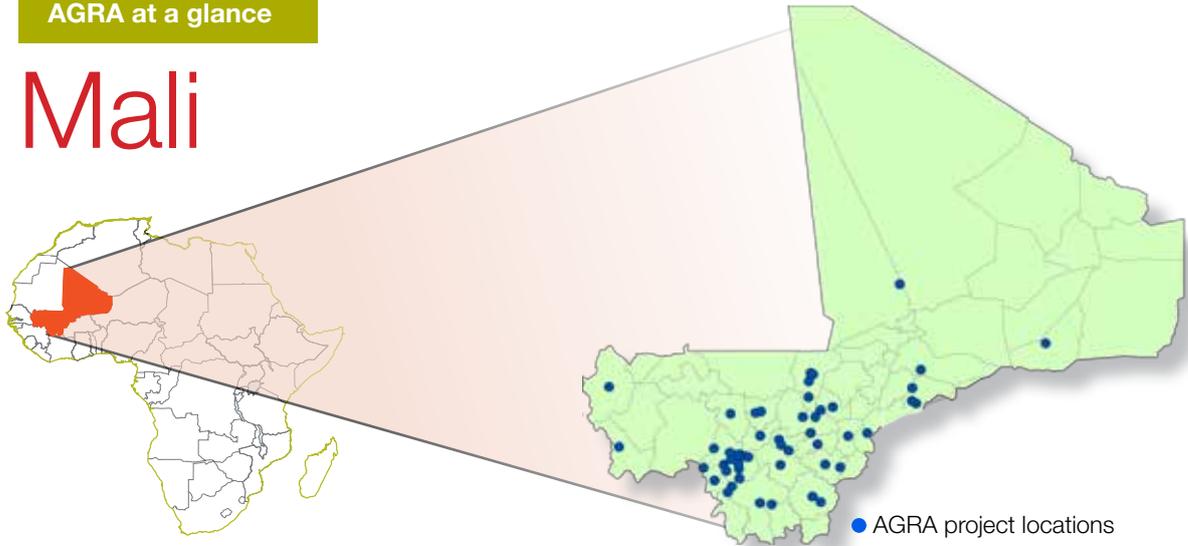
Women farmers, previously excluded from profitable farming, are being empowered in new ways through this project. Traditionally, women do not have rights over farming decisions and mainly provide labor on family farms, deferring all production decisions to their husbands. However, through membership in the Association, two women – Adamu Alhassan and Mahamadu Ayi – are flipping this tradition on its head. By leasing land from the Association's chairman, and implementing the good agronomic techniques learned, Alhassan has quadrupled her maize harvest, and Ayi has tripled hers. They are now managing to store 200 and 150 (180 kg) bags, respectively, in the community warehouse.

Their joy in this achievement is clearly evident: "I have never before in my life seen this amount of money!" says an elated Alhassan, who aggregated 200 bags of maize and 40 sacks of rice, for which she received US\$ 6,000. These sentiments echoed strongly by Ayi, who earned US\$ 4,500.

Gaa farmers are now taking food security into their own hands as they staunch previous grain losses using the **improved storage provided by the community warehouse.**



Mali



15.77
million
Total population

9.95
million
Rural population

43
AGRA funded
grants in Mali at a
cost of
US\$ **19.4** million



4,138
Agrodealers
trained
(1,336 women
and 2,802 men)

674
Agrodealers
accessed loans
valued at
US\$ **814,635**

14,537 MT
Aggregated
by farmers
at a value of
US\$ **4.97** million

65
Aggregation
centers
supported by
AGRA

Mali Country Dashboard

AGRA's investments are concentrated in the southern part of Mali, which is considered to be the country's breadbasket area. The following dashboard summarizes the main achievements by AGRA and its partners in Mali.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>11 PhDs funded in plant breeding (7) and agronomy (4)</p> <p>24 MSc students funded crop science (15) and soil science (9)</p> <p>25 lab technicians trained in plant and soil analysis best practices</p> <p>3,420 lead farmers trained in agronomic practices</p> <p>670,980 farmers aware of or have some knowledge about agronomic practices</p> <p>762 farmer organizations trained in the use of agronomic practices</p> <p>5,860 farmers trained in business development, group dynamics and leadership</p> <p>27,244 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>450 extension agents trained in agronomic practices</p> <p>126 farmer organizations registered in AGRA databases</p> <p>376 farmers trained</p>	<p>66 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Maize (15) • Irrigated rice (4) • Millet 8 • Rainfed rice (18) • Cowpea (8) • Sorghum (13) <p>19 improved seed varieties commercialized by public and private seed enterprises</p> <p>7,430.3 MT of seed produced</p> <p>6,4591 MT of inorganic fertilizer sold to farmers</p> <p>6 seed companies supported</p>	<p>290,100 farmers using improved seed varieties</p> <p>188,501 hectares planted with improved seed varieties</p> <p>171,891 farmers using fertilizer, organic manure and good agronomic practices</p> <p>263,164 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

Capacity building at all levels in Mali (see dashboard) is now paying dividends. AGRA has funded **11 PhD candidates** in plant breeding and soil science, and **24** crop and soil science MSc students. Two of the PhD candidates have graduated and are working on rice and maize, one at L'Institut d'Economie Rurale (IER) and the other at the Institut de l'Environnement et de Recherches Agricoles.

Sixty-six new varieties have been officially released, but so far only 19 of those have reached farmers. AGRA has invested in **six** local seed companies, which have produced nearly **7,500 MT of certified seed**. The availability of fertilizer to smallholders is also on the rise. In Mali, about **290,100 farmers** are now cultivating improved seed varieties on approximately **188,500 hectares**; we estimate that **171,891 farmers** are using new agronomic practices on about **263,164 hectares**.

AGRA's policy-related work in Mali includes developing an evidence-based case with the government and other stakeholders to create entirely new legislation and regulations needed to underpin the design and implementation of a nation-wide warehouse receipt system (WRS). Such a system would greatly improve post-harvest storage options for farmers and enable easier access for them to much-needed credit and other financial services. As a part of this work, post-harvest facilities in the country have been mapped and areas for the construction of new storage silos have been identified. While development of the new WRS legislation progresses, AGRA's policy team has worked with the government to develop needed near-term amendments to Mali's current warrantage and/or collateral management laws, which are not particularly favorable to the country's smallholder farmers.

AGRA has worked with two microfinance organizations (Kafo Jiginew and Soro Yiriwaso) to leverage short-term loans in the amount of **US\$ 3.24 million**. As of the end of 2014, **16,665 farmers** and **90 agrodealers** had accessed these loan facilities, and AGRA provided the MFIs with **US\$ 860,000** in risk-sharing funds.

In establishing Faso Kaba, Mme. Coulibaly's goal was to help fill the large unmet demand among farmers for good varieties of local crop





Seeding the Malian Countryside

Madam Coulibaly already had good business skills and experience building farmer organizations when she created Faso Kaba, a private seed company in Mali that is supported by AGRA. In establishing Faso Kaba, her goal was to help fill the large unmet demand among farmers for good varieties of local crops like sorghum, maize, cowpea, rice and vegetables.

Mme. Coulibaly does something that many seed dealers in Mali and other parts of Africa usually do not do – she keeps her seed prices low enough so that smallholder farmers, who are normally short on cash, can afford to buy it. And instead of packaging seed in large volumes, Mme. Coulibaly provides seed of sorghum, rice, millet, maize, groundnuts, cowpeas, and beans in various size packages, making them easier for farmers to buy, transport and use.

In addition to “being able to take care of me and my family,” from starting the seed dealership, says Coulibaly, she has also been able to expand the business, hire a number of full-time employees, and use part-time staff to help package seed. “Unfortunately”, she says, “it hasn’t been easy to find or hire women agrodealers to reach more women farmers because it’s harder for them to travel”.

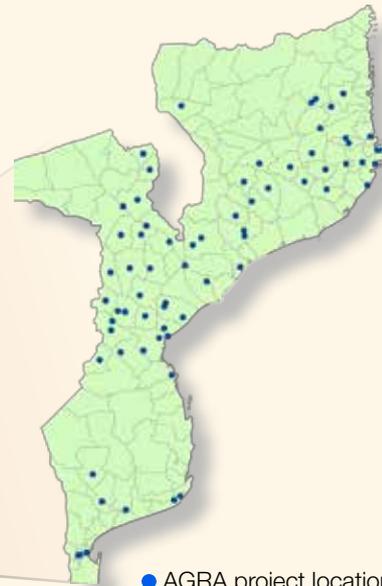
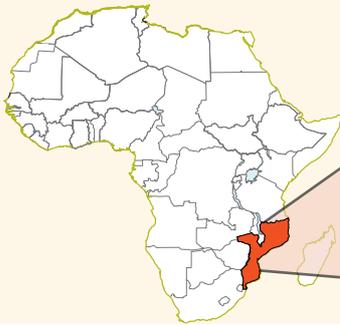
To produce and market its seed, Faso Kaba uses contract seed growers – the majority of which are women – and sells the seed through company shops and more than 40 village-based seed merchants. The company works closely with Mali’s national agricultural research institute, its seed certification laboratory, the extension service, local seed and fertilizer merchants, and several farmers’ organizations.

Eighteen months after receiving its first bit of assistance from AGRA, Faso Kaba had already produced and sold more than 300 MT of certified seed. Finally, poor farmers in Mali are able to purchase high quality seed of local food crops through a responsive, independent seed company.

AGRA’s support for Mali’s fledgling private seed sector is part of its comprehensive approach to catalyzing change. In Mali, this includes supporting the national agricultural research organization, l’Institut d’Economie Rurale (IER), to develop improved varieties of Guinea-race sorghum hybrids, rice adapted to various ecosystems, drought- and disease-tolerant maize, disease-resistant millet hybrids, and Striga-resistant cowpea varieties. It is also working to improve farmers’ and farm business access to affordable credit, and is supporting a growing network of agrodealers. AGRA is also partnering with the Millennium Challenge Account-Mali to build market infrastructure, post-harvest systems and value-added processing.

Eighteen months after receiving its first bit of assistance from AGRA, **Faso Kaba had already produced and sold more than 300 MT of certified seed**

Mozambique



● AGRA project locations

26.5
million
Total population

18.01
million
Rural population

53
AGRA funded grants in
Mozambique
at a cost of
US\$ **46.97** million

6 PhD
funded
in plant breeding

41 MSc
students
funded
in crop science
and soil science

44
Seed
varieties
released

203,619 ha
Planted with
improved
varieties

488
Farmer organizations
aggregated a total of
462 MT
of produce which sold for
US\$ **200,244**

1,029,413
Estimated
farmers using
improved seed
varieties

36
New seed
varieties
commercialized



Mozambique Country Dashboard

AGRA's attention in Mozambique is directed primarily towards the Beira Corridor, which is seen as Mozambique's main breadbasket region. The following dashboard summarizes the key achievements by AGRA and its partners in Mozambique.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>6 PhDs funded in plant breeding</p> <p>41 MSc students funded crop science (20) and soil science (21)</p> <p>5 lab technicians trained in plant and soil analysis best practices</p> <p>7,756 lead farmers trained in agronomic practices</p> <p>643,246 farmers aware of or have some knowledge about agronomic practices</p> <p>3,309 farmer organizations trained in the use of agronomic practices</p> <p>62,006 farmers trained in business development, group dynamics and leadership</p> <p>58,124 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>1,242 extension agents trained in agronomic practices</p> <p>902 agrodealers trained</p>	<p>44 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Cassava (12) • Groundnut (1) • Maize (6) • Rice (2) • Sorghum (8) • Sweet potato (15) <p>36 improved seed varieties commercialized by public and private seed enterprises</p> <p>7 seed companies supported by AGRA</p> <p>11,811 MT of seed produced</p> <p>39,178 MT of inorganic fertilizer sold to farmers</p>	<p>1,029,413 farmers using improved seed varieties</p> <p>203,619 hectares planted with improved seed varieties</p> <p>181,445 farmers using fertilizer, organic manure and good agronomic practices</p> <p>155,905 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

We have funded **6 PhD candidates** in plant breeding and soil science, 4 of which have graduated and are working on improving groundnuts, pigeonpea, and maize at two different institutions [Eduardo Mondlane University and the Mozambique Institute of Agricultural Research (IIAM)]. In addition, **42 MSc students** have been funded in crop and soil science studies. As can be seen in the dashboard, AGRA's support for capacity building in general is strong in Mozambique.

AGRA has worked with Standard Bank-Mozambique to provide **US\$ 3.26 million** in short- and medium-term loans. As of the end of 2014, **4,450 farmers**, and **4 SMEs** have made use of these credit facilities. AGRA and its partners provided the bank with **US\$ 2.5 million** in risk-sharing funds.

Forty-four new varieties have been officially released, 36 of which have been disseminated. We have provided support of **7 local seed companies** that have so far produced more than **11,800 MT of certified seed**. Fertilizer sales have risen by nearly **39,178 MT** since 2007, thanks to AGRA support and training. In Mozambique, we estimate that well over a million farmers are now growing improved varieties on more than 203,500 hectares; about **181,445 farmers** are using new agronomic practices on over **105,000 hectares** of land.

AGRA has established Policy Action Nodes in Mozambique for seeds, soil health, and markets, which are supporting the government's efforts to revise various agricultural policies and regulations. The Seed Policy Action Node's success in changing Mozambique's seed and plant variety protection laws and regulations is helping to increase foundation and certified seed production in the country. The Soil Health Policy Node is helping to establish needed smart subsidies, reduce fertilizer VAT and import taxes, and in general reducing the cost of fertilizers for smallholders. The Markets Node has helped to advance the adoption of warehouse receipt system legislation (now approved by the Council of Ministers), and to ready contract-farming legislation for consideration by the Council.

Sustaining smallholder farmers in Mozambique by supporting local agrodealers

Emilia Abibo Savaio started her small agrodealer business in 2005 in the backyard of her home in Sussundenga, near the city of Chimoio, Mozambique.

Savaio found herself closing the business periodically, due to the ebb and flow of the agricultural cycle. Her busiest time came during the planting season, when farmers were looking for inputs.

“I was serving just a handful of farmers, not even close to a hundred,” she says. “I can’t be exact, but it was a small venture with dim prospects.”

Back then, an inventory valued at US\$ 1,000 would last her into the new season, before having to restock. Her profit never reached US\$ 200, and occasionally she would incur losses as some chemical inputs expired on her shelves. Being a resourceful woman, however, when the shop was not active she turned to producing crops of her own.

In 2010, Concern Universal, an international organization working with smallholder farmers in Chimoio, approached Savaio with a training invitation. Concern Universal had been funded by AGRA to help improve smallholder access to agricultural inputs.

The training was aimed at equipping agrodealers with knowledge about modern farming technologies that they could share with farmers who came to their shops. Savaio was one of 58 agrodealers that participated in the training program. They learned about improved soil fertility management, the use of chemical fertilizers at the right times and in the correct amounts, how to select appropriate seeds, and how to properly apply herbicides and pesticides. The agrodealers were also taught how to establish demonstration plots, and learned how to better manage the finances of their businesses.

After completing the training, Savaio received a US\$ 10,000 loan from Opportunity Bank to expand her business. She put up a proper shop and increased her stock to about US\$ 5,000.

“I thought I should do something else to cushion my business during lower income periods, so I decided on seed multiplication.” She explains proudly.

Left with about US\$ 2,000 from the loan, Savaio sought a government license to cultivate maize seed, sesame and cowpea seed on a 25-hectare plot.

Concern Universal had also negotiated with larger suppliers of agricultural inputs to assist small agrodealers like Savaio by transporting inputs to their shops, as well as supplying inputs on credit, with payments collected after stock was sold out.

With supplementary income from her seed multiplication efforts and relaxed business terms from input suppliers, Savaio’s overall business has been growing steadily. Using US\$ 15,000 from her seed multiplication work, she built a warehouse for storing agro-inputs that are supplied to her in bulk.

Increased stock has also enabled her to serve a wider clientele with a more diverse range of agricultural products, and her shop is now active throughout the year. The business has grown from earning an annual profit of less than US\$ 200 to producing an average monthly turnover of US\$ 1,000.

Savaio also plays a key role in the local farming community. She shares cultivation and crop management knowledge with farmers around Sussundenge, guiding them on proper practices to help increase the yields obtained from their land.

Mrs. Savaio also plays a key role in the local farming community. **She shares cultivation and crop management knowledge with farmers**

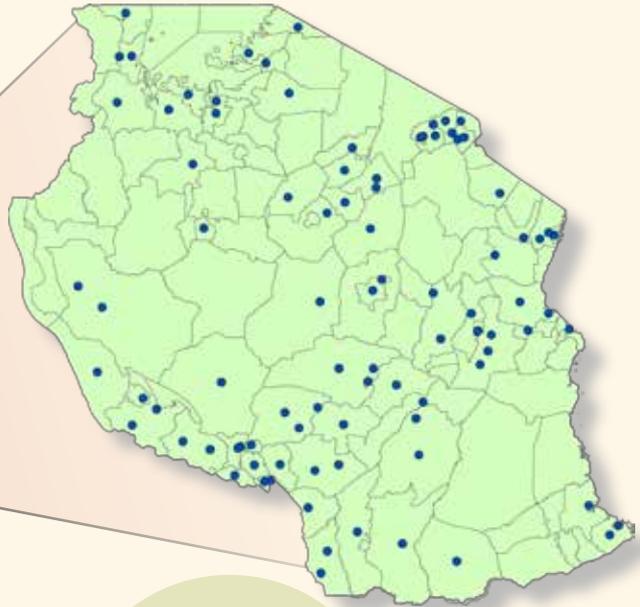
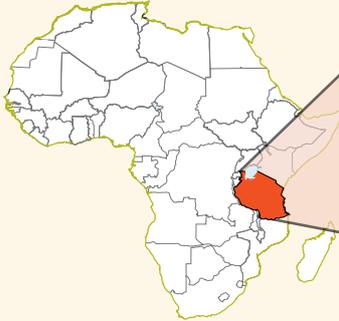
During the harvest season, these farmers sell their produce to her at the best market prices that can be obtained with the help of Concern Universal. Her much improved income has enabled Savaio to continue diversifying and expanding her business by purchasing a small oil processing plant, which is now opening new opportunities for adding value to the produce she buys from her neighbors.



Her much improved income has enabled Mrs. Savaio to continue diversifying and expanding her business

AGRA at a glance

Tanzania



50.76 million
Total population

36.49 million
Rural population

88
AGRA funded grants in Tanzania
at a cost of US\$ **47.75** million

● AGRA project locations



541,160 ha
Planted with improved seed varieties

14
PhDs funded in plant breeding and agronomy

15,073 MT
Aggregated produce worth US\$ **46.1** million

24
MSc students funded in crop science and soil science

37
Seed varieties released

88,452
Farmers trained in post-harvest handling, quality standards, storage, structured trading

1,392,904
Estimated farmers using new seed varieties on approximately **541,160** ha

20
New seed varieties commercialized

Tanzania Country Dashboard

AGRA's work in Tanzania is centered primarily on the country's Southern Highlands and on the Kilombero Valley, which together comprise Tanzania's breadbasket region. The following dashboard summarizes the key achievements by AGRA and its partners in the country.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>14 PhDs funded in plant breeding (11) and agronomy (3)</p> <p>24 MSc students funded crop Science (13) and soil science (11)</p> <p>19 lab technicians trained in plant and soil analysis best practices</p> <p>3,144 lead farmers trained in agronomic practices</p> <p>713,239 farmers aware of or have some knowledge about agronomic practices</p> <p>1,017 farmer organizations trained in the use of agronomic practices</p> <p>13,933 farmers trained in business development, group dynamics and leadership</p> <p>88,452 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>180 farmer organizations registered and profiled in AGRA database</p>	<p>37 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Maize (4) • Beans (3) • Cassava (16) • Sweet potato (6) • Rice (5) • Soybean (3) <p>20 improved seed varieties commercialized by public and private seed enterprises</p> <p>31,695 MT of seed produced</p> <p>774,016 MT of inorganic fertilizer sold to farmers</p> <p>15 seed companies supported</p>	<p>1,392,904 farmers using improved seed varieties</p> <p>541,160 hectares planted with improved seed varieties</p> <p>210,583 farmers using fertilizer, organic manure and good agronomic practices</p> <p>132,963 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

Capacity building at all levels in Tanzania is deemed to be very important, as suggested by the numbers in the dashboard above. AGRA has funded **14 PhD candidates** in plant breeding and agronomy, 4 of whom have graduated and are now working for the Ministry of Agriculture, the Southern Highlands Zone Agricultural Research Institute (ARI) at Uyole, the Department of Research and Development (DRD) at the Sugarcane Research Institute (SRI), and DARI Tumbi. We have also funded **24 MSc students** in crop and soil science.

Thirty-seven improved varieties have been officially released, and 20 of those have been disseminated to farmers. We have supported **15 local seed companies**, which have produced nearly **31,700 MT of certified seed**. At almost **775,000 MT**, fertilizer use in Tanzania is among the highest in AGRA's partner countries. Farmer adoption of new varieties in Tanzania is also among the highest in our partner countries (nearly **1.4 million farmers**, planting more than **540,000 hectares**). The adoption of new agronomic technologies has about **210,583 farmers** cultivating just over **132,863 hectares** using improved agronomy.

The development of much-needed revisions to Tanzania's seed policies and regulations is a major accomplishment of AGRA's Tanzania Seed Policy Action Node (see following impact story). Our Markets Policy Node's success in helping lift an export ban on maize enabled smallholder farmers to sell their grain at more competitive prices, which led to higher crop revenues and incomes, and increased returns to investment. In turn, the extra income is enabling the purchase of certified seed of improved varieties, as well as additional fertilizer. Our Soil Health Node is analyzing and advocating for alternative delivery mechanisms for fertilizer subsidies and for investment in strengthening the country's extension services.

We have worked with two banks in the country—Stanbic-Tanzania and NMB Bank—to provide short- and medium-term loans in the amount of US\$ 16.28 million. As of the end of 2014, **81,551 farmers, 20 SMEs** and **1,055 agrodealers** have capitalized on these credit facilities. AGRA and its partners provided **US\$ 4.65 million** in risk-sharing funds.



New seed policy in Tanzania to benefit millions of smallholder farmers

Access to improved seed varieties is a major impediment to agricultural productivity in Tanzania. According to earlier reports from the Ministry of Agriculture for Food Security and Cooperative Development, farmer access to improved varieties was less than 12%.

According to Professor Susan Msolla, from the department of Crop Science and Production, Sokoine University in Morogoro, a recent study carried out by her department in collaboration with other researchers concluded that the major obstacle that keeps farmers from accessing seed of improved varieties is the country's seed policy.

The Tanzanian Seed Act and its associated regulations prevent private firms from producing basic and certified seed. Instead, the government's Agricultural Seed Agency (ASA) is designated as the only recognized producer for basic and certified seed in Tanzania. According to the study, the problem is that ASA lacks the capacity to meet the rising demand for seed of improved varieties.

"Researchers are continually producing very good varieties, but they don't reach farmers because ASA can't produce the necessary quantities," says Prof. Msolla. In view of this reality, she developed a proposal through her department to address the problem. Her work – aimed at designing and promoting policy changes that will make it possible for the private sector to enter the seed production market – was funded by AGRA.

Some of the changes are geared towards allowing the private sector to produce basic and pre-basic seed of new varieties released by the government. They include putting in place specific guidelines and procedures for the private sector to follow.

By the end of the 2014 Parliament proceedings, the proposed policy changes had reached the cabinet discussion level; they are meant to be tabled for a Parliamentary vote in 2015.

Policy change normally takes time to achieve, and the progress seen with Tanzania's seed policy is the result of efforts by Sokoine University and other key partners, including AGRA's policy node coordinators in Dar es Salaam and several public seed regulatory bodies.

Godfrey Godwin Bwana, the Tanzania Policy Hub coordinator for AGRA says that the main challenge in policy change is the complicated bureaucratic procedures involved, which can add years to the change process. Mr. Bwana points out, however, that the new seed policy has achieved some key milestones, such as the regulatory act being amended and taking effect in late November of 2014 to safeguard farmers against the distribution of fake seed. As for other suggested changes, he corroborates Prof. Msolla's statement that they are in the final stages of getting to Parliament.

The Policy Node, in conjunction with Prof. Msolla, has also produced a general seed industry strategy and presented it to the government through the Ministry of Agriculture. The strategy is still being developed and is yet to be adopted.

The Crop Development Department and Seed Unit of the Ministry of Agriculture is the direct link between the government and the Policy Node. Twalib Njoghole, the current acting director of the Unit, says the policy changes suggested through stakeholder workshops hosted by Sokoine University and partners in the project indicate a positive shift in farmers' fortunes.

"We know past reports have said that less than 12% farmers have access to better seeds, but recently that number has reached almost 30% and of course we are aiming for more," says Mr. Njoghole.

The quality and availability of farming inputs, notes Njoghole, directly affects the quantity and quality of farm produce. The proposed policy changes are expected to make it easier to access high quality seed of improved varieties for more than 13 million smallholder farmers in Tanzania. This anticipated achievement is closely aligned with AGRA's goal of improving smallholder access to inputs to increase farm-level yields and incomes.

Burkina Faso



17.4 million Total population

12.4 million Rural population

29 AGRA funded grants in Ethiopia at a cost of US\$ **20.7** million

8,680 MT Produce aggregated by farmers at a value of US\$ **1.5** million

11 PhDs funded in plant breeding and agronomy

37,916 Farmers trained in post-harvest handling, quality standards, storage, structured trading

25 MSc students funded in crop science and soil science

277 Agrodealers accessed loans valued at US\$ **1.74** million

1,379 Agrodealers trained (552 women and 927 men)

15 Seed varieties released

6 Improved seed varieties commercialized



Burkina Faso Country Dashboard

In Burkina Faso, AGRA is working with the government, other financial partners and a number of grantees to improve agricultural productivity and the livelihoods of smallholder farmers. The following dashboard summarizes key achievements in the country.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>11 PhD funded in plant breeding (8) and agronomy (3)</p> <p>25 MSc enrolled in crop science (14) and soil science (11)</p> <p>23 lab technicians trained in plant and soil analysis best practices</p> <p>3,470 lead farmers trained in agronomic practices</p> <p>8,104 farmers trained in governance, group dynamics and financial management</p> <p>37,916 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>412,512 farmer using fertilizer, organic manure and good agronomic practices</p> <p>680 farmer organizations profiled and registered</p>	<p>15 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Cowpea (4) • Maize: (11) <p>6 improved seed varieties commercialized by public and private seed enterprises</p> <p>4 seed companies supported</p> <p>16,660 MT of seed produced</p> <p>114,104 MT of inorganic fertilizer sold to farmers</p> <p>43 aggregation centers supported by AGRA</p>	<p>527,431 farmers using improved seed varieties</p> <p>214,424 hectares planted with improved seed varieties</p> <p>103,995 farmers using fertilizer, organic manure and good agronomic practices</p> <p>84,199 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

We have funded **11 PhD candidates** from Burkina Faso in plant breeding and agronomy, and **25 MSc students** in crop and soil science. Seven of the PhD candidates have graduated so far [4 in crop breeding (rice, maize, sweet potato and cowpea), and 3 in agronomy (nitrogen use efficiency, bioavailability of phosphate, and tillage, water and nutrient management practices)]. Three of the breeders are working for the Institut de l'Environnement et Recherches Agricoles (INERA) and 1 is employed by the World Vegetable Center (AVRDC) at its offices in the country; all 3 agronomists are working for INERA.

Fifteen new varieties have been released in Burkina Faso, and 6 have reached farmers fields. We estimate that more than **527,000 farmers** are growing improved varieties on about **214,400 hectares**, and that almost **104,000 farmers** are using fertilizer, organic manure and good agronomic practices on about **84,000 hectares** of land. AGRA has invested in **4 seed companies** in the country, and the production of certified seed has risen by more than **16,600 MT**. Over **114,104 MT** of fertilizer has been sold in Burkina Faso.

A rice-powered Green Revolution in Burkina Faso

In a country with an annual rice consumption of 52,000 tons, it is no wonder that rice is prized as both a food and cash crop, and is grown by more than 100,000 smallholders in Burkina Faso. The government has prioritized rice production with the ambitious goal of quadrupling production by 2018. By collaborating with various partners, including the government, seed producers, national research agencies, and smallholder seed growers, AGRA is contributing to achieving this goal, and sowing the seeds of a rice-powered green revolution in the country.



Six years ago, farmers struggled with access to enough good quality seed of key crops at affordable prices. The formal seed sector was able to meet less than 6% of the national demand for seed. When available, high quality seed was very expensive and often found in shops that were far from farmers' villages. This left farmers with no option but to continuously use self-saved seed, which led to low yields since the health and quality of the seed were not assured. Naturally, this meant that neither the farmers nor the country as a whole produced enough rice and other important crops.

Bobo Dioulasso is a key agricultural region located southwest of the capital Ouagadougou. Today, 1,300 rice farmers in Bama Province of Bobo Dioulasso are all smiles as they witness the power of using certified seed of improved varieties, coupled with agronomic practices. Their yields have nearly doubled – from an initial 3.5 t/ha to the current 5.5 t/ha, and they are making a good return from selling the seed rice.

“There has been a real improvement in my livelihood,” says Ouattara Kalifa, a rice seed farmer in the Bama Province. “I’ve acquired three bicycles, a motorbike and much needed cellphones because of my participation in the NAFASO network,” says.

Neema Agricole Du Faso (NAFASO) is a local seed company and one of AGRA's key partners in the country. NAFASO and its network of farmers produced 3,116 tons of seed rice from 1,371 hectares in 2013. This notably increased the incomes of farmers in the network, and in turn, NAFASO made US\$ 1.8 million that year selling the seed it purchased from participating farmers.

AGRA's partnership with NAFASO involved promoting the production and marketing of improved certified seed of maize, rice and cowpea. Slowly but steadily, NAFASO has changed the face of rice production in the country, beginning with the Bobo Dioulasso region. Through collaboration with the national research institute (INERA), NAFASO accessed seed of high-yielding rice varieties adapted to the region's conditions, which it then multiplied. In addition, the firm worked with the national seed service (Service National des Semences) to get the seed certified. Extension service officials assisted with organizing farmers into viable rice seed production groups and promoting the importance of the use of certified seed and good agronomy. NAFASO also engaged the association of agrodealers in Burkina Faso (AGRODIA) and AGRIFARE, a large private agrodealer, to create a sizeable network of agrodealer shops to increase farmers' access to quality seed and other inputs. Lastly, farmers were trained in basic financial management, to be able to operate their farms as the businesses they should be. Farmers were empowered to train other farmers in all these aspects, and together these interventions contributed to making rice farming profitable for the region's smallholders.

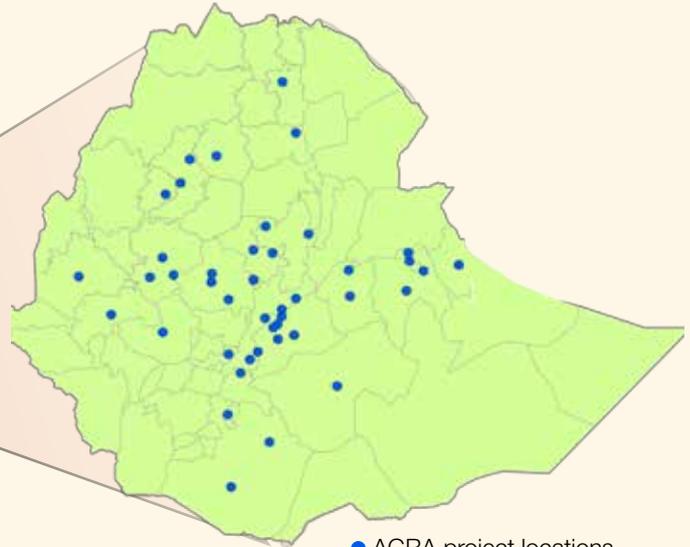
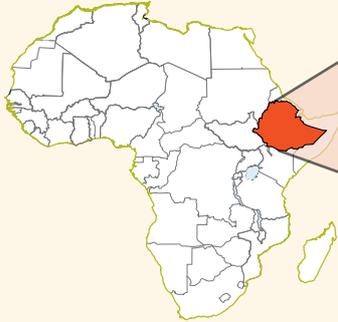
Life in the community is changing too. By creating employment opportunities and empowering farmers to profit more from their rice farming, NAFASO has had a positive impact on the community. As a result of bountiful local harvests, residents were able to purchase a communal ambulance, and food is being provided to schools and less privileged homes.

Says Abdoulaye Sawadogo, the head of NAFASO, “My partnership with AGRA has made me the business person I am today. I have benefited a lot from the training and technical support AGRA has provided, and it has enabled me to more efficiently operate this large and growing seed company.”

Through aggressive sensitization campaigns on radio, television and print media, complemented by farmer field days organized with the relevant partners, NAFASO created awareness among farmers of the new varieties available and where to obtain them. This has effectively strengthened demand for the high quality certified seed produced by its network of trained seed growers.

Farmers growing seed rice for NAFASO have made an average of US\$ 1800/ha. Buoyed by this success, they have increased the planted area to 1,200 hectares, and stand to earn as much as US\$ 11.9 million in 2015. A green revolution is underway in Burkina Faso, and in Bobo Dioulasso, it is being powered by rice.

Ethiopia



● AGRA project locations

96.51
million
Total population

79.35
million
Rural population

27
AGRA funded
projects in Ethiopia
at a cost of
US\$ **12.93** million



17
PhDs funded
in plant breeding
and agronomy

48
MSc students
enrolled in soil
science and crop
science

13
Seed varieties
released

1,046,111 ha
Estimated land
planted with
improved seed
varieties

1,134,056
Estimated
farmers using
improved seed
varieties

Ethiopia Country Dashboard

In Ethiopia, we have worked closely with the government, other financial partners and several grantees to improve agricultural productivity and the incomes of smallholder farmers. The following dashboard summarizes our key achievements.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>17 PhDs funded in plant breeding (14) and agronomy (3)</p> <p>48 MSc students funded in crop science (37) and soil science (11)</p> <p>6 lab technicians trained in plant and soil analysis best practices</p> <p>500 lead farmers trained in agronomic practices</p> <p>51,800 farmers aware of or have some knowledge about good agronomic practices</p> <p>164 extension agents trained in agronomic practices</p>	<p>13 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Sorghum (3) • Bread wheat (4) • Durum wheat (3) • Fababean (1) • Soybean (1) • Teff (1) <p>8 improved seed varieties commercialized by public and private seed enterprises</p> <p>89,219 MT of seed produced</p> <p>100 MT of inorganic fertilizer sold to farmers</p> <p>7 seed companies supported</p>	<p>1,134,056 farmers using improved seed varieties</p> <p>1,046,111 hectares planted with improved seed varieties</p> <p>33,390 farmers using fertilizer, organic manure and good agronomic practices</p> <p>9,780 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

We have funded **17 PhD candidates** in plant breeding and agronomy, and **48 MSc students** who are studying various aspects of crop or soil science. 5 of the PhD candidates have graduated and all except one are contributing their new research skills to the Ethiopian Institute for Agricultural Research (EIAR); one graduate is working at the African Center for Crop Improvement (ACCI) in South Africa.

The big story in Ethiopia, however, is the increase in certified seed production by a rapidly growing private seed sector. Before 2009, nearly all seed production was in the hands of the government. In 2009, those working in the industry began to recognize the strong latent demand for improved seed, especially hybrids. A small amount of seed was produced privately in 2010, and since then private seed production has grown very rapidly, surpassing an estimated **47,500 MT** in 2014. In cumulative terms, since 2010 a rapidly growing private seed sector has produced about **89,200 MT** of certified seed, thanks to the dedication of private seed growers and support from AGRA.

Thirteen new varieties have been officially released in Ethiopia since 2007, and 8 of those have been disseminated. About **1.13 million** farmers are now growing improved varieties on more than a million hectares, and an increasing (but still low) number of farmers are using improved, better-targeted agronomic practices.



The yield from a half-hectare piece of land planted to hybrid maize was higher than that from two and a half hectares planted to non-hybrid varieties.

Ethiopian farmers adopt hybrid seeds

In the Southern Nations, Nationalities, and Peoples' Region (SNNP), one of the nine ethnic divisions (kililoch) of Ethiopia, Wolchafo Surage, is busy constructing a granary for the first time in his compound in anticipation of a bumper harvest.

The 44-year-old father of 5 is one of a few smallholder farmers in Ethiopia who have boosted their maize yields by planting high-quality hybrid seeds, and using the recommended amount of fertilizers.

According to official records, hybrid seed uptake in Ethiopia stands at only 10%, particularly among smallholder farmers. This compares poorly with a country like Kenya, whose uptake of hybrid maize seed is about 60% nationally.

A recent report by the International Food Policy Research Institute (IFPRI), titled *'Seed System Potential in Ethiopia'*, points out that the shortage of hybrid maize seed in the country is a national concern because farmers are unable to access seed in the quantities they need.

As a result, the average yield of maize in Ethiopia stands at 2 t/ha, which is far lower than the potential average of 6 t/ha, depending on the hybrid variety planted, prevailing weather conditions, and the quality of field management.

To bridge this gap, Alemayehu Makonnen, a large-scale farmer in the SNNP region, is now dedicated to producing hybrid seed (with support from AGRA) as a way of boosting food productivity in the country – and farmers are already taking it up.

"I tried out hybrid maize seed for the first time in 2011, after attending a farmer field day at Makonnen's farm," said Surage, a farmer in the region.

After realizing that the yield from a half-hectare piece of land planted to hybrid maize was higher than that from two and a half hectares planted to non-hybrid seed, he decided to plant the recommended hybrid maize variety and apply fertilizer on his entire 3-hectare piece of land in 2012.

This gave him a yield of 18 tons of maize from three hectares, six times more than he had been harvesting before. He has continued with this practice, with similar results in 2013 and 2014.

"Many other farmers who have seen my crop have turned to hybrid seeds," said Surage, who is a member of the Adjo Farmer Association.

And Makonnen now reports that he expects to sell the hybrid seed to over 20,000 farmers for the next planting season, as farmers continue adopting the hybrid technology.

Up to 80% of smallholder farmers in the region who planted hybrid seed and used improved management practices over the past three years have realized an average yield of 4 t/ha, with the highest recording 6 t/ha, according to Makonnen.

"From my observation, many people do not use high quality seed and farm inputs simply because they do not know where to find them, and sometimes because they lack the working capital. Experience has shown that a little capacity building can change the situation within a very short period," he said.

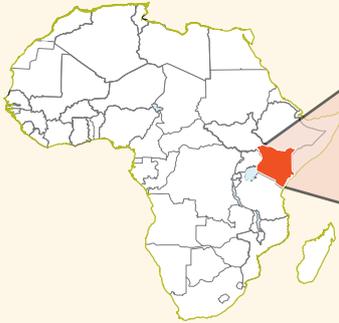
In 2011, when he expanded the production of hybrid maize seed using a grant from AGRA, 1,000 farmers from the region purchased it. Their yields were quite impressive, attracting an additional 5,000 farmers in 2012. And in 2013 (the latest available data), 16,000 farmers bought the seed – a clear indication that adoption is growing rapidly. This number is expected to have increased yet again in 2014.

The impact is evident from farmers' testimonies. "Last year I harvested 20 bags (90 kg each) of maize, which is the highest I have ever achieved in my life as a farmer," said Hilda Alem, a smallholder farmer from the region. "This hybrid seed is changing my life!"

"Last year I harvested 20 bags of maize, which is the highest I have ever achieved in my life as a farmer... This hybrid seed is changing my life!"

AGRA at a glance

Kenya



45.55 million Total population

34.65 million Rural population

81 AGRA funded grants in Kenya at a cost of US\$ **41 million**

● AGRA project locations

24 PhDs funded in plant breeding and agronomy

8 MSc students graduated in crop science and soil science

5,087 Agrodealers trained (2,033 women and 3,054 men)

93,908 MT Produce aggregated by farmers at a value of US\$ **21.9 million**

141 Aggregation centers supported

268,901 ha Estimated land planted with improved seed varieties

725,746 Estimated farmers using improved seed varieties

1,595 Agrodealers accessed loans for inputs valued at US\$ **31.4 million**



Kenya Country Dashboard

Not surprisingly, AGRA does a lot of work in Kenya to raise smallholder agricultural productivity and incomes. This is clear from the numbers in the following dashboard.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>24 PhD candidates enrolled in plant breeding (20) and agronomy (4)</p> <p>28 MSc students funded crop science (19) and soil science (9)</p> <p>6 lab technicians trained in plant and soil analysis best practices</p> <p>31,808 lead farmers trained in agronomic practices</p> <p>214,539 farmers aware of or have some knowledge about agronomic practices</p> <p>1,895 farmer organizations trained in the use of agronomic practices</p> <p>4,986 farmers trained in business development, group dynamics and leadership</p> <p>115,988 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>124 farmer organizations profiled and registered</p> <p>11,323 new members registered</p> <p>236 extension agents trained in good agronomic practices</p>	<p>90 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Maize (34) • Beans (16) • Cassava (9) • Sweet potato (9) • Rice (8) • Finger millet (4) • Groundnuts (4) • Sorghum (2) • Chickpea (2) • Pigeon pea (2) <p>68 improved seed varieties commercialized by public and private seed enterprises</p> <p>4 seed companies supported by AGRA</p> <p>20,997 MT of seed produced</p> <p>87,371 MT of inorganic fertilizer sold to farmers</p>	<p>725,746 farmers using improved seed varieties</p> <p>268,901 hectares planted with improved seed varieties</p> <p>141,193 farmers using fertilizer, organic manure and good agronomic practices</p> <p>98,145 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has funded **24 PhD candidates** in plant breeding and agronomy, and **28 MSc students** who are studying various aspects of crop or soil science. Seventeen of the PhD candidates have graduated and most of those are now working for the Kenya Agricultural and Livestock Research Organization (KALRO).

AGRA has been very active in capacity building in Kenya. Comparatively close proximity to AGRA's headquarters has enabled us to provide training in agronomic practices to nearly **32,000 lead farmers**; we estimate that almost **215,000 farmers** are now aware of or have some knowledge about these new technologies, thanks to awareness-raising efforts; **1,895 farmer organizations** have been trained in the use of improved agronomy; **4,986 farmers** have learned about business development, group dynamics and leadership; and **115,988** individual farmers have been trained in post-harvest handling, quality standards, storage, and structured trading.

AGRA has also been active in the realm of innovative finance. AGRA has worked with one major commercial bank (Equity Bank) and four microfinance organizations (Faulu Kenya, SMEP, KWFT and Rafiki DTM) to provide short- and medium-term loans. As at the end of 2014, **US\$ 29.54 million** has been made available to **47,288 farmers** and **407 SMEs** (including agrodealers). AGRA and its partners provided Equity Bank with **US\$ 5.0 million** in risk-sharing funds and the four microfinance organizations with **US\$ 7.5 million** in on-lending funds.

In addition, AGRA is working with the Kenyan government and the International Fund for Agricultural Development (IFAD) as they implement the Program for Rural Outreach, Financial Innovations and Technologies (PROFIT). This program is aimed at increasing the incomes of smallholder farmers, pastoralists, fishermen, women, landless laborers, and youth by offering poor rural households systematic and sustainable access to a broad range of financial services, coupled with necessary capacity building. The lessons learned by AGRA's forays into leveraging financial resources for smallholder agriculture are proving useful to implementing the new initiative.





Hardy plants and good farming practices revolutionize farming in semi-arid regions in Kenya

The introduction of drought-resistant crops and crop rotation to Emali farmers is improving not only the variety of food on their tables, but also increasing their sales to major companies not previously open to them.

“In 2013, I was able to sell sorghum to Kenya Breweries Limited (KBL) for the first time through their agents for contract farming,” says William Lati, a farmer in the Emali area, southeast of Nairobi. In addition, he was able to try out mixing cowpeas into his staple diet of only maize and beans.

KBL had invented beer that requires sorghum as the main ingredient with the objective of diversifying its market to include lower income earners. It was aimed at providing beer that had been prepared to the required public health standards, as opposed to the black market products that were leading to unnecessary deaths among low-income consumers.

Lati, who is also the secretary of the Kwakangulu Commercial Village project, attributes the changes that he and other farmers in the group are experiencing to the interventions of Ukamba Christian Community Services (UCCS), an AGRA grantee.

“We used to grow crops like cassava and fruit trees,” he says. “The cassava failed miserably as we had planted the wrong variety. But with the support of UCSS they challenged us to change our lifestyle by embracing new technologies, such as crop rotations, addition of soil fertility, and trying out new crop varieties that are drought resistant, such as cowpeas, finger millet and sorghum.”

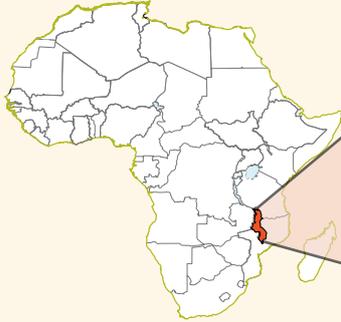
The Kwakangulu Commercial Village project is set in the heart of Emali. This is an area where rainfall is not reliable and getting adequate water for farming is difficult. The project is made up of 55 farmers, with a large majority of them being women. The project was first established in 2008, with UCSS entering the picture in 2011. Prior to UCSS involvement in the project, group members had been in the process of trying out various water conservation methods, such as holding ponds and water terraces.

“From UCSS, I learned how to rotate crops. In one planting season I would grow cereals and in another grow legumes,” adds Lati, who attended training workshops together with group members.

The project members also benefitted from UCSS introducing them to new markets through contract farming. This method ensured that they would grow such crops as sorghum according to the specific quality standards needed for the Kenya Breweries market. This meant, among other things, that participating farmers would receive seed at the same time, thus giving each an equal opportunity to grow high quality sorghum crops. It was left to each farmer to grow the crops individually on their land, and when the produce was harvested they would then collectively sell to the KBL agents.

AGRA at a glance

Malawi



● AGRA project locations

16.83
million Total population

14.12
million Rural population

42
AGRA funded grants in Malawi
at a cost of
US\$ **18.61** million



69
Aggregation centers supported by AGRA

38,991
Farmers trained in post-harvest handling, quality standards, storage, structured trading

10,540 MT
Aggregated by farmers at a value of
US\$ **3.8** million

249,727 ha
Estimated land planted with improved seed varieties

1,283,450
Estimated farmers using improved seed varieties

Malawi Country Dashboard

AGRA has made significant investments in Malawi, and works closely with the government, other financial partners and its grantees to increase agricultural productivity and improve the livelihoods of smallholder farmers. The following dashboard summarizes our key achievements.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>9 PhDs funded in plant breeding (6) and agronomy (3)</p> <p>29 MSc students funded in crop science (17) and soil science (12)</p> <p>6 lab technicians trained best practices on Plant and soil analysis</p> <p>9,075 lead farmers trained in agronomic practices</p> <p>644 Extension agents trained in best agronomic practices</p> <p>501,808 farmers aware of or have some knowledge about agronomic practices</p> <p>795 farmer organizations trained in the use of agronomic practices</p> <p>18 farmer organizations trained in leadership and group dynamics</p> <p>61,965 farmers trained in business development, group dynamics and leadership</p> <p>38,991 farmers trained in post-harvest handling, quality standards, storage, structured trading</p>	<p>31 improved varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Beans (8) • Chickpea (7) • Sweet potato (7) • Maize (4) • Pigeonpea (2) • Rice (3) <p>14 improved seed varieties commercialized by public and private seed enterprises</p> <p>4 seed companies supported by AGRA</p> <p>13,505.75 MT of seed produced</p> <p>18,350 MT of inorganic fertilizer sold to farmers</p>	<p>1,283,450 farmers using improved seed varieties</p> <p>249,727 hectares planted with improved seed varieties</p> <p>64,420 farmers using fertilizer, organic manure and good agronomic practices</p> <p>37,707 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has so far supported **9 PhD candidates** in crop breeding and soil science, and **29 MSc students** who are focused on crop and soil science studies. 4 of the PhD candidates have graduated and are now working for four different organizations [the Indigenous Seed Company Ltd. (groundnut research), the Tobacco Research Board (focusing on Pigeonpea), the Department of Agricultural Research Services (working on rice), and AGRA-Malawi (with a focus on strengthening bean production)]. In general, we have invested heavily in building the capacity of farmers, farmer organizations and the country's extension service personnel (see dashboard).

Thirty-one improved varieties have been officially released, but only 14 have so far been disseminated to farmers. We have provided support to **4 local seed companies**, which have produced more than **13,500 MT** of certified seed, an impressive indicator of progress. It is also impressive that nearly **1.3 million** farmers are planting improved varieties on almost **250,000 hectares** of farmland. Less exciting is the fact that far fewer farmers (about **64,400**) are using fertilizer, organic manure and good agronomic practices on a much smaller area (about **37,700 hectares**).





Better soil management practices changes fortunes of a Malawian maize/soybean farmer

For Anamia Zulu, a mother of five boys and two girls, the 2015 crop season will be her third to grow soybean. The amount of produce and the income she earned from her first two seasons was revolutionary.

For decades, Zulu and her husband had been growing tobacco as their main source of income. The overall yields and resultant annual income have however been on a systematic decline as the time went by, hovering between highs of MK 65,000 (US \$ 140) and lows of MK 46,000 (US \$ 100) where it stagnated. The situation was slowly relegating the Zulu family to poverty until she joined the Mwaiwathu Farmers Club.

The Clinton – Hunter Development Initiative with funding from the Clinton Foundation and AGRA promoted best practices in agriculture and modern farming to farmer groups like Mwaiwathu in rural Malawi.

The program used government extension officers and trained agronomists to train local farmers on modern farming techniques such as: proper use of chemical fertilizer, herbicides and improved seed varieties from authorized agrodealers. The farmers were encouraged to grow food crops, mostly soybean, maize and beans.

In the first year Zulu took home 150,000 Malawi Kwacha (US\$ 310), more than she had ever earned through her entire life of tobacco farming. She used the money to buy a bull for her ox cart. She also bought fertilizer for the following planting season.

“The soybean has been of great benefit to us, no doubt, things would be bad if we had not found this club,” Zulu narrates in a soft voice.

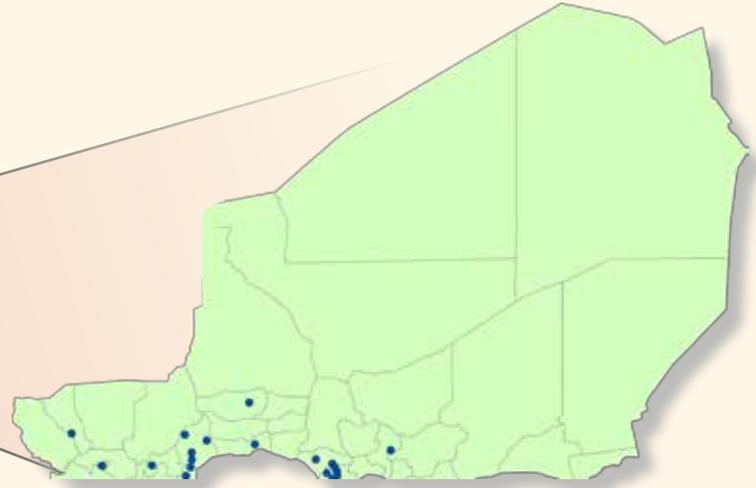
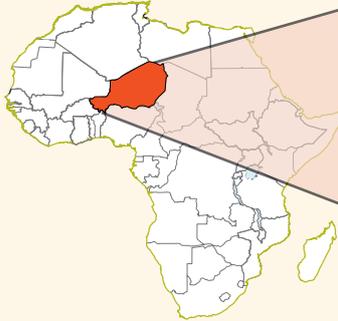
The season that followed was not as good as the first due to the long droughts that ravaged Malawi between 2013 and 2014. However, Zulu and her family still made profits from their farming. She was able to put away into savings some 90,000 Malawi Kwacha (US\$ 200) through a village bank. She bought another bull to complete the ox cart pair with the rest of the money.

“I know when am talking about my money it seems little, but to me it is really big because we have had very bad situations before,” she explains.

The Zulu and her husband have ventured into hiring out their oxen to till other farms at a small profit. Zulu is planning to improve her soybean farming to have for more income so that she can buy other things that seemed unassailable before like a solar panel and a television set.

AGRA at a glance

Niger



● AGRA project locations

18.54 million Total population

15.10 million Rural population

15 AGRA funded grants in Niger at a cost of US\$ **6.34 million**

12 PhDs funded in plant breeding and agronomy

US\$ **458,000** Amount leveraged through AGRA support

19 MSc students funded in crop science and soil science

437,497 ha Planted with improved seed varieties

414,769 Estimated farmers using improved seed varieties

399 MT Volume aggregated valued at US\$ **231,928**

10 Aggregation centers supported by AGRA



Niger Country Dashboard

AGRA's work in Niger is focused in the southwestern part of the country, where the environment is more amenable to agriculture. The accomplishments of AGRA and its partners in Niger are summarized in the following dashboard.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>12 PhDs funded in plant breeding (9) and agronomy (3)</p> <p>19 MSc students funded in crop science (11) and soil science (8)</p> <p>28 lab technicians trained in plant and soil analysis best practices</p> <p>40 lead farmers trained in agronomic practices</p> <p>125,060 farmers aware of or have some knowledge about agronomic practices</p> <p>504 farmer organizations trained in governance and leadership</p> <p>13,682 farmers trained in business development, group dynamics and leadership</p> <p>1,098 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>93 extension agents trained in agronomic practices</p>	<p>5 seed companies supported</p> <p>6,356 MT of seed produced</p> <p>9,036 MT of inorganic fertilizer sold to farmers</p> <p>446 agrodealers supported by AGRA</p>	<p>414,769 farmers using improved seed varieties</p> <p>437,497 hectares planted with improved seed varieties</p> <p>100,953 farmers using fertilizer, organic manure and good agronomic practices</p> <p>102,000 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

We have funded **12 PhD candidates** who are studying crop breeding and improved agronomy, as well as **19 MSc students** focused on crop and soil sciences. 4 of the PhD candidates have received their degrees [3 in crop breeding (groundnut, pearl millet, and sorghum) and 1 in agronomy (water use)], and all are now working for the Institut National de la Recherche Agronomique du Niger (INRAN). In general, we have made significant investments in strengthening the skills of individual farmers in the country, farmer organizations, and selected extension service personnel (see dashboard).

So far, no new varieties have been officially released, but AGRA has provided support to **5 local seed companies** that have managed to produce more than **6,300 MT** of certified seed. We have helped to establish and train **466 agrodealers**, through which more than **9,000 MT** of fertilizer has been sold to farmers.

Nearly **415,000 farmers** are planting improved seed varieties on some **437,000 hectares**. Almost **101,000 farmers** are making use of agronomic practices on an estimated **102,000 hectares** of farmland. This level of adoption is consistent with the amount of fertilizer that farmers are purchasing, though there appears to be a strong latent demand for additional soil nutrients

AGRA has worked with one bank (Banque Agricole du Niger) and one microfinance organization (ASUSU) to leverage **US\$ 1.19 million** in short-term loans to **6,000 farmers** and **18 agrodealers**. We provided the bank with **\$150,000** in risk-sharing funds.

Alheri Seed Company: Contributing to Niger's national agriculture agenda

Alheri Seed Company is one of several seed companies in Niger that are supported in various ways by AGRA. It is located at Dongondoutchi in the Dosso District of the western part of country.

The company was a minor start-up back in 2005, and grown into one of the country's most prominent seed suppliers. Apart from providing improved seed, the company also trains farmers and outgrowers on best agronomic practices, the application of farm inputs, and especially the use of improved varieties. This they do sometimes through workshops, radio programs, demonstrations, and field day activities.

The Chief Executive Officer of the company, Mr. Issoufou Maizama, is an agronomist by profession, and worked for a long time as a researcher with Institut National de la Recherche Agronomique du Niger (INRAN), the national research institution in Niger.

It was during his work as a researcher that Mr. Maizama developed a passion to help provide needed services to farmers, especially those who could not afford to take advantage of new technologies coming from agriculture research.

"In fact, there is a big gap between research findings and agricultural practice, particularly among smallholder farmers in rural communities across the country," he says.

In a bid to make these new technologies available to farmers, Maizama contacted AGRA for a grant to implement a special project aimed at increasing the availability of improved seed and supporting the training of farmers in the latest farming practices.

With the grant from AGRA, Alheri Seed Company produced 300 MT of improved seed of millet, cowpea, sorghum, groundnuts, and maize. This improved seed was dedicated to helping smallholder farmers in Dosso District to increase their production and incomes. With additional training from AGRA, Maizama has been able to help farmers in the area improve their farming practices, and as a result, transform their lives.

"These activities really help create more demand for my services across the country," says Maizama. One advantage we have over other seed companies is that, according to the terms of the AGRA-supported project, we deliver our improved seeds at the doorsteps of farmers, and with a discount of 20% to make them more affordable for poorer farmers. The demand for our seeds and services has grown accordingly, making it possible for us to increase seed production to 700 MT by the end of the two-year project," he says.

For quality assurance, the company works with INRAN, the International Institute of Tropical Agriculture (IITA), and the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) to secure foundation seed; the company also works closely with various government agencies for regulatory purposes.

Currently, nine individual outgrowers and 14 farmer groups work with the company, which also has ten permanent workers and 1,800 temporary workers across the region, including outgrowers and their workers.

"Our relationship and collaboration with AGRA did not end in 2010 when the grant ended. With AGRA's help, we were able to access US\$ 620,000 from INJARO, a private financial institution in Niger, to expand our operations in order to serve the growing needs of farmers. With that assistance, we have been able to build a seed production facility with a capacity of 3000 MT," he added.

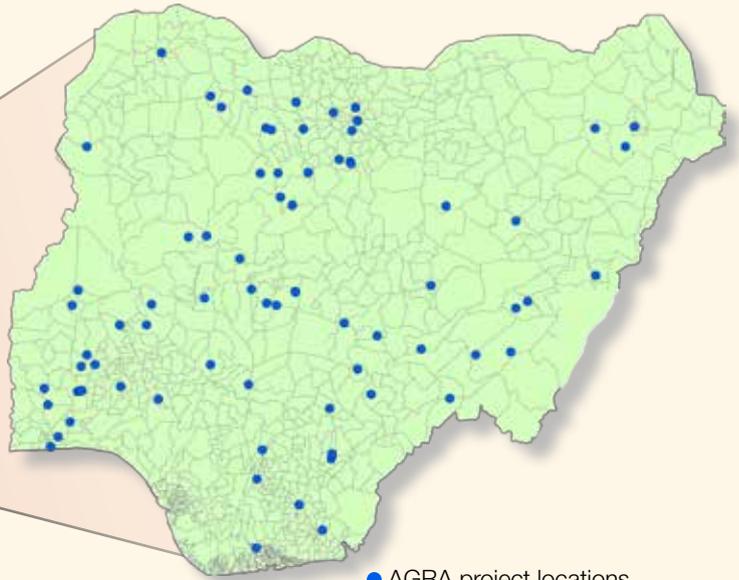
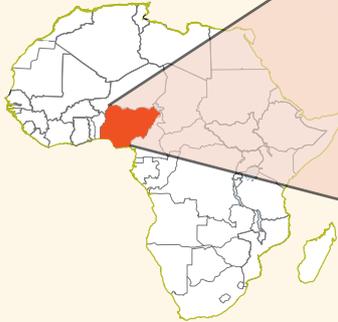
“This is a good business, so I plan to expand my capacity from 3000 MT to 10,000 MT in the future to increase the production and use of more hybrid seeds of millet, sorghum, and maize. In this way I can intensify my personal contributions, and those of Alheri Seed Company, to the national initiative of increasing the use of improved seeds by 35%,” says Maizama.

“Ours is a success story,” says Maizama, “and I’m proud to say we’ve become a model for the entire nation. The President of Niger has a national agriculture program – 3N, Les Nigériens Nourissent les Nigériens – that focuses on making food production more sustainable in Niger. The President considers seed of improved varieties as the heart of the agenda.”



AGRA at a glance

Nigeria



● AGRA project locations

178.52
million

Total
population

86.63
million

Rural
population

33
AGRA funded
grants in Nigeria
at a cost of
US\$ **14.35** million

20 PhDs
funded
in plant breeding
and agronomy

23 MSc
Students funded in
crop science and
soil science

1,719,251 ha
Estimated land
planted with
improved seeds

3,538,910
Estimated farmers
using improved
seed varieties

352
Agrodealers
accessed loans
valued at
US\$ **745,000**

17
Improved
seed varieties
released



Nigeria Country Dashboard

AGRA has a strong interest in the transformation of agriculture in Nigeria, the most populous country in Africa, and one with tremendous potential for improving agricultural productivity and the livelihoods of millions of smallholder farm families. Indicators of progress relating to the work of AGRA and its partners in Nigeria are summarized in the dashboard below.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>20 PhDs funded in plant breeding (15) and agronomy (5)</p> <p>23 MSc students funded in crop science (21) and soil science (2)</p> <p>34 lab technicians trained in soil analysis best practices</p> <p>4,800 lead farmers trained in ISFM</p> <p>112,300 farmers aware of or have some knowledge about agronomic practices</p> <p>356 extension agents trained in agronomic practices</p> <p>4,132 agrodealers trained</p>	<p>17 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Cassava (4) • Cowpea (2) • Maize (4) • Pearl millet (1) • Rice (3) • Sweet potato (3) <p>5 improved seed varieties commercialized by public and private seed enterprises</p> <p>5 seed companies supported by AGRA</p> <p>62,611 MT of seed produced</p> <p>51,736 MT of inorganic fertilizer sold to farmers</p>	<p>3,538,910 farmers using improved seed varieties</p> <p>1,719,251 hectares planted with improved seed varieties</p> <p>92,381 farmers using fertilizer, organic manure and good agronomic practices</p> <p>54,135 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has funded **20 PhD candidates** in crop breeding and agronomy, as well as **23 MSc students** focused on more general crop and soil science curricula. Eight of the PhD candidates have now graduated [5 in crop breeding (maize (2), groundnut, cassava, and rice), and 3 in agronomy (fertilizer use efficiency, agronomic decision support tools, and nutrient and water use interactions)]. The crop breeders are working at five different institutions (the West African Center for Crop Improvement, Antika Enterprises, Ladoke Akintola University of Technology, the Root and Tuber Crops Research Institute at Umudike, and the University of Port Harcourt); 2 of the agronomists are working full time (at the University of Nigeria and the Federal College of Agriculture-Ibadan) and 1 is seeking employment. Direct farmer training by AGRA and its grantees has been limited in Nigeria when compared to some of our other focus geographies, but we are investing in refurbishing the skills of a growing number of extension professionals.

Seventeen improved varieties have been officially released and 5 have been disseminated to farmers. AGRA has provided support to **5 local seed companies**, which have produced and sold over **62,500 MT** of seed. Nigeria's fertilizer sub-sector has benefitted from the sale of **51,736 MT** of soil nutrients to farmers through AGRA-supported organizations. About 3.54 million farmers are growing improved varieties on over **1.7 million hectares** – a very promising indicator of progress. Over **92,000 farmers** are using fertilizer, organic manure and good agronomic practices to cultivate about **54,000 hectares** of cropland.

In addition, the Nigerian government requested for assistance for help with its new Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL). This is a **US\$ 500 million** fund that was designed by AGRA on behalf of the Central Bank of Nigeria (CBN), which is expected to leverage **US\$ 3 billion** in lending to smallholder farmers and other value chain actors.



Maslaha Seeds Ltd: A key partner in Nigeria's agenda to feed itself

Just seven years after it was incorporated, Maslaha Seeds Ltd located in Gusau Industrial Estate in Northwestern Nigeria has grown its production from 600 metric tons in 2007, to a record 12,000 metric tons in 2014, a success the Managing Director attributes to aggressive creation of public awareness, proper planning, technical training and strategic use of agrodealers and seed growers.

“It has never happened in Nigeria, for a seed company to open and produce 600 metric tons in the first year. But this is because of the aggressive promotions we invested in, which included adverts on television, radio, banners and campaigns in the streets with a clear message that planting quality seed is the shortest way to wealth creation,” said Ibrahim Abdullahi, the Managing Director – Maslaha Seeds Ltd.

The company managed to sell everything, which gave them enough working capital to improve the production to 1,500 metric tons in the following year. It was after the second production that the firm came in contact with AGRA, who then helped them move the certified seed closer to farmers in rural villages.

AGRA provided training in several aspects including seed production planning, seed handling and the management of the entire process. This was very beneficial to Abdullahi, who, though a manager by profession, had never worked in the agricultural industry.

After several trainings, AGRA then extended a grant to the company to invest in agrodealers in local towns and at the village level. “We realized that most agrodealers were located in major towns, where farmers would find it difficult to travel up to 50 kilometers just to buy say three kilograms of seed,” he said. Through the grant, the firm engaged 600 agrodealers in villages and rural towns. To ensure that the quality of seed sold did not deteriorate over time, the firm helped the targeted agrodealers to construct well-ventilated storage facilities in addition to giving them pallets so that the seed was not stored on the bare ground.

To sustain the demand for its seed, Maslaha Seeds, created several leaflets promoting the varieties available and bought vehicles to supply its seed to the agro-dealer network. This has proven a winning strategy.

The company effort attracted the attention of the government, when the Minister of Agriculture, Hon. Dr Akinwumi Adesina invited seed companies to produce greater quantities of seed through subsidized government loans advanced through the Growth Enhancement Support Scheme (GESS).

The GESS is a federal government initiative to actualize the Agricultural Transformation Agenda (ATA), and aims at subsidizing the costs of major agricultural inputs, such as fertilizer and seeds for more than 5,000 farmers.

“Whereas other companies pledged to produce 200 to 300 metric tons of seed, I pledged to the minister that my company was going to produce 6,000 metric tons of certified seed in two years,” said Abdullahi.

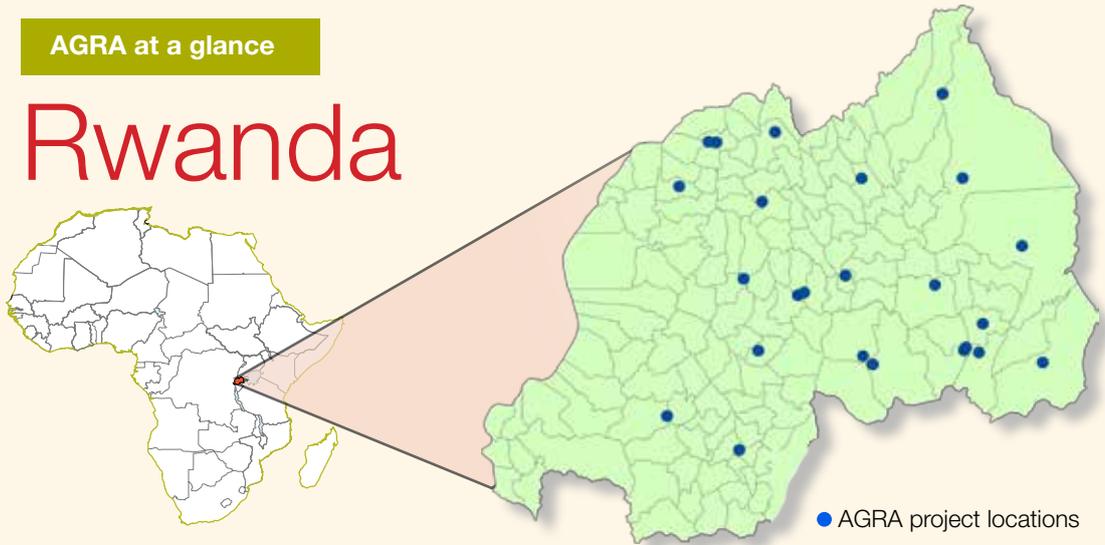
In the first year under the government subsidy program, the firm produced 4,500 metric tons of seed, which it increased to 6,000 tons in the following year; effectively meeting its pledge to the government. In the 2013/2014 season, the company produced 12,000 tons exceeding its own target by 2,000 tons.

“With this enabling environment, I believe the sky is the limit,” says Abdullahi. “We will keep accelerating our production each season to ensure that Nigeria is food secure,” he concludes.

“It has never happened in Nigeria, for a seed company to open and produce 600 metric tons in the first year....”

AGRA at a glance

Rwanda



12.10
million Total population

9.68
million Rural population

27
AGRA funded grants in Rwanda at a cost of US\$ **8.23** million

55
SMEs accessed loans worth USD **1.2** million

8
PhDs funded in plant breeding and agronomy

27
MSc students funded in crop science and soil science

58,960 MT
Aggregated produce worth US\$ **20** million

46
Improved seed varieties released

99
Aggregation centers supported by AGRA

81,196
Farmers fertilizer, organic manure and good agronomic practices

193,026
Estimated farmers using improved seed varieties



Rwanda Country Dashboard

Rwanda is a relatively small but densely populated country that has a large number of very innovative farmers in its agricultural sector. As indicated in the dashboard below, AGRA and its partners have made headway towards improving farm-level productivity that is beginning to transform the lives of many resource-poor smallholders.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>8 PhDs funded in plant breeding (7) and agronomy (1)</p> <p>27 MSc students funded in crop science (13) and soil science (14)</p> <p>6 lab technicians trained in plant and soil analysis best practices</p> <p>39,569 lead farmers trained in agronomic practices</p> <p>350,505 farmers aware of or have some knowledge about agronomic practices</p> <p>625 farmer organizations trained in group dynamics, leadership and business development</p> <p>171,384 farmers trained in business development, group dynamics and leadership</p> <p>71,642 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>134 extension agents trained in agronomic practices</p> <p>171 farmer organizations profiled and registered in AGRA database</p>	<p>46 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Beans (28) • Maize (10) • Sweet potato (8) <p>42 improved seed varieties commercialized by public and private seed enterprises</p> <p>2,873 MT of seed produced</p> <p>4 seed companies supported</p> <p>23,580 MT of inorganic fertilizer sold to farmers</p>	<p>193,026 (est.) farmers using improved seed varieties</p> <p>25,261 (est.) hectares planted with improved seed varieties</p> <p>81,196 farmers using fertilizer, organic manure and good agronomic practices</p> <p>49,130 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

Capacity building has so far been a centerpiece of AGRA's work in Rwanda. We are funding **8 PhDs** in crop breeding and agronomy, along with **27 MSc students** engaged in crop and soil science studies. To date, none of the AGRA-supported PhD candidates have graduated, though 12 MSc students have obtained their degrees.

Closer to the ground level, **39,569 lead farmers** have been trained in agronomic practices, as have 625 farmer organizations; **171,384 farmers** have benefited from training in business development, group dynamics and leadership, and **71,642** from training in post-harvest handling, quality standards, storage, and structured trading. We have also trained **134** extension professionals in agronomic practices.

Forty-six improved varieties have been formally released, and their commercialization has progressed rapidly, with **42 new varieties** having been commercialized by public and private seed enterprises. AGRA has supported **4 seed companies**, which gearing up their operations (to date they have produced about **2,900 MT** of certified seed). More than **23,500 MT** of fertilizer have been purchased by farmers from AGRA-supported sources.

An estimated **193,000** farmers are growing improved varieties on more than **25,000 hectares**; and about **81,000 farmers** are cultivating more than **49,000 hectares** of farmland using fertilizer, organic manure and good agronomic practices. These numbers are growing rapidly, thanks to AGRA's efforts to strengthen local farmer organizations.

Young Rwandan farmer finds his future by joining cooperative

Riberakurora Aiocres, 32, was a jobless young man without any source of income. The subsistence farming he passively practiced, growing maize and beans, was not sustaining his family's need for food and income.

By joining the cooperative, he was able to access the training as well as farm input loans leveraged by funds from AGRA.

His one hectare piece of land gave him only 1 ton of maize, about 10 bags every year. This was very little produce. Beans could hardly survive past farm maturity; his family fed on them as soon as the pods changed color. If they didn't, then the bean common mosaic disease would do the honors, destroying the bean crop.

From such dim yields, Aiocres could barely feed his family. Even so, sometimes he was forced to sell part of the small produce to meet the other needs. He usually sold to brokers and middlemen at very poor and fluctuating prices.

Aiocres used traditional farming methods, borrowing seed from neighbors and applying little or no fertilizer at all. His farm always seemed like an abandoned piece of earth.

After about five years of fruitless agriculture, he joined the CODPCUM farmers' cooperative to learn from his fellow villagers who were doing well as members of the cooperative. CODPCUM was supported in part by a project funded by AGRA and implemented by the Rwanda Development Organization (RDO) to help farmer organizations improve the livelihoods of smallholder farmers.

Field officers from RDO and professional agronomists trained members of the cooperative to apply agronomic practices. Aiocres learned to how to use top dressing of fertilizer (and the right amounts of it), and to differentiate between several improved varieties and choose the most appropriate one.

He switched from the traditional farming and adopted the new system. "I used fertilizer, spaced my seeds accordingly, weeded on time and did everything as I had been taught," he explains.

His harvest that season averaged 4.5 t/ha, more than a four-fold increase in yield. His former 1-ton of production in the previous years had put a ceiling on his income. Keeping some maize for food and selling only a small amount had ensured that his farm income never went past 50,000 Rwandan Francs (US\$ 73).

His new cooperative organized for the sale of his maize at RWF 260,000 (US\$ 379) per ton. This earned him an income he had never seen before. Aiocres was RWF 1.1 million (US\$ 1,600) richer.

With newfound drive, he reinvested as much money as he could into the farming venture and the cycle repeated itself, this time with a 5-ton yield and better income.

Aiocres has been able to expand his farm plot by 1.5 hectare from the income he is getting. He has also put up what he calls among his peers a 'respectable house'. From his increasing extra income he has invested in a motorcycle taxi business, of which he is very proud.

By joining the cooperative, he was able to access the training as well as farm input loans leveraged by funds from AGRA. "For the first time I received a loan without collateral through the rotating credit offered to our cooperative." Aiocres cannot believe his success.

The program has lifted many farmers from poverty by helping them access inputs and market their produce. Within Nyatagare district alone, more than 1,000 farmers have benefitted from the rotating loan for farm inputs. The RDO project covers 4 districts in western Rwanda.



The program has lifted many farmers from poverty by helping them access inputs and market their produce

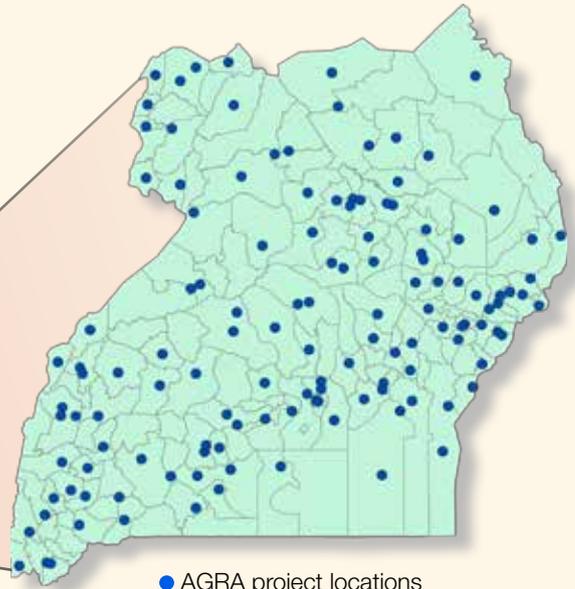
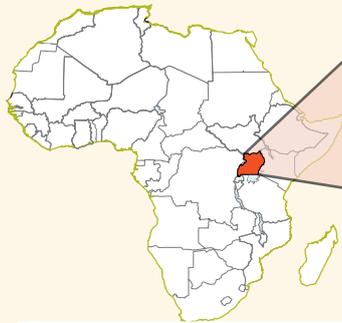
Their produce is sold to the World Food Program's P4P initiative, Rwanda's Strategic Reserve Agency, and several other big grain buyers who guarantee farmers of a ready market at good prices.

Members in the cooperative have received training in managing their finances, especially the loans now within their reach. Aiocres appreciates this training immensely.

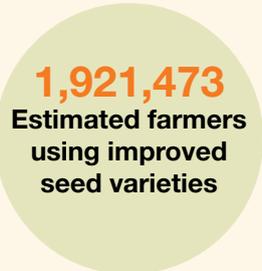
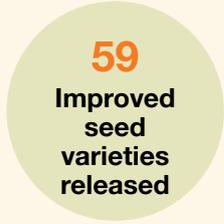
"Money can become a problem if you don't know how to use it, but this AGRA project has taught us a lot of things," he says smiling.

AGRA at a glance

Uganda



● AGRA project locations



Uganda Country Dashboard

AGRA and its partners have invested in a significant number of projects that are spread across the whole of the country's landscape. The promising results of these extensive operations are summarized in the dashboard below.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>22 PhDs funded in plant breeding (20) and agronomy (2)</p> <p>33 MSc students funded in crop science (23) and soil science (10)</p> <p>24 lab technicians trained in plant and soil analysis best practices</p> <p>30,952 lead farmers trained in agronomic practices</p> <p>211,334 farmers aware of or have some knowledge about agronomic practices</p> <p>1,904 farmer organizations trained in the use of agronomic practices</p> <p>45,280 farmers trained in post-harvest handling, quality standards, storage, structured trading</p>	<p>59 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Maize (11) • Beans (13) • Cassava (7) • Soybean (4) • Rice (9) • Banana (2) • Groundnuts (10) • Cowpea (3) <p>54 improved seed varieties commercialized by public and private seed enterprises</p> <p>6 seed companies supported by AGRA</p> <p>64,341 MT of seed produced</p> <p>437 MT of inorganic fertilizer sold to farmers</p>	<p>1,921,473 farmers using improved seed varieties</p> <p>1,237,533 hectares planted with improved seed varieties</p> <p>130,919 farmers using fertilizer, organic manure and good agronomic practices</p> <p>66,717 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has funded **22 PhD** candidates, mainly in plant breeding but also in agronomy. Twelve of these have obtained their degrees, all of them in crop breeding at this point. Ten of the graduates are now employed by the National Agriculture Research Organization (NARO), and are conducting research on banana, beans, cassava, cowpeas, finger millet, maize, rice, sweet potato and sorghum; the remaining 2 breeders are employed by the International Center for Tropical Agriculture (CIAT-Uganda) and the Buginyanya Zonal Agricultural Research and Development Institute.

We have invested heavily in farm-level training, including providing **30,952 lead farmers** with instruction on agronomic practices, **1,904 farmer organizations** (improved agronomy), and **45,280 individual farmers** trained in post-harvest handling, quality standards, storage, and structured trading.

Fifty-nine new crop varieties have been officially released, and commercialization has been moving quickly, with 54 of those varieties having been communicated by public and private seed enterprises to farmers. AGRA has provided support to **6 local seed companies** that have managed to produce more than **64,300 MT** of certified seed.

An estimated **1.92 million farmers** are planting seed of improved varieties, covering more than **1.23 million hectares** of farmland; almost **131,000 farmers** are using fertilizer, organic manure and good agronomic practices to cultivate over **66,000 hectares** of their crops.

In order to facilitate access to financial services, AGRA has worked with Stanbic Bank-Uganda to leverage **US\$ 8.30 million** in short- and medium-term loans to **50,928 farmers** and **11 SMEs**. AGRA and its partners provided the bank with **US\$ 2.5 million** in risk-sharing funds. These partners were: Stanbic Bank (provided credit to farmers and agribusiness under the AGRA/Kilimo Trust/Stanbic Uganda lending scheme); Kilimo Trust (Co-funder of guarantee fund with Stanbic Uganda, capacity building of farmers); Uganda Development trust (UDET) (Provision of Business Development Services to agri-SMEs accessing credit from Stanbic Bank); and Export Trading Company (Technical assistance and input supplies distribution to farmers accessing credit from Stanbic Uganda)

High yielding, disease-resistant varieties change farmers' fortunes in Uganda

Sam Odeya was one of the earliest farmers to adopt the Yara 41 and 41 seed varieties demonstrated by Victoria Seeds Limited in Uganda.

The industrious father of four was barely making a living from his six-hectare farm, with gradual drops in his maize harvest season after season. He had been using locally shared maize seeds from neighbors and an assortment of varieties from other seed companies whose names he cannot remember now.



It never occurred to Odeya that the varieties planted affected the yield at harvest depending on such factors as whether they were well suited to grow in his area. He suffered devastating effects from maize streak virus almost on annual basis. Maize streak virus affects plant leaves, stunts growth, and prevents the plant from reproducing. In severe cases as commonly happens in Kija village where Odeya grows his maize, affected farms harvest less than one percent of the crop.

This combination of challenges was very discouraging for Odeya, whose major aim was to work his way out of poverty. "I had stopped keeping records of my harvest, as I kept incurring massive losses," he recalls.

Victoria Seeds Limited had received a grant from AGRA to develop a maize streak virus-resistant variety that could do well in high altitude areas of more than 1800 meters above sea level.

In November 2011, Odeya participated in several open field days offered by Victoria Seeds and selected the Yara 41 and 42 maize seed varieties that were being demonstrated.

Odeya then entered into a seed growing agreement with Victoria Seeds. The agreement meant that he would receive the newly improved Yara 41 and Yara 42 varieties, as well as technical support in the form of continuous training by the seed company agronomists throughout the maize-growing season. This marked the turning point in Odeya's fortunes.

The first yield from the new varieties surpassed his expectations. Accustomed to getting less than half a ton per hectare, Odeya recorded yields of 1.5 t/ha, with Yara 42 doing particularly better than Yara 41. This was a 200% increase in the yield on his farm and four times the yield many farmers were still getting.

Selling maize grain at his local market, Odeya would UGX 400/kg. However, when he sold his harvest to Victoria Seeds he received UGX 1,600/kg, which earned him UGX 14,000,000 (about US\$ 5,000). This was a 400% increase in monetary income.

From the proceeds he expanded his farm with ten additional hectares, bought a commercial plot at his local shopping center and sent his children to a better school.

With AGRA support, Victoria Seeds Company embarked on developing improved varieties that are disease-resistant, fast maturing and with improved yields. The program focused on maize, which is the most commonly grown crop across all regions of Uganda and East Africa.

The company is now dealing with more 3,000 other farmers like Odeya who grow crops under the supervision of the company's agronomists and help produce enough seed for multiplication to meet farmers' demands.

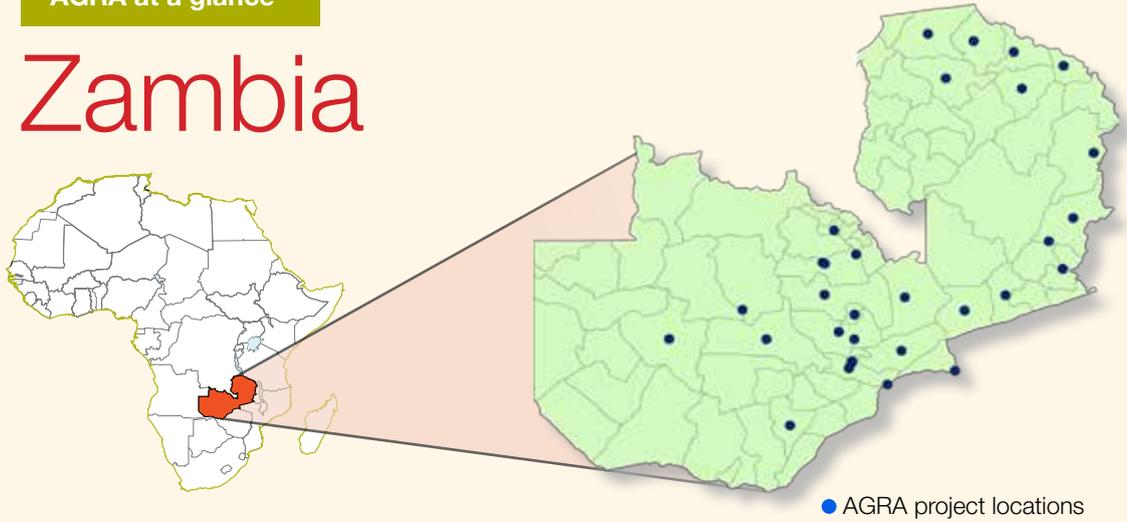
The initiative has worked well, making good quality seeds of high-yielding varieties more readily available to smallholder farmers. It has also helped to transform the livelihoods of more than 3,000 farmers now contracted by the seed company.

Standing in his maize field, with the plants changing from a healthy green to husky dry stalks as a sign of readiness for harvest, Odeya is guaranteed a bumper harvest and good returns as well. "I know this is not a gamble. I am very happy about this project," he says with obvious joy.

The first yield from the new varieties surpassed his expectations... a **200% increase in the yield on his farm and four times the yield many farmers were still getting**

AGRA at a glance

Zambia



15.02
million Total population

8.94
Rural population

24
AGRA funded grants in Zambia
at a cost of
US\$ **12.37** million

11 PhDs
funded in
plant breeding
and agronomy

13
Improved
seed varieties
released

616,875
Estimated farmers
using improved
seed varieties

US\$ **221,505**
Leveraged
through AGRA's
support

10,792 MT
Aggregated
produce worth
US\$ **3.7** million

18
Aggregation
centers
supported by
AGRA

57,603
Farmers using
fertilizer, organic
manure and
good agronomic
practices



Zambia Country Dashboard

In Zambia, AGRA is working with several financial partners, its grantees, and the government to bolster smallholder productivity and incomes. As shown in the dashboard below, notable progress is being made on several fronts.

Capacity Development	Technology Development and Commercialization	Technology Adoption
<p>11 PhDs funded in plant breeding (7) and agronomy (4)</p> <p>22 MSc students funded in crop science (12) and soil science (10)</p> <p>21 lab technicians trained in plant and soil analysis best practices</p> <p>1,016 lead farmers trained in agronomic practices</p> <p>73,100 farmers aware of or have some knowledge about agronomic practices</p> <p>279 farmer organizations governance and leadership</p> <p>12,066 farmers trained in business development, group dynamics and leadership</p> <p>23,268 farmers trained in post-harvest handling, quality standards, storage, structured trading</p> <p>97 extension agents trained in agronomic practices</p> <p>191 farmer organizations profiled and registered in AGRA databases</p>	<p>13 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Maize (5) • Rice (3) • Sweet potato (5) <p>4 improved seed varieties commercialized by public and private seed enterprises</p> <p>4 seed companies supported by AGRA</p> <p>8,524 MT of seed produced</p> <p>27,622 MT of inorganic fertilizer sold to farmers</p>	<p>616,875 farmers using improved seed varieties</p> <p>253,749 hectares planted with improved seed varieties</p> <p>57,603 farmers using fertilizer, organic manure and good agronomic practices</p> <p>38,038 hectares cultivated using fertilizer, organic manure and good agronomic practices</p>

AGRA has funded **11 PhD candidates** in plant breeding and agronomy, as well as 22 MSc students who are studying general crop and soil science. Six for the PhD candidates have graduated, all of them with degrees in crop breeding. Four are working for the Zambia Agriculture Research Institute (with skills in breeding improved varieties of beans, cassava, and maize), 1 is providing expertise as a maize breeder to the Zambian Seed Control and Certification Institute, and 1 has been employed by NARO (Uganda) as a sweet potato breeder.

AGRA has trained **1,016 lead farmers** in agronomic practices, and **279 farmer organizations** in governance and leadership. So far, **12,066 farmers** have benefited from training in business development, group dynamics and leadership, and **23,268** have been trained in post-harvest handling, quality standards, storage, and structured trading. We have also strengthened the skills of **97 extension agents** with respect to agronomic practices.

Thirteen new varieties have been formally released in Zambia, four of which have been disseminated to farmers. AGRA has provided support to four local seed companies, which have produced more than **8,500 MT** of certified seed. To date, about **28,000 MT** of fertilizer have been sold to farmers through AGRA supported organizations.

An estimated **617,000 farmers** are growing improved varieties related to AGRA interventions, covering nearly **254,000 hectares**; more than **57,600 farmers** are now using fertilizer, organic manure and good agronomic practices to cultivate over **38,000 hectares** of farmland.

Land rights drive helps a Zambian farmer recover her land

Milca Manda cannot hide her joy at the fact that she now has rights to use land allocated to her by the ruling chief of the Mafuta Chiefdom.

Milca and her husband have 25 hectares allocated to them separately. Manda points out that she was allocated 12 ha in 2012 when she approached the chief for land. This is after attending several land rights sensitization meetings within Mafuta in Chipata District in Zambia, sponsored by the Chipata Land Alliance, a district chapter of the Zambia Land Alliance.

The jovial mother of four almost lost her newly acquired parcel of land when she moved to her maternal village where her children could go school.

“This village has no school, so I had to go away for some time. When I came back, my husband’s nephew was farming in my land,” Manda explains. She approached the paralegal working within Mafuta to help in what was quickly escalating into family feud.

The paralegal, Tangu Nyirenda, intervened telling Manda’s relatives that as the person allocated the land, Manda was the rightful owner of the parcel and that the law recognizes her as such. Nyirenda brought the differing family members to a mutual agreement to return Manda’s land and settle the matter.

A year later, in 2014, Manda is proud that she has a source of income from farming on the parcel of land. She grows an assortment of cash crops and food crops, including maize, sunflower and soybeans for direct consumption, while selling the surplus for income.

This is a step away from the local tradition in which all matters to do with land are the business of men, with women relegated to laboring on the farms. The existing land policy in Zambia is based on communal land ownership. Communities are organized in chiefdoms and ruled by traditional chiefs, who are the custodians of all customary lands within their chiefdoms.

Village members who need land for farming will approach the chief through an Induna, a member of the chief’s court. The chiefs will deliberate the issue with his Indunas and allocate the land he sees fit.

Manda is one of the earliest women to enjoy such an access to land. Chief Mafuta is leading a new wave of change, having allocated more land to women than any other chief around.

The Zambia Land Alliance (ZLA) has been funded by AGRA to promote better land policies that will allow easier access to land and land ownership rights for smallholder farmers. ZLA and its district chapters have been pushing for policy changes by engaging chiefs, political leadership, and government officials, and has been championing land rights awareness among poor rural farmers, especially the more vulnerable groups (women and youth). This work is aimed at expanding land use, food production and income generation at the household level for families living in poverty.

Manda lauds the ZLA initiative, saying empowering women to support their families and share responsibilities with their spouses begins with increased awareness of the issue.

“Women tend to be better managers, and when we earn income like this our children have a better life and live very happily,” she says. From her farm income, Manda is able to pay the costs of sending her children to school, and she has invested in keeping some goats, a traditional form of wealth in rural Zambia.

The Zambia Land Alliance (ZLA) has been funded by AGRA to promote better land policies that will allow easier access to land and land ownership rights for smallholder farmers



Other Countries



Liberia

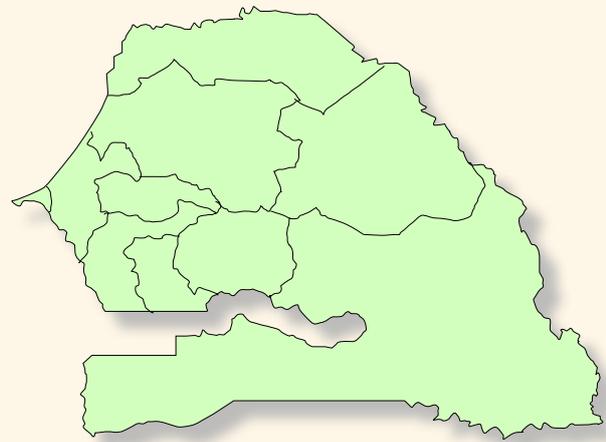
Total population: 4.40 Million
Rural population: 2.23 Million
AGRA grants: US\$ 915,079
AGRA projects: 7

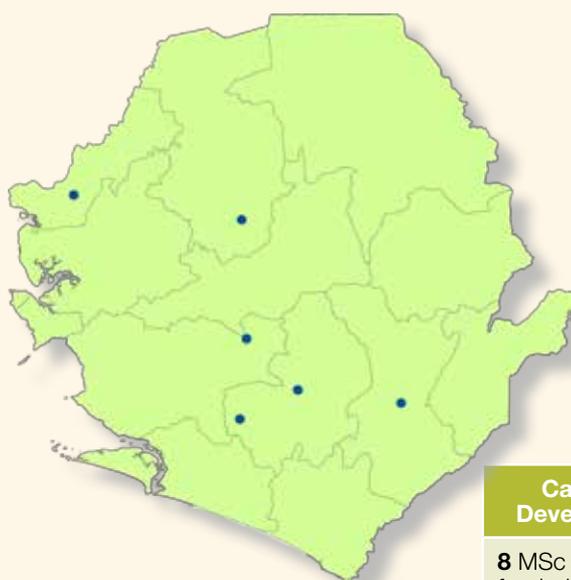


Capacity Development	Technology Development and Commercialization	Technology Adoption
9 MSc students funded in crop science	3 seed companies supported by AGRA 531.2 MT of seed produced	77,507 farmers using improved seed varieties 9,733 hectares planted with improved seed varieties

Senegal

Total population: 14.55 Million
Rural population: 8.23 Million
AGRA grants: US\$ 911,223
AGRA projects: 2





Sierra Leone

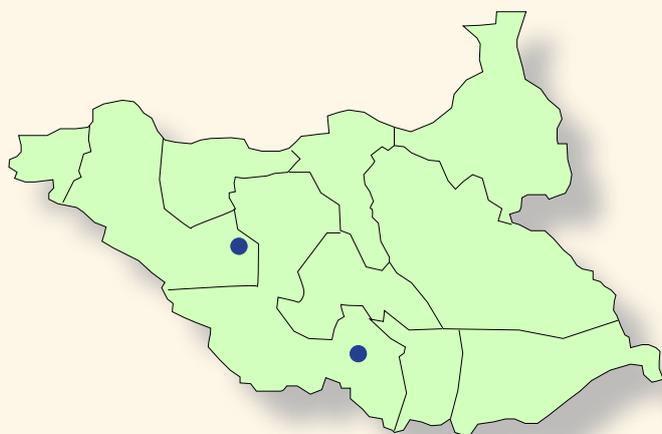
Total population: 6.21 Million

Rural population: 3.70 Million

AGRA grants: US\$ 636,039

AGRA projects: 6

Capacity Development	Technology Development and Commercialization
<p>8 MSc students funded in crop science</p>	<p>16 improved seed varieties have been released by the government regulatory agency:</p> <ul style="list-style-type: none"> • Cassava (8) • Rice (8) <p>12 new varieties commercialized</p> <p>3 seed companies supported by AGRA</p> <p>196 MT of seed produced</p>



South Sudan

Total population: 11.74 Million

Rural population: 8.21 Million

AGRA grants: US\$ 2,987,113

AGRA projects: 17

Capacity Development	Technology Development and Commercialization
<p>1 PhD candidate funded in plant breeding</p> <p>8 MSc students funded in crop science</p>	<p>12 new varieties released by the government:</p> <ul style="list-style-type: none"> • Irrigated rice (3) • Maize (6) • Sorghum (3) <p>4 new varieties commercialized</p> <p>3 seed companies supported by AGRA</p> <p>509 MT of seed produced</p>





