**Ghana Country Profile**

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**OVERVIEW**

Although currently agricultural productivity is low, the government’s Growth and Poverty Reduction Strategy has identified agriculture as the most important driver for poverty reduction in Ghana. There is also strong domestic and regional demand for food crops. Agribusinesses are interested in working with smallholders, although they seek more formalized business relationships along value chains.

Ghana is a country that has attracted a lot of donor attention. It has quite a variety of agro-ecological zones moving from the moist and humid coast in the south to the hotter and drier north. This offers an ideal opportunity to test developed ISFM technologies/ approaches over diverse agro ecologies.

Uptake of agricultural technologies including use of fertilizer remains low, but the desire of the policy makers to improve this is clearly stated in the revised extension system – which, however, still needs a lot of support; we hope our project will contribute to this.

Ghana also offers a variety of partners both in terms of organisations (public and private) and projects. Various ISFM technologies have been developed by local and international organisations. There is considerable potential to use established media and interpersonal approaches to ensure that the existing technologies reach, and are used by, small-scale farming households. ASHC has worked with a number of these partners, a fact that should help in the implementation of the project.

**BACKGROUND**

Population, total (million people) [[1]](#footnote-1)(2014) 25.8

Population Density (people per km2) [[2]](#footnote-2) (2013) 113.8

Annual Population Growth (%) 1 (2014) 2.2

Rural Population (%) [[3]](#footnote-3) (2014) 46.2

GDP per capita $ (2013 est.) 3,500

Agriculture GDP (% of total GDP) 1 (2013) 21.5

Agricultural Land (thousand ha) 3 (2011) 15,900

Agricultural Land (%) 3 (2011) 69.9

Average rural family size (2008) [[4]](#footnote-4) 4.0

Female employment in agriculture (%) 3 (2005-2012) 53.2

Male employment in agriculture (%)3 (2005-2012) 61.4

**The role of agriculture in national economy**

Agriculture is a major driver for Ghana’s economic growth and is the primary livelihood for around 56% of its population of 25.8 million inhabitants, especially for the rural poor. Drivers in the agricultural sector include the liberalization of the sector and domestic and regional market demand. The sector in monetary terms contributed USD 19.4 billion in 2013, 21.5% of total GDP1.

The average farm size is 2.27 hectares; with more than 60% of farms being smaller the sector is dominated by traditional smallholder farms[[5]](#footnote-5). Rural poor and food insecure households are mainly smallholder food crop farmers with limited access to factor and output markets. This results in low productivity of land and labour, poverty, low investment capacity and lack of opportunities for young people.

The Ghana Poverty Reduction Strategy (GPRS I, 2003) and Growth and Poverty Reduction Strategy (GPRS II, 2008) documents have identified agriculture as the most important driver for poverty reduction in Ghana.

Domestic and regional demand for food crops is strong and agribusinesses are interested in working with smallholders, but they seek more formalized business relationships along value chains.

Rural women and girls contribute significantly to farm labour, particularly in view of high rural to urbanmigration rates of young men because of the lack of economic opportunities. This results in an ageing and generally less dynamic rural population, high rates of youth unemployment, underemployment and social inequality. The average age of a farmer in Ghana is 55 years while life expectancy averages 55-60 years[[6]](#footnote-6). The focus on employment opportunities for rural youth is a top priority of Government of Ghana[[7]](#footnote-7).

**The importance of B&MGF priority crops**

Of the top 10 commodities by value, six fit with the B&MGF priorities: yams, cassava, plantains, maize, groundnuts and rice. ASHC 2 anticipates working with yam, cassava, maize and rice from this group and additionally sorghum/millet and legume crops, especially soybean.

**Table 1: Top 10 agricultural commodities by value, Ghana 2012[[8]](#footnote-8)**

|  |  |  |
| --- | --- | --- |
| Rank | Crops | International $ millions |
| 1 | **Yams** | 1693 |
| 2 | **Cassava** | 1520 |
| 3 | Cocoa, beans | 913 |
| 4 | **Plantains** | 734 |
| 5 | Taro (cocoyam) | 269 |
| 6 | **Maize** | 258 |
| 7 | **Groundnuts** | 202 |
| 8 | Meat, game | 162 |
| 9 | **Rice, paddy** | 131 |
| 10 | Oranges | 120 |

**ISFM relevant policies**

Ghana’s agriculture is known for its low productivity, e.g. yields of most food crops have not increased significantly over the years[[9]](#footnote-9). Agriculture here is characterized by declining soil fertility due to soil erosion, bush burning and excessive nutrient mining, which leads to soil degradation. This situation has been worsened by limited use of mineral fertilizer adding to the negative nutrient budgets of most of the soils. The average fertilizer rate used in Ghana was 34 kg per hectare arable land in 2012, which is below the Abuja Declaration target of 50 kg but higher than many African countries[[10]](#footnote-10).

Numerous obstacles including high cost of fertilizer as well as low financial capacity of farmers, low access to fertilizer due to poor distribution network, low technical skills, low quality of fertilizer due to non-monitoring and poor handling, and old or non-existent site specific fertilizer recommendation limit fertilizer use by Ghanaian farmers. These factors reduce the availability of needed fertilizer at a required time and/or cause poor returns to farmers following fertilizer use.

Agricultural subsidy programmes are not new to Ghana. A fertilizer and agrochemicals subsidy, targeting cocoa farmers has been in place for many years. Other fertilizer subsidy have been used as strategic policies to address the various concerns of farmers and encourage modernization of farms, whilst simultaneously kick-starting the agro-inputs sector.

In 2007/8 Ghana experienced dramatic increases in food and fertilizer prices[[11]](#footnote-11). The government realized that Ghana had one of the lowest fertilizer use rates in sub-Saharan Africa (8 kg per hectare). This contributed to low productivity and output of crops, high food prices, as well as low income and deepening poverty of farmers, particularly those operating on a small scale.

In July 2008 the government instituted a countrywide subsidy on four types of fertilizer. These were:

* NPK (15:15:15)
* NPK (23:10:05),
* Urea
* Sulphate of ammonia

The subsidy is also meant to encourage greater private sector development and participation in fertilizer markets.

A budgetary allocation, under the agricultural sector support program, to subsidize fertilizer based on historical fertilizer consumption by smallholder farmers, is made by government every year. In 2009, the fertilizer consumption by smallholder farmers was estimated to be about 107,000 tonnes and that amounted to at least 50 % of total imports.

The subsidy scheme is implementation by setting a pan-territorial price based on government-importer negotiations.

From 2008-2010, vouchers were issued to some farmers for specific fertilizer products in target regions. On average the vouchers cover 50% of negotiated input prices.

The vouchers were not intended to target the subsidy to smallholder producers of staple food crops but to the products, as a way to make sure importers and distributors served all regions in the country and to verify the payments to importers, since they were refunded the subsidized component only for fertilizer sold.

MoFA issued the vouchers and each extension agent targeted at least 25 small-scale farmers. Farmers had to visit their respective extension agent and then get the vouchers validated with the MoFA district director’s signature and stamped with the MoFA seal; then, farmers were expected to redeem the signed and sealed coupons at the nearest retail store of their preference. Farmers would also pay the pre-established government price in cash after the voucher discount.

Some challenges were encountered by the voucher system, some of which had their roots in the government’s attempt to have stringent control over the coupon program to minimize the likelihood of rent-seeking behaviour. The result was that there was a bureaucratic nightmare of time-consuming processes for farmers, retailers and wholesalers, in addition to delays in payment to major importers (MOFA 2010).

The bottlenecks included farmers having to make numerous visits to MoFA to complete the process. The result was many farmers gave up and did not claim or use the vouchers. Farmers were even more discouraged by demands for payment from these government agents in order to claim their vouchers.

The process of voucher redemption by the retailer was also cumbersome. The retailer passed the voucher to the wholesaler who, in turn, has to also visit the MoFA district director for a second signature on the coupon before it could be redeemed at the MoFA central offices in Accra. In turn, the wholesaler redeems the coupon from the importer who eventually cashes it at the Agricultural Development Bank of Ghana after approval from the respective MoFA authority.

In 2010 the voucher system was replaced with a ‘waybill’ receipt system. This modified waybill subsidy program was designed to absorb the operational cost of fertilizer importation and distribution (port handling charges, loading and transport costs as well as commission and margins for the actors along the supply chain), which is paid for by the government in the form of subsidy.

This new waybill system was also designed and implemented by MOFA in close collaboration with the major fertilizer companies whereby each company has allocated quotas of various fertilizer types after price negotiations.

The companies are to import fertilizers, clear them from the ports, pay all the charges and deliver allocated quantities of the various types of fertilizers to the designated regions and districts for sale to farmers by their registered sales agents (retailers). All waybills for a given company and a given time period (normally a month) are authenticated by the national desk officer for fertilizer and director of Agricultural Extension Services and audited by the treasury before the amount due to a company is paid.

There is currently no policy to withdraw this subsidy system. The government has indicated that even if it will be withdrawn, it will be at a stage where the farmer can buy fertilizer without subsidy.

In 2012 an additional system was introduced. The Farmer Passbook helps farmers to document their farm operations as well as assist track beneficiaries of the subsidy programme.

By 2013 the average subsidy represented 21% for all fertilizers; seeds including maize, rice and soya bean were also subsidized at an average rate of over 36%[[12]](#footnote-12).

**Arrangements for the release of new fertilizers/inoculants**

The Plants and Fertilizer Act of 2010, Act 803, placed the arrangements for the release of new fertilizers products under the purview of the Pesticide and Fertilizer Unit of the Plant Protection and Regulatory Services Directorate of Minister of Food and Agriculture (MoFA).

An application is made by the prospective company to the MOFA declaring the intension to release a new product. An official laboratory analysis is performed on samples of the new product to verify quality of active ingredient. This is followed by a field trail to prove effectiveness of product.

The decision to register or refuse register is then made by the Fertilizer Technical Committee and applicants are informed accordingly. The method of inspection, sampling and analysis shall be in accordance with the Ghana Fertilizer Inspection Manual and the Ghana Fertilizer Analytical Manual[[13]](#footnote-13).

In 2014, the Savanna Agricultural Research Institute of the Council for Scientific and Industrial Research (CSIR-SARI) secured a grant of almost US$ 1 million to support smallholder legume farmers in the three Northern Regions to boost yields. The three-year project ‘Enhancing Soil Health in Northern Ghana: Inoculants Production, Distribution and Utilisation through Private-Public Partnership’, is aimed at addressing low soil fertility, high cost of mineral nitrogen fertilizers and lack of production facility for rhizobium inoculants, among others. The project, which is also intended to improve the productivity, incomes and livelihoods of about 20,000 smallholder farmers to enable them to expand agribusiness as well as produce quality legumes for export, is being executed with funds provided by the Alliance for a Green Revolution in Africa (AGRA)[[14]](#footnote-14).

The improved crop varieties being used by Ghanaian farmers have high yield potential with high nutrient demand[[15]](#footnote-15). Continuous cultivation of these crops with no application of nutrients will lead to excessive soil nutrient mining and land degradation.Statistics from the Ministry of Food and Agriculture indicate that yields of current new varieties of crops are just about 30% of the potential yields resulting in large yield gaps6.

Several attempts were made earlier by the Soil Research Institute (SRI) and other collaborators (MOFA, SARI and CRI) to review fertilizer recommendations for improved yields of major crops in Ghana. The Soil Fertility Initiative programme (SFI) under the Agricultural Services Sub-sector Improvement Programme (AgSSIP) was put in place in 2003. The overall goal of the study was to review and update fertilizer recommendations for maize, cassava and sorghum to improve yields and incomes of food crop producers as well as sustain the environment. The project was discontinued after 2 years; although results obtained showed that increasing fertilizer application rates led to significant economic returns to the farmer, these results could not be extrapolated to other locations (AgSSIP 2007)[[16]](#footnote-16).

Activities of the AGRA-funded Optimising Fertiliser Recommendations in Africa (OFRA) project in Ghana (2014 to 2016) are being led by CSRI-SRI. The project aims to optimise returns from the use of fertilizers – all in the framework of ISFM. ISFM is the application of strategies that centre on the combined use of mineral fertilizers and locally available soil amendments such as lime, phosphate rock and organic matter like crop residues, compost and green manure to replenish lost soil nutrients. The results to be obtained will be site specific and open to extrapolation to other regions.

CSIR–SARI is working closely with other partners in Northern Ghana to promote grain legume technologies in the N2Africa project which is promoting not only the nutritional value of producing legumes but also the nitrogen fixing properties of these legumes (N2Africa 2014)[[17]](#footnote-17).

Ghana, like most countries in Africa, continues to use blanket fertilizer recommendations based on soil tests, greenhouse and field experiments. Fertilizer recommendations are uniform across geographic locations and crops. This practice is a serious constraint limiting optimal fertilizer response in most soils and probably one of the main reasons why Ghana continues to record very low crop productivity growth. Information on location-specific fertilizer recommendations for specific crops in Ghana is very limited. The only exception is the study by Snoeck et al. (2010)[[18]](#footnote-18), who used a soil diagnostic model in combination with GIS to convert the current blanket fertilizer recommendations for cocoa into a more effective recommendation taking into account local land resources and the actual nutrient requirements. Notwithstanding, there has recently been a concerted effort to promote location-specific fertilizer recommendations. For example, the Savanna Agricultural Research Institute (SARI) of the Council for Scientific and Industrial Research (CSIR), in collaboration with the Alliance for a Green Revolution in Africa and other partners, is working to scale up Integrated Soil Fertility Management in northern Ghana. The project involves developing area-specific fertilizer recommendations for Guinea, Sudan, and savanna areas of Ghana.

The Soil Research Institute (SRI), with the support of the CAB International (CABI) and AGRA, is developing site-specific fertilizer recommendations for various crops using field trials and simulation models.

The International Fertilizer Development Corporation (IFDC) is also building human capacity in site-specific fertilizer recommendation at the national level, facilitating the formation of the Ghana National Fertilizer Task force and training the task force members on using simulation models for site-specific fertilizer recommendations. AGRA has also promoted the formation of Soil Health Policy Nodes to facilitate the development of policies relating to fertilizer regulations and quality control.

**The importance of private sector**

Fertilizer consumption (kg per ha of arable land) (%)[[19]](#footnote-19)(2012) **34.9**

Ghana’s economy is expected to maintain robust growth over the medium term, bolstered by improved oil and gas production, increased private-sector investment, improved public infrastructure development and sustained political stability[[20]](#footnote-20).

Private sector extension initiatives are usually better resourced than the purely public sector ones. However, most of the private sector ones are implemented in close collaboration with government organisations, especially in the area of input supply to farmers and adoption of improved technologies.

In Ghana several companies work closely with farmer-based organisations in out-grower schemes to produce, process and/or market commodities, especially rubber, cocoa and palm oil. Amongst other services, these companies provide extension support for their out-growers[[21]](#footnote-21).

A study carried out in 2009/2010 identified 3389 agro-dealers throughout Ghana with a greater density in the south compared to the north[[22]](#footnote-22).

The agricultural input dealers in Ghana are general stockists. They sell multiple types of agricultural inputs, including farm implements, simple farm equipment like knapsacks, fertilizers, pesticides, seeds and animal feed. The input dealers comprise wholesalers and table top dealers.

Information on the number of agro-dealers in Ghana is difficult to obtain. There is a published directory of over 4,000 agro- dealers. Some new entrant information is also available. In 2008, 357 agro-dealerships were established and remained in operation. In 2009, 481 new agrodealerships were established.

The Ashanti Regional Agrodealers Association secretariat indicated that the current number of members in the Ashanti region is 942[[23]](#footnote-23).

Agro-dealers training is mainly by the Ministry of Agriculture (MoFA) in all the regions. Other organizations that have provided training include Ghana Agri-Input Dealers Association (GAIDA), Environmental Protection Agency, IFDC, Seed Producers Association of Ghana and AGRA.

In 2010 about 2,200 rural agro-dealers in Ghana benefited from a US $2.5 million credit facility provided by Alliance for Green Revolution in Africa (AGRA) and the International Centre for Soil Fertility and Agricultural Development (IFDC). The facility supported agro-dealers and 150 seed producers to increase agriculture productivity, incomes and wellbeing of about 850,000 smallholder farmers in Ghana.

The Ghana Agro-Dealer Development (GADD) project, implemented from October 2008 to March 2012, provided financial and business management training to nearly 2,400 agro-dealers. After completing training, the agro-dealers were granted certification by the Government of Ghana.

In collaboration with agro-dealers, the GADD project established more than 270 demonstration plots and organized 465 field days and exhibitions involving 16,737 farmers (11,011 men and 5,726 women) and 186 agro-dealers (156 men and 30 women). The project also facilitated access for over 100 agro-dealers to US $1.6 million in loans, with an 87 % loan repayment rate.

The GADD project assisted the Ghana Agricultural Associations Business and Information Center (GAABIC) and its consortium associations to become stronger and more autonomous in their organizational, managerial and financial capacities.

Through GADD, IFDC and GAABIC profiled, mapped and created an electronic database of over 4,000 agro-dealers. The project then published the country’s first national directory of agrodealers.

The project also provided technical support to the Ghana Agri-Input Dealers Association (GAIDA) through training and the organization of media events, including educational programs on national television. These efforts resulted in an increase in GAIDA’s membership from 700 to 1,200.

## Fertilizer

Over 95 % of fertilizer imported into Ghana is dominated by 8 major companies:

* Yara-Ghana/Wienco
* Chemico
* Dizengoff
* Afcott
* OLAM
* AMG West Africa
* Louis Dreyfus Commodities

Typically in Ghana importers do not own the distribution network down to the retail level. The preferred business model is to associate with local businesses involved in fertilizer wholesaling and retailing under different forms of associations. Agro-input distributor operations often are a combination of wholesale and retail businesses; typically they have a presence in each of the 10 regions in the country.

The major distributors are in the larger regional capital cities, mainly Kumasi and Tamale, which are considered the main distribution hubs for the central and northern regions. The exception is the Greater Accra region, which is the national hub where the importers’ principal operations are located.

There are more than 2,700 fertilizer retail shops spread throughout the country, with the highest concentration in the central regions of Ashanti and the eastern and southwest area of Brong Ahafo, where the majority of cocoa and maize producers are located.

**KNOWLEDGE SHARING ECOSYSTEMS**

**The structure of national extension services**

Number of extension staff in country (2015)[[24]](#footnote-24) 2120

Number of farming families in country [million, calculated][[25]](#footnote-25) 2.98

Extension staff: farming families 1:1406

Improvement in general agricultural production, productivity and sustainability will depend on farmers’ willingness and access to new technology. Agricultural extension and advisory services play ensurefarmers have access to improved and proven technologies and that their concerns and needs are properly addressed by relevant service providers.

Like in most African countries, inherent difficulties of providing agricultural extension through the public sector include the scale and complexity of agricultural production, dependence on the broader policy environment, weak linkages between the extension and research systems, difficulty in attributing impact, weak accountability, weak political commitment and support, public duties other than knowledge transfer, and the challenge of fiscal sustainability[[26]](#footnote-26).

In Ghana the Ministry of Food and Agriculture (MoFA) plays the lead role in the dissemination and transfer of agricultural technologies and practices through its extension service system. Each region of the country is divided into districts and each district is divided into operational areas. Each agricultural extension staff is in-charge of an operational area. In addition to its core business of agricultural extension, the extension agents carry out or supervise adaptive research and demonstrations with farmers. Thus they form a key link between farmers and researchers in the process of technology transfer and practice to farmers.

In 2011 there were 1194 field level extension staff throughout the country [[27]](#footnote-27). At the time of this study the number has risen to 2120, approximately an 177% increment (Table 3). The proportion of this number who are male and female respectively is 7:1[[28]](#footnote-28).

In 2011, there were 1194 field-level extension staff out of a total staff of 1464 (GFRAS 2015)[[29]](#footnote-29). The Government of Ghana’s pilot program based budget document for 2013-2015 states that in 2010 there was one extension agent for every 1000 farmers; the target for 2014 was one for every 500 (Republic of Ghana 2012)[[30]](#footnote-30). In 2015 a survey for this report found the ratio was1:1406.

Prior to 1987 agricultural extension functions was fragmented among several departments in the MOFA. However these functions were subsequently unified under the umbrella Department of Agricultural Extension Services (DAES), with its headquarters in Accra.

The Local Government Act, 1993 (Act 462) decentralized the functions of the DAES with a view to transfer responsibilities including administration and provision of services to the District Assemblies, leaving the regional and national levels to focus on policy planning, coordination, technical backstopping and monitoring and evaluation M&E. In the decentralized system, each district has a director, an M&E person and other support staff. Each district level has a number of agricultural extension agents who are responsible for delivering extension to farmers and others involved in agricultural production.

Extension normally takes place at district level through approaches including:

* Field and home visits (3-4 per week per agricultural extension agents)
* Group meetings
* Community campaigns
* Field days and study tours for farmers
* On-farm trials and demonstrations
* Drama and docu-drama
* Posters and extension leaflets
* Radio and film

Besides MOFA (DAES) other public sector partners involved in extension in Ghana include Ministry of Environment, Science and Technology (through CSIR), Ministry of Local Government and Rural development (through Regional Coordinating Council and Metropolitan and Municipal District Assemblies.)

The co-ordination of service delivery in the decentralized system is perceived to be weak to non-existent.

**Media penetration**

Literacy rates (% of population) 1(2010)

Literacy Rate 71.5

Male Adult 78.3

Female Adult 65.3

Male Youth (15-24 years) 88.3

Female Youth (15-24 years) 83.2

Mobile phone subscription (per 100 people)[[31]](#footnote-31) 108

Internet Users (per 100 people) 31 (2013) 12.3

Households with a radio (%) [[32]](#footnote-32) (2011-2012) 72

Households with a TV (%) 32 (2011-2012) 54

Median age of population (years) 1 (2014) 20.8

**Telephone:** Mobile services have been introduced in Ghana and spread very rapidly to all parts of the country including rural areas. With mobile phone branching out beyond its origins as primarily voice-only device to be used for other services such as banking (paying bills, sending money, paying school fees), the technology could play a key role in extension services and information delivery.

According to the National Communication Authority of Ghana (NCA), cellphone penetration in October 2014 reached a subscriber base of over 24 million. However, this does not mean there are those numbers of Ghanaians using these phones, as many have more than one handset, yet others have none[[33]](#footnote-33).

This could form an effective way of reaching many, including the youth. Anecdotal evidence suggests high levels of penetration of Bluetooth enabled phones in Ghana. This has allowed some viral campaigns sharing made-for-phone films produced as dramas, for example to promote PICS triple bag storage of cowpea and other legumes.

**Broadcast media**

**Radio:** The state owned-GBC provides two domestic radio services, Radio 1 and Radio 2, broadcasting from Accra. Radio 1 is devoted to local-language programs, broadcasting in Akan, Ga, Ewe, Nzema, Dagbani, Hausa, and English.

Radio 2 transmits in English. There are also several private FM stations currently broadcasting from Accra or Kumasi, especially in English and Twi. As of the first quarter of 2014, CMA had authorized the operation of 342 radio stations (36 Public, 59 Community, 13 Campus and 234 Commercial)[[34]](#footnote-34).

Important radio stations for relaying information to farmers includes the Farm Channel (Accra), Rite FM (Dodowa) and Luv FM in Kumasi.

**Television:** Besides the state-owned GBC-TV station, the National Communications Authority had approved by fourth quarter of 2013, 28 TV stations (20 free-on-air, 7 pay-per-view and 1 dedicated to research)34.

Important television for relaying information to farmers includes Akuafo TV on GTV and Metro TV, both in Accra.

**Social media:** Social media in Ghana has become a key information and networking source for the agricultural sector. Be it physical farming or working within a rural farming business, the social media has been a huge benefit to the agriculture sector over recent years.

The agricultural sector is embracing the social media and utilising it to promote knowledge of the industry as well as network with other like-minded agricultural professionals.

**Internet users:** Internet usage is spreading out and the agricultural extension system is using the technology to reach farmers. In 2014 the number of internet users was 5.2 million (19.6% of the population).[[35]](#footnote-35) At the end of 2012 there were 1.6 million Facebook accounts in Ghana[[36]](#footnote-36). A constraint to access is the frequent interruption of electricity supply. Telecommunication companies enabling Internet access on mobile phones at a minimal additional cost.

To take advantage of these ICTs, DAES is establishing e-extension within MOFA to enhance qualitative extension service delivery to farmers and other stakeholders.

**Youth initiatives**

Population aged between 15-24 years (%)1 (2014) 18.7

Youth clubs exist in parts of Ghana. They are usually faith-based and not focused on farming or business. The National Youth Council is supposed to coordinate all the youth clubs in Ghana, but has limited resources.

The perception in Ghana is that youth reject agriculture and see farming as a job for poor people. Young school leavers do not want to ‘get sweaty and dirty’ on a small farm. However, the rural population is growing, albeit at a slower rate than in the cities. A number of key informants believed that youth will be attracted to agriculture if they can make money and there may need to be an increase in donor focus on youth who actually are currently working in agriculture.

The MOFA has youth as one of it gender priorities. The new IFAD funded Ghana Agriculture Sector Investment Programme (GASIP) Youth Action Plan has ambitious targets for the inclusion of young people, defined in two categories (15-24 and 25-34 years).

### Youth in Agriculture Programme (YIAP) is a government agricultural sector initiative with an objective of motivating the youth to accept and appreciate farming/food production as a commercial venture and taking up farming as a life-time vocation. This will create wide-ranging employment for young people. The youth in Agriculture Programme has five objectives:

* Making youth accept farming as a commercial business venture.
* Generate appreciable income to meet farmers’ domestic and personal needs.
* Youth will improve their standard of living-through improved income.
* Youth will be motivated to stay in rural areas, as inputs will be delivered at their farm gate, on credit basis and interest free.
* Produce enough food crops, meat and fish using modem methods.

Components of the Youth in Agriculture Programme (YIAP). The Youth in Agriculture has four (4) components namely:

* Crops / block farm
* Livestock and poultry
* Fisheries/aquaculture
* Agribusiness

In 1973 the government established the National Service Scheme (NSS) Farms under the Ministry of Education. These feature all administrative regions and districts across the country. The scheme is mandated to deploy a pool skill people, drawn primarily from tertiary institutions, to support development efforts of both the public and private sectors in Ghana. The aim is to ensure that priority sectors do not lack the requisite human resources needed for development.

The original intent was deploying freshly graduating youth under the NSS arrangement.Overtime, the National Service Scheme has progressed with the cohorts being seen as future leaders of Ghana.

The academic training is rounded with the application of practical skills and approaches that are being tested for wider application in the agricultural sector. NSS is contingent on provisions of section (3) of Act 426, which mandates the deployment of personnel to undertake national service duties in agriculture.

**POTENTIAL PARTNERS**

### Small-scale farmers’ organisations

A survey into 3 major farming communities in the Ashanti, Brong- Ahafo and Eastern regions of the country indicated that majority of small-scale farmer associations are formed by individual famers in a community, NGOs, MoFA staff during project implementation, chiefs, opinion leaders and assembly men.

Membership is voluntary, but only open to ‘serious’ farmers. Some of the associations are formed base on crop commodity. The functions of the association are guided by law and require an executive comprising a president, secretary and treasurer. The farmers who were interviewed indicated some of the benefits of formation of the associations to include the following:

* The association serve as an effective means for easy technology transfer and learning in best farming practices
* The association benefits from government and NGOs’ projects that provide support in the form of grants, credit, training and inputs.

The farmers groups are not established to exclusively undertake one type of activity. Some of the activities they engaged in are; community development, mutual labour support, welfare services, procurement of input, internal credit scheme, marketing, agro-processing and production.

## Non-governmental organizations (NGOs)

NGOs have emerged as a powerful force for development in Ghana because of their practical agendas and flexible operations. The NGOs range in size from very large scaleinternational organizations to very small community focused operations.

The key to solving farmers’ problems rest in their own ability to diagnose and correct new problems as they arise. Farmers interact with and seek assistance from other farmers and this situation provides an entry point for rural development[[37]](#footnote-37).

NGOs often launch their programmes by providing candidate farmers with the relevant information and tools necessary to instruct others in different farm activities and enterprises and then providing each trainee with modest budget for their activities.

Currently, there are more than 12 major NGOs implementing agricultural projects in various parts of the country as listed in Table 4.

**Table 4: Major NGOs in Ghana active in the agricultural sector**

|  |  |
| --- | --- |
| **NGO** | **Location** |
| ADRA | Accra |
| ACDI / VOCA | Accra |
| TechnoServe | Accra |
| SNV | Accra |
| MEDA Ghana | Tamale, Ghana. |
| Sasakawa Global 2000 (SG 2000) African Association |  |
| ACDEP |  |

There are still a number of NGOs implementing agricultural projects and programmes in the country that have no formal working relationship with Millennium Development Ambassadors, but interact extensively with extension staff. There is the need to bring this vital group on board and in particularly to align their activities in order to constructively contribute to country’s agricultural sector goals and targets

**Potential delivery partners**

### ADRA Ghana

ADRA [Adventist Development and Relief Agency] operates in more than 125 countries around the globe without regard to gender, age, ethnicity or political or religious association. There Europe and Africa base is in Nairobi.

ADRA's Food Security programs focuses on long-term solutions to end hunger permanently. ADRA also provides food aid (such as rice, maize, beans, or nutritional biscuits) in emergencies such as drought, famine, natural disasters or war.

ADRA does this by first assessing the food needs of the target population and the various factors that contribute to food insecurity. This process includes an analysis of the availability of national food resources to the population, access of food to the target population, and utilization. It then develops an integrated program to solve the problem and to prevent it from rising again. This approach combines agricultural programs with health, nutrition and sanitation interventions.

The ADRA Ghana delivery model includes:

* Establishment of demonstration plots
* Organization of Farmer Field Schools (FFSs)
* Basic agronomy training for farmers
  + Provision of training for farmers in new farm techniques
  + Provision of resources such as seeds and tools
* Provision of extension services through farm Visits
* Capacity building in group-dynamics and development in integrated soil fertility management (ISFM); crop production practices; harvesting and post-harvest management; and contracting, procurement, financial management and marketing.
* Linkage to financial and non-financial institutions
* Linkage to agro-input dealers
* Linkage to tractor service providers
* Linkage to output market

### ACDI / VOCA

ACDI / VOCA work to promote economic opportunities for cooperatives, enterprises, and communities through the innovative application of sound business practice by transforming the agricultural sector through increased competitiveness.

### The ACDI / VOCA delivery model:

* + Provision of improved seed varieties
  + Access to quality agricultural inputs
  + Mechanization services
  + Access to market
  + Trainings and technical assistance on:
    - appropriate inputs
    - best agronomic practices
    - post-harvest handling
    - record keeping,
    - marketing, and nutrition/hygiene practices
  + Commodity management, including the monetization of donated commodities in low-income and food-deficit countries
  + Promotion of entrepreneurship
  + Development of local producers, traders, and businesses
  + Association and cooperative development to help communities take collective action for increased food security
  + Supplementary grant support to empower local organizations to identify and achieve their own priorities
  + Income-generation activities at both on- and off-farm sites to provide vulnerable populations with increased household income
  + Improved financial systems through savings and credit technical training and linkages with the financial sector
  + Increased infrastructure to improve access to markets
  + Promotion of improved practices to meet household consumption needs ranging from growing household gardens to making better household dietary choices
  + Promotion of improved health and nutrition practices at the household level
  + Early warning system development and emergency response to boost communities’ resiliency to natural and human-caused disasters

**Ministry of Food and Agriculture (MOFA**)

MOFA is responsible for developing and executing policies and strategies for the agricultural sector in Ghana. The mission isto promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to farmers, processors and traders for improved livelihood. Although also a recipient of funds to implement agricultural development projects, most initiatives targeting farmers in Ghana usually have MOFA as an integral collaborator.

ASHC has worked with MOFA in Ghana since 2012.

**IFDC – ECOWAS program**

The International Fertilizer Development Center (IFDC) is a public international organization addressing critical issues such as international food security, the alleviation of global hunger and poverty, environmental protection and the promotion of economic development and self-sufficiency. IFDC focuses on increasing productivity across the agricultural value chain in developing countries.

IFDC is leading an ECOWAS-funded project that aims to boost rice production and support the marketing of the crop in 15 countries in West Africa including Nigeria and Ghana. The main technologies being promoted is urea deep placement (UDP), formulated as slow release supper granules in rice cropping systems and micro dosing of various fertilizers in sorghum and millet cropping systems. Support initiatives include addressing issues around access to urea fertilizer, manufacture/assembly and access to granulating equipment in the target countries.

ASHC aims to organize a campaign around improving the information supply chain for scale up of UDP and micro dosing technologies through improved planning, packaging, targeting and design of effective scale up campaigns in Nigeria and Ghana, with additional dissemination efforts in some of the other countries. This could involve capacity building of agro-dealers to improve their roles in channeling information to farmers.

**IFDC Feed the Future program**

IFDC is working with partners to implement this USAID-funded project that runs from 2013 to 2018 – input supply chains (especially for seed and fertilizer) In the three northern regions of Ghana. Partners include research institutions (including CSIR); Iowa State University (ISU); Centre for Development \innovation Wageningen University (WUR-CDI); government and regulatory bodies (including MOFA) and Ghana Agricultural Associations Business & Information Centre (GAABIC). IFDC and thesepartners are working to increase the capacity of public and private sector organizations in agricultural technology transfer for maize, rice and soya at scale (USAID investment is $22m). The project plans to reach over 100,000 maize, rice and soya farmers in northern, upper west and upper east regions.

There are three focal areasthat could be the basis of campaigns in ASHC 2: i) seeds, ii) ISFM and iii) capacity building for agricultural research. ASHC could potentially work in all 3 areas – use of improved seed is an integral part of ISFM and capacity building around communications has been a part of ASHC phase 1. Early conversations have suggested that the Feed the Future program would also want ASHC to organize a campaign around, in the project manager’s words:

1. *Products that can be delivered through supply channels, well-packaged so that they reach the last mile (this could be seeds, fertilizers, soil amendments, among others.)*
2. *Behavior-changing approaches to impact farmers’ GAPs.*

Further help was requested on helping to discourage bush-burning as part of the game hunting practice.

**Ghana Agriculture Sector Investment Programme (GASIP) Youth Action Plan (YAP)**

**Funder of program:** IFAD for cycles of 3 years periods

Ghana Agriculture Sector Investment Programme (GASIP) Youth Action Plan (YAP) is financed by IFAD. The programme, implemented by MOFA, focuses on smallholder farmers to make them more competitive by increasing their capacity to respond to market demand in terms of quality, price, time and volume, as well as resilience to climate change. This is operationalized through the formalization of relationships with agribusinesses, in order to give smallholders reliable access to technologies, financial services, factor and output markets. The approach aims to be pro-poor, pro-youth, gender-equitable, inclusive and private-sector driven. Partnerships with agri-businesses will be expanded through targeted facilitation support, smart subsidies to leverage private investments, and adequate provision of public goods and enabling infrastructure to reduce risk.

ASHC phase 2 could participate in the 3rd objective of the project – knowledge management, policy support and coordination. The project has strong youth targets reaching 20% youth (between 15 and 24 years) and 30% young adults (between 25 and 34 years) as direct clients with:

* direct targeting of young women in all activities of the YAP
* peer education
* integration of young people in farmer based organizations, extension groups and Value Chain Committees
* participation in business networks
* promotion of value chains that are interesting for young people (horticulture,
* intensive livestock production, etc.)
* provision of start-up kits and facilitation of access to finance
* agribusiness education
* promotion campaigns using role models

### Sasakawa Global 2000 (SG 2000) African Association

SG 2000 works with the Ministry of Food and Agriculture, through the agricultural extension services. SG 2000 seeks to transform African extension advisory services in partner countries to assure greater family food security and more profitable participation in commercial activities along the value chain, while respecting natural resources.

The SG 2000 model includes:

* Establishing of cost-effective farmer learning platforms that improve productivity in smallholder food systems, especially for resource-poor women farmers and those with low levels of technical efficiency, and increase food security and livelihoods.
* Enabling smallholder farmers to capture a larger proportion of the economic benefits inherent in agricultural food value chains.
* Creating Public-Private Partnerships that financially support delivery of extension services for enhanced smallholder agricultural development and enhance profitable market access.
* Strengthening agricultural extension systems by building capacity of extension professionals and smallholder farmers to accelerate agricultural productivity and credit more competitive value chains.
* Establishing information and knowledge management information systems that enable adaptation, modification and change of technologies and approaches, improve efficiency and impacts, and communicate lessons and best practices for timely evidence-based decision-making.

**Ghana Compost**

**Crop/ technology:** Compost and inorganic fertilizer in maize

This project is undertaking demonstrations and research into the compost, inorganic fertilizer and maize. It is based in Kade, Akosombo, Accra. Partners include: IWMI, BNARI, WRI, University of Ghana-Kade

**Potential knowledge partners**

**Ghana Soil Health Consortium**

**Funder of program:** AGRA

**Crop/ technology:** ISFM

**Project duration:** to 2016

This is a broad-based partnership including CSIR-Soil Research Institute, IITA, NARS, AGRA, MOFA, NGOs and the private sector active in agro input supply. This is a national organization, based in CSIR-SRI, Kwadaso, Kumasi. Similar organizations exist in all five AGRA priority countries in West Africa.

Capacity building of the consortium is delivered by IITA. Early wins have included assembling over 500 items of ISFM literature. They are also disseminating through workshops, posters, radio discussion and handbills.

**AGRA Soil Health Program**

**Funder of program:** B&MGF

**Crop/ technology:** CSIR-Soil Research Institute - Cassava and cowpea strip cropping

**Project duration:** to 2016

AGRA Soil Heath Program has a number of programs in Ghana.CSIR-Soil Research Institute is working in the forest and transition zones of Ghana. It is disseminating through methods that include farm visit, demonstration trials, workshops, media interactions and radio talks.

**Optimizing Fertilizer Recommendations in Africa (OFRA)**

**Funder of program:** AGRA

**Crop/ technology:** Fertilizer optimization recommendations in maize, sorghum, finger millet, rain-fed rice, beans, soybean and cowpea.

**Project duration:** to 2016

OFRA is an AGRA-funded project (2014-2016) that aims to maximize returns from the use of fertilizers in an ISFM framework. Implemented in 13 countries, including Ghana and Nigeria, ASHC phase 1 had the responsibility of implementing objective 3 of the OFRA project namely “To improve access to information and communication materials for extension”, the outputs of which are:

* ISFM framework developed through stakeholder input describing field conditions influencing ISFM within specific countries to inform trial design, modelling and fertilizer recommendation development within ISFM framework
* Stakeholder input available on diverse information and communication needs
* Stakeholders aware of and able to use communication tools
* Fertilizer optimisation tool tested and refined and appropriate delivery platforms identified

It is hoped that support to OFRA will be maintained in ASHC phase 2 in Ghana (and some other selected countries). Support will include the following activities:

1. Develop fit-for-purpose communication materials for promoting fertilizer recommendations
2. Develop, test and adopt an app for use on mobile phones
3. Develop materials and use them to train extension workers

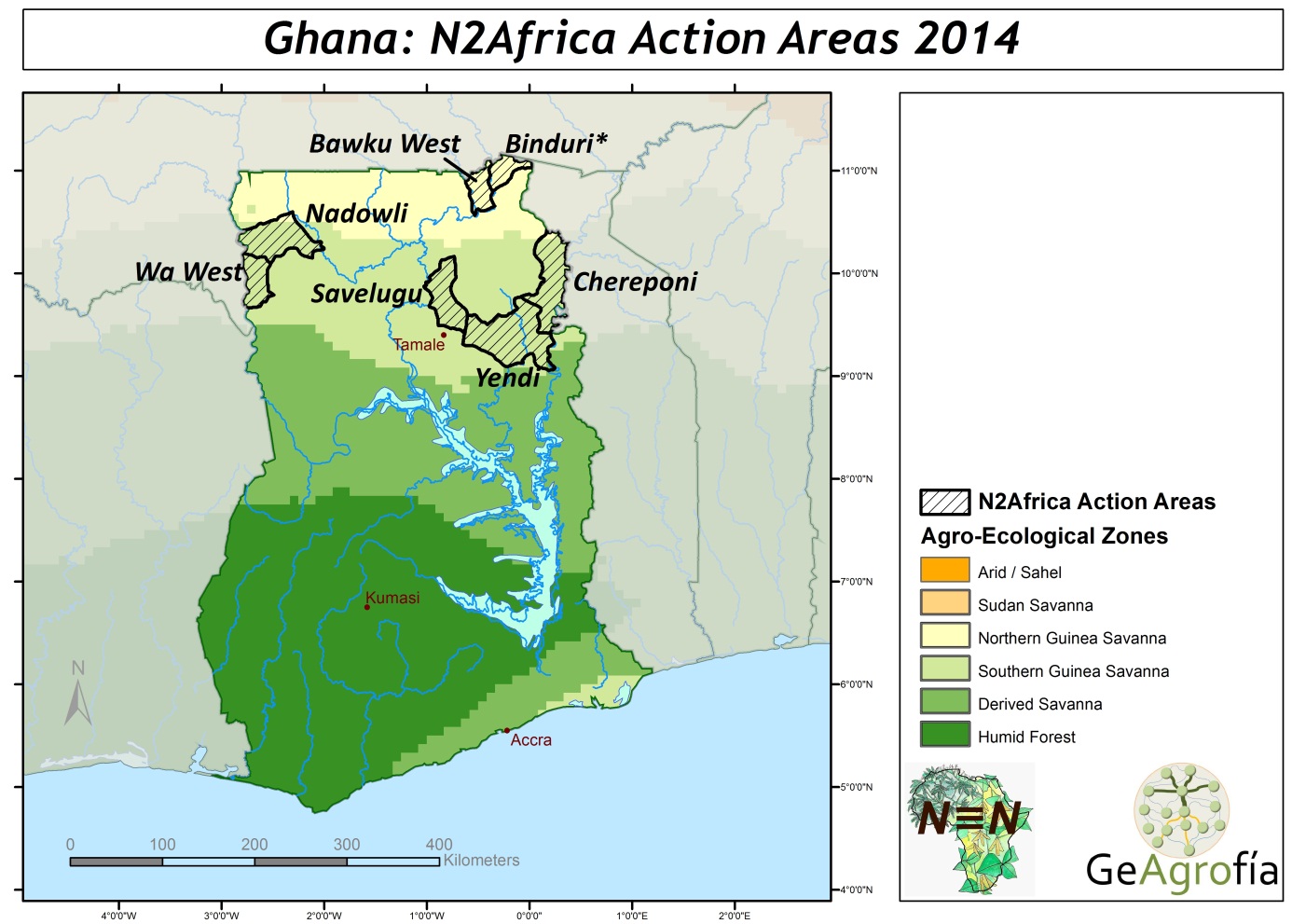
The use of such materials could also form interesting campaigns as well as generate crucial lessons that could be used in other countries.

**N2Africa**

**Funder of program**: B&MGF

**Crop/ technology:** Promotion of legume productivity improvement with soil fertility management principles

**Project duration:** to 2018



The B&MGF-funded N2Africa is a large scale, science-based ‘research-in-development’ project focused on putting nitrogen fixation to work for smallholder farmers growing legume crops in Africa. The projects vision of success is to build sustainable, long-term partnerships to enable African smallholder farmers to benefit from symbiotic N2-fixation by grain legumes through effective production technologies, including inoculants and fertilizers. Currently in its second phase, which runs from 2014 to 2019, N2Africa project outputs include:

* New value chains established and engaged with input supply chain and output market actors to ensure a sustainable supply of legume-related agro-inputs
* Improved inoculant products formulated and cost-effective production and delivery methods developed
* Flexible dissemination approaches customized and use of innovative data collection and communication tools enhanced
* More than 550,000 farmers (across all countries) reached

The 5 focus countries of N2Africa are the same as those of ASHC 2 and we hope to develop effective campaigns around nitrogen fixation (a technique that has been tried and tested in N2Africa phase 1) and improved legume varieties in at least 2 countries.

**Ministry of Environment, Science and Technology (MEST)**

One of the units under the MEST is the Council of Scientific and Industrial Research (CSIR) whose mission is to generate and apply innovative technologies that efficiently and effectively exploit science and technology for socio-economic development in the critical areas of agriculture, industry, health and environment and improve scientific culture of the civil society.

The CSIR’s mandate include undertaking and/or coordinating of all aspects of scientific research in Ghana, dissemination of research findings and implementation of government policies on scientific research and development. Agricultural research in Ghana is mainly carried out by the 8 semi-autonomous institutes that mainly specialize in crops, soils, animals, food and forestry. Institutes that ASHC has worked with include Savannah Agricultural Research Institute (SARI) and Soil Research Institute (SRI). ASHC worked closely with SARI and produced leaflets, manuals, films and flip-charts on different ISFM practices in maize/legume, sorghum/millet, rice and cassava cropping systems.

The CAB International West Africa Station is hosted within CSIR headquarters in Accra, which also hosts other potential partners including AGRA, International Water Management Institute (IWMI) and the Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA).

The public sector partners (MOFA and MEST) form integral part of initiatives/projects mentioned below and host most of the campaigns and a key partner in the adoption and continued use of the introduced ISFM technologies/approaches.

**Potential scale-up opportunities**

The campaign will be informed by the following:

Ghana has a number of initiatives targeting young people such as 4H in school and GASIP Youth Action Plan outside. ASHC could build on the schools pilot in Kenya in phase 1.

Ghana (especially Northern Ghana) has had success with viral marketing campaigns based on short dramas with embedded agricultural messages. ASHC will develop films in both cinema and phone version. Country-wise has developed an innovative motor-bike for film distribution – at a fraction of the cost of the government extension product. Films will be supported by local agro-dealers at screening. Making all films available for dissemination via Bluetooth technology on smart phones as part of a viral marketing campaign will help young people to become intermediaries spreading ISFM good practice.

ASHC could explore ways of agro-dealer strengthening through better point of sale information and training materials suitable for use by frontline staff with smallholder farmers.

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