



# INVESTMENT OPPORTUNITY GHANA



## Yam Seed Production

**Millennium Development Authority**

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# **REASONS TO INVEST IN SEED YAM PRODUCTION IN GHANA**

- \* Increasing Demand for Yam**
- \* Quality and preferred taste of Ghana yam**
- \* Access to World Markets**
- \* Good roads, seaports and airports**
- \* Support of Government**
- \* Trusted partners in MiDA and ADRA**
- \* Low labor costs for farm operations**
- \* Warm and friendly people**
- \* Politically stable democratic government**
- \* Positive business enabling environment**

# BUSINESS OPPORTUNITY SUMMARY

Domestic and foreign investors will find a prime business opportunity in the Commercialization of Seed Yam Production.

Ghana is a leading yam exporter, having exported 20,841 metric tons of yams in 2008, but with increasing global demand for yams coming from Europe, the U.S. and neighboring African countries, there is potential for higher production and export volumes. Inadequate access and high cost of seed yam has prevented producers from expanding the area under yam cultivation, despite the availability of fertile land and demand for yam domestically and abroad.

Seed yam production does not currently exist on a commercial scale in Ghana. An incoming investor will have the opportunity to lead the development of the market with no competition from other participants and take advantage of early branding. An investor in seed yam production can begin an operation using a stock of yam tubers from his or her own production to ensure that yams are high-quality. The investor can then take advantage of new technologies to increase the quantity of available seed yam grown from this original stock and can sell seed to farmers. Increased access to seed yam will allow farmers to increase their production and access niche markets overseas for the globally preferred Ghana yam, profiting all actors along the value chain.

An investor in Ghana's growing agribusiness sector will be supported by the Millennium Development Authority (MiDA) and the Adventist Development and Relief Agency (ADRA). MiDA is an agency of the government of Ghana that is focused on increasing the production and productivity of high-value cash crops in specific intervention zones, including the Afram Basin where yam is a priority crop.

MiDA's Agriculture Project includes:

- \* ***Farmer and enterprise trainings*** to accelerate the development of commercial skills and capacity among Farmer-Based Organizations (FBOs) and their business partners
- \* ***Land tenure facilitation*** to ensure tenure security for land users and facilitate access to land for high-value crops
- \* ***Credit services*** to increase producers' and investors' access to credit for the improvement of value chain activities

## **Millennium Development Authority (MiDA)**

The Millennium Development Authority (MiDA) is a Ghanaian public agency, created to implement the programs pertaining to the "Millennium Challenge Compact" valued at \$547 million and signed in August 2006 between the Government of Ghana and the Government of the United States. The Compact includes an allocation of \$241 million for an Agriculture Project to increase productivity and \$306 million for Transportation and Rural Services Projects that will complement the strengthening of capacity in the agricultural sector.

MiDA will facilitate investment in this business opportunity for interested domestic and foreign partners, including access to farmer organizations, community leaders, service providers, government agencies, and other organizations as necessary.

# YAM PRODUCTION IN GHANA

Yam is an important crop in Ghana and is produced throughout most of the country, as is illustrated by the production map available in Annex I. In fact, Ghana is the third largest producer of yams in the world, behind Nigeria and Cote d'Ivoire. Ghana produced approximately 4 million metric tons of yam in 2005, compared to approximately 34 million metric tons produced in Nigeria and 5 million metric tons produced in Cote d'Ivoire. Following Ghana is Benin, with a production of about 2.1 million metric tons, and Colombia, Brazil, and Japan with smaller quantities of production at around 200,000 metric tons in 2005.



Yam is an extremely vital crop, not only to the domestic market but also to the export market. Domestically, it is not only a main source of income, but it is a staple crop vital to food security. Internationally, customers desire the sweeter taste of the well known "Ghana yam". Nevertheless, the lack of planting materials is a major constraint in yam production. Seeds are needed to create a more efficient and affordable growing process that can yield better quality yams.

In Ghana, a variety of yams are grown, but the white yams, especially the Pona (sometimes Puna) variety, are preferred by both the domestic and export market. Pona is so desirable that it is often difficult to find enough Pona tubers, especially during June and August, when it is off season. Other popular varieties include Dente, Asana and Serwaa. The growing cycle for yams ranges from six to eight months depending on the variety, with planting occurring between February and April, and harvesting occurring in October.

Yams are grown by small scale farmers using traditional methods for seed generation. This involves "milking" or harvesting the yam tubers (also known as ware yams) early and using the seed yams that result from this process for planting. However, this results in a poorer quality, and sometimes diseased, tubers. Other methods for growing yams include using the yam head or other parts of the yam that can sprout to produce seeds. The challenge with these techniques is that they do not result in a large number of yams, and often times, the quality of seeds produced can be poor.

Yams can be planted using the traditional method of using mounds, or the newer method, using ridges.



Yams grown in mounds



Yams grown in ridges

With mounds, yams are in rows that are approximately three feet apart, with about 3,500-4,000 mounds per acre, and can result in about 3,000 tuber or ware yams.



Smaller/slimmer yam preferred by export market

Farmers are now adopting the ridging technology instead of using mounds. The ridging method is preferred because it yields more yams. The ridging technology maximizes the use of the land, and plants can be planted more closely together (50 cm/1.5 feet apart). With ridges, a farmer can yield about 6,000 yams per acre, whereas the mounding would have yielded only 3,000 per acre. Ridging not only results in more yams, but it also generates the smaller/slimmer yams, according to one farmer based organization, which are preferred by the export market. The Millennium Development Authority (MiDA) is training farmers on working with this new technology.

Ideal conditions for yam production include annual rainfall of approximately 1,000 mm spread over five to six months, as well as fertile, well-drained soil. While yams can be cultivated in most regions in Ghana, most yams are in the middle part of the country. The Millennium Development Authority (MiDA) has trained farmers in parts of these areas, which MiDA has identified as the Afram Basin Zone. The Afram Basin Zone includes districts from the Eastern region and the Ashanti region.

MiDA Zone	Region	District	2008 Production Yields (Metric tons)
Afram Basin	Eastern	Afram Plains	504,400
Afram Basin	Ashanti	Ejura Sekyedumasi	142,102
Afram Basin	Ashanti	Sekyere West	83,692
Afram Basin	Ashanti	Sekyere East	37,344
Afram Basin	Eastern	Fanteakwa	20,373
Afram Basin	Eastern	Kwahu South	16,100
Total			787,911
Total of all yam producing regions			4,894,848

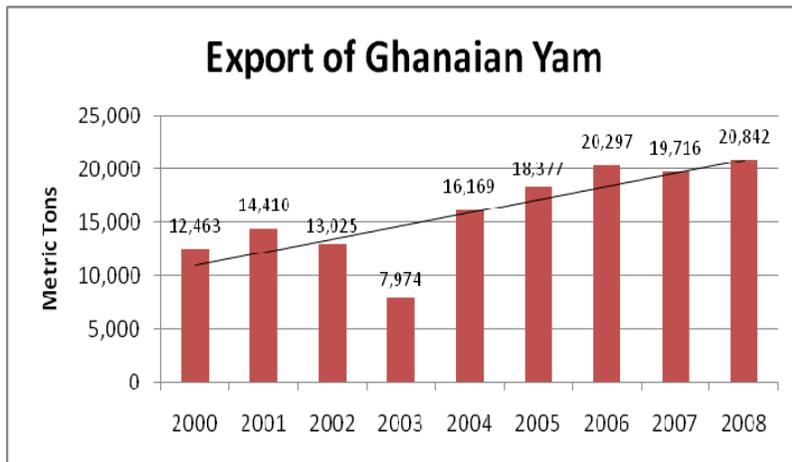
Source: Ghana Ministry of Food & Agriculture 2008 Crop Production Data

Yam production could be improved if farmers had access to readily available and affordable seed yams. There are currently not enough affordable seed yams in the market to adequately and efficiently meet the demand for yams. Additionally, having good quality seed yams can lead to fewer diseased yams.

# MARKET DYNAMICS

## Global Demand for Ghanaian Yam

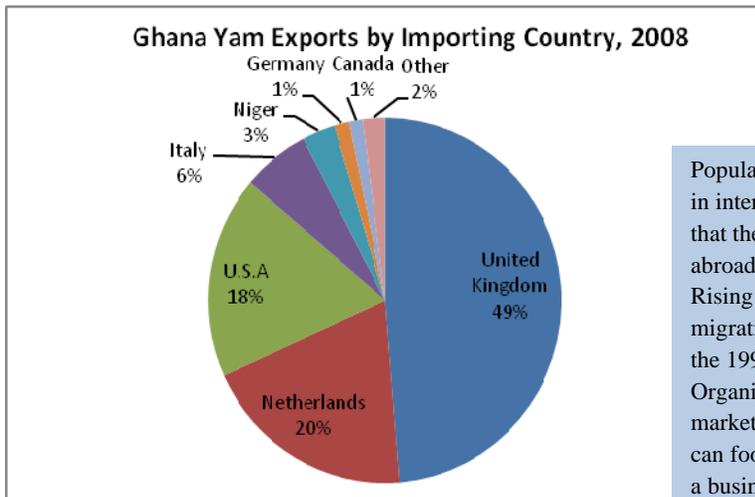
Ghana is the world's largest exporter of yams. Ghana is currently exports approximately 21,000 metric tons of yam annually, a number that has been increasing over the last decade. The compound annual growth rate of yam exports between 2000 and 2008 is 6.6%.



GHANA TOTAL YAM			
Year	Metric Tons	Value USD	Value GHC
2000	12,463	7,171,764	10,040,470
2001	14,410	7,785,770	10,900,078
2002	13,025	8,247,906	11,547,068
2003	7,974	4,442,386	6,219,340
2004	16,169	8,339,850	11,675,790
2005	18,377	10,951,354	15,331,896
2006	20,297	14,156,905	19,819,667
2007	19,716	14,551,433	20,372,006
2008	20,842	14,888,801	20,844,321

Source: Ghana Export Promotion Council, 2009

The United Kingdom imports nearly half of Ghana's yam exports. Europe represents the largest foreign market for Ghanaian yam, with the Netherlands, Italy and Germany also importing significant quantities. The United States is currently importing 18% of exports. Of African countries, Niger imports the largest quantity of yam from Ghana. Not included in official export numbers are the large quantities of yam that are transported and sold in nearby countries, including Burkina Faso and Mali that consume but do not produce yam.

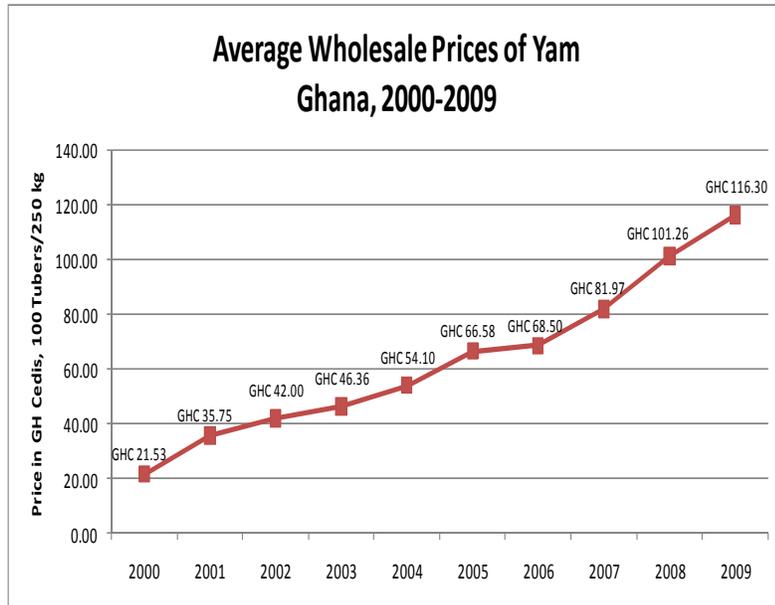


Source: Ghana Export Promotion Council, 2009

Population growth trends and an increase in international labor migration suggest that the number of West Africans living abroad in the coming years will increase. Rising numbers of Ghanaians have been migrating to the U.S. and Europe since the 1990s, according to the International Organization for Migration. The growing market abroad for traditional West African food products such as yam represents a business opportunity and outlet for increased production.

## Market Price of Ghanaian Yam

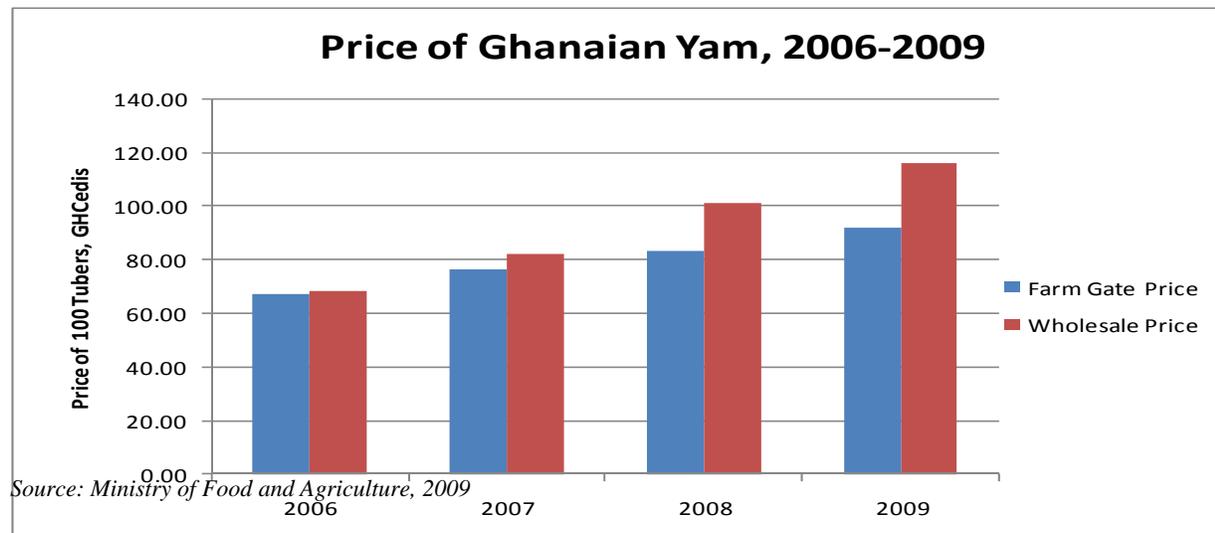
The wholesale price of Ghanaian yam has also been increasing as export quantities increase. Prices have increased every year between 2000 - when the average monthly price was 21.53 Ghana cedis (\$15.20) for 100 tubers (about 250 kilograms) - and 2009, when the average price was 116.30 Ghana cedis (\$83.07) for 100 tubers. Yam prices are highest in June and July when the most preferred variety of yam, the Pona, is out of season and in low supply. Farmers are able to get a higher price for other varieties such as Water Yam in June and July relative to other points in the year. Demand is particularly high for quality yam during the summer months when production is low and exports can command a higher market price.



**Yams Prepared for Export**

Source: Ministry of Food and Agriculture, 2009

Both the farm gate and wholesale prices of Ghanaian yam have been steadily increasing in recent years, with wholesale prices increasing at a higher rate. As consumers' willingness to pay a higher price for yam increases, farmers will increase their production. Local farmers and exporters indicate a strong willingness to purchase Seed Yam if it were more readily available. Access to seed yam would expedite cultivation of yam tubers to meet rising demand.



Source: Ministry of Food and Agriculture, 2009

# SEED YAM PRODUCTION

Producing seed yams commercially can fill an important gap and create a niche market in the yam value chain. As noted above, there is an increasing demand for “Ghana yams”, particularly the White Pona variety; however, the lack of seed yams limits production capacity. For seed yams that are available, the cost proves to be prohibitive for most farmers. Most consumers, locally and internationally, prefer the taste of the Pona yam. Pona seeds, in particular, can be difficult to find since the Pona tuber has a smaller budding or sprouting area on the tuber itself that can generate seeds.

In Ghana, of all tuber crops, yam is the most preferred and the second most widely cultivated, behind cassava. Yams are highly desired by consumers in the European markets and American markets, especially in communities with large numbers of West Africans and Caribbeans. The largest number of yams is exported to England. Neighboring countries such as Nigeria, Togo and Benin that produce yam also represent a potential market for seed yam. Like Ghana, these countries do not produce seed yam on a commercial scale and could benefit from increased access to seed yam and increased production of yam for export and domestic consumption.

Despite the potential for expansion of yam cultivation, the limited supply and high cost of seed yams is a major constraint. Though the need is there, the availability is limited. Some farmers use a traditional process to generate seed yams to circumvent the high costs. They harvest a tuber very early in order to use it quickly to generate a seed yam. This results in a physiologically immature yam. According to one yam farmer at a locally based farmer based organization, “Demand for seed yam has gone up at least 50-60%. People need seed yams more than anything.” Investors will have the opportunity to capitalize on new technologies and increase the scale of production of seed yams. Techniques has the minisett technique have been developed and introduced to farmers but have not yet been adopted by commercial seed growers. Minisett is based on a simple technology whereby one tuber is used to produce multiple seed yams that lead to the cultivation of healthy tubers. In this technique, one yam tuber can be cut into approximately 40 pieces, setts, of about 50-100 grams each. The setts are dipped into fungicide and nematicide which kills any infections already present before planting and prevents disease from appearing once planted. The yam setts then produce disease free seeds which are ready for harvesting about five months after planting and used for field planting between February and April the following year.



Seed yam cluster being divided

The seeds can then be sold to farmers to produce tubers or ware yams. In addition to the miniset technology, the technique of using yam vines to produce seed yams currently being developed by research institutions, can lead to higher yields of seed yams and higher quality tubers as compared to traditional methods. Many farmers would be inclined to buy seed yams, rather than plant them themselves, since planting one's own seed yams to produce ware yams is time consuming. The entire process could take almost two years since the farmer would first have to plant the setts to generate the seeds, a process that takes five months. In the next year, during the new season, the farmer could then use the seed to generate the ware yam or tuber, a process that can take about eight months. If affordable seeds were readily available, a farmer could buy them and save him/herself at least five months in the planting cycle.

Since there are currently no commercial seed yam suppliers, an investor can benefit from all the benefits of being a first mover in the market. The commercial seed yam grower can benefit from access to farmers who are highly skilled in the newest technologies as well as access to institutions, such as the Crop Research Institutes, which can supervise farmers and ensure that seeds are produced to the appropriate standards. The investor would benefit from the lack of competition and would be able to build a strong brand.



Cutting seed cluster



Yam Farmer Based Organization in Mampong

# INVESTMENT CLIMATE

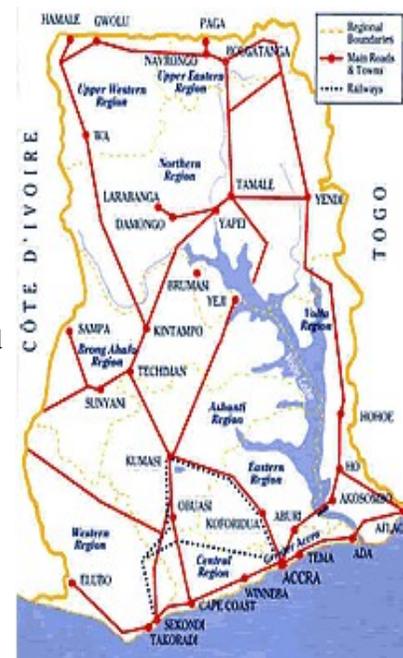
## Ghana's Economy

- \* Ghana is the 2<sup>nd</sup> largest economy in West Africa. GDP was \$16.1 billion in 2008 and has been growing at an average annual rate of 5.4 percent from 2000 to 2007.
- \* The population of Ghana is 23.4 million and has been growing by 2.5 percent per year.
- \* Agriculture contributes 54 percent of GDP, accounts for over 40 percent of exports, and provides over 90 percent of the food needs of the country.
- \* The inflation rate has been relatively stable, between 10 and 15 percent per year, for the past 5 years, except for 2008, where it was 16.5 percent, due to the global food price inflation triggered by rise of crude oil price. It fell back to 14.5 percent in 2009, and is projected at 9.2 percent in 2010.
- \* The exchange rate of the Ghanaian cedi (GH¢) has been stabilized over the past 15 years by strong management of the Central Bank of Ghana.



## Ghana for Doing Business in Agriculture

- Ghana is ranked #1 in West Africa in “Ease of Doing Business” according to the International Finance Corporation’s *Doing Business 2010 Report*.
- \* Ghana offers a low cost labor supply. The official minimum wage is 3.11 GH¢ per day, although farms typically pay in the range of 3-5 GH¢ per day for agricultural laborers (\$2.22-\$3.57).
- \* Ghana has good port facilities with two commercial ports in Tema and Takoradi and an international airport in Accra, connecting Ghana to Europe and the rest of Africa. The road system in Ghana connects major regional centers to the ports and airports.
- \* Ghana has a stable representative democratic government, and has had fair elections since 1992.
- \* The Government of Ghana is committed to increasing private sector development and agricultural capacity to realize its vision of Ghana as a prosperous middle-income country by the year 2020. The Food and Agriculture Sector Development Policy (FASDEP II) includes plans to modernize the agriculture sector through strengthening value chains, enhancing productivity, improving quality standards, and promoting public-private partnerships. Yam is one of 5 priority crops identified by the Ministry of Food and Agriculture.
- \* The Export Development and Investment Fund (EDIF) Yam Initiative can provide financial support to facilitate the growth of commercial seed yam operations.



Foreign investors can have 100 percent ownership in local companies and joint Start-Ups. The minimum investment requirement is \$10,000 for a joint venture, in partnership with a Ghanaian, and \$50,000 for a wholly foreign-owned venture. Investors can also lease land for up to 50 years and have the option to renew. Other incentives include:

- \* Exemption from customs import duties on plant and machinery, equipment and accessories imported exclusively and especially for establishing enterprises
- \* Depreciation or capital allowance of 50 percent in the year of investment and 25 percent in subsequent years for plant and machinery respectively
- \* Full repatriation of earnings in the currency of investment
- \* Multilateral Investment Guarantee Agency (MIGA) membership – Ghana’s signature of the World Bank’s MIGA convention guarantees coverage against non-commercial risks
- \* Additional incentives for agro-processing activities, including a 5-year tax holiday from start of operation and, after 5 years, corporate tax incentive rates fixed according to location
- \* Location incentives – After the initial 5-year tax holiday period, agro-processing enterprises that use local agricultural raw materials as their main inputs will have corporate tax rates based on location: Accra-Tema – 20 percent, Other Regional Capitals – 10 percent, Outside Regional Capitals – 0 percent, Throughout Northern, Upper East, Upper West Regions – 0 percent
- \* Free Zone Act of 1995: Enterprises that export 70 percent of what they produce may be eligible for:
  - \* 10-year tax holiday followed by maximum 8 percent corporate tax rate
  - \* Tax exemption from withholding taxes on dividends
  - \* Guarantee of unconditional transfer through any authorized dealer bank of dividends, net profits, payments of loans and other payments
  - \* Guarantee to be free from nationalization or expropriation by the Ghanaian government
- \* Increased Commitment to FDI

Year	FDI Attracted into Key Sectors of the Economy									
	2008**		2007		2006		2005		2004	
	No. of Projects	Est. Cost of Projects (US\$)	No. of Projects	Est. Cost of Projects (US\$)	No. of Projects	Est. Cost of Projects (US\$)	No. of Projects	Est. Cost of Projects (US\$)	No. of Projects	Est. Cost of Projects (US\$)
Sector										
Agriculture	17	57,495,360	15	36,390,309	6	6,451,378	9	4,278,018	9	5,759,297
Building &	26	2,097,913,425	32	38,302,647	20	67,311,769	20	90,232,306	12	15,292,207
Export Trading	19	6,177,535	12	2,052,615	13	9,300,193	8	3,526,260	6	376,067
General	74	836,266,621	67	61,039,048	49	35,936,868	44	34,556,239	33	17,547,349
Liaison	10	9,524,085	10	361,200	18	-	9	-	18	-
Manufacturing	50	238,027,314	88	4,826,921,284	63	2,172,783,333	79	37,407,379	52	28,254,916
Services	86	295,088,725	52	54,763,876	68	61,068,029	44	39,715,742	49	97,848,303
Tourism	27	13,475,457	32	9,180,056	19	15,014,910	16	4,022,743	23	40,812,575
<b>Total</b>	<b>309</b>	<b>3,553,968,522</b>	<b>308</b>	<b>5,029,011,035</b>	<b>256</b>	<b>2,367,866,480</b>	<b>229</b>	<b>213,738,687</b>	<b>202</b>	<b>205,890,714</b>

\*\*This excludes the total estimated value of Vodafone International Holding B.V.'s project.

Source: Ghana Investment Promotion Center's Ghana 100 Magazine



# ANNEXES

ANNEX I: YAM PRODUCTION MAP

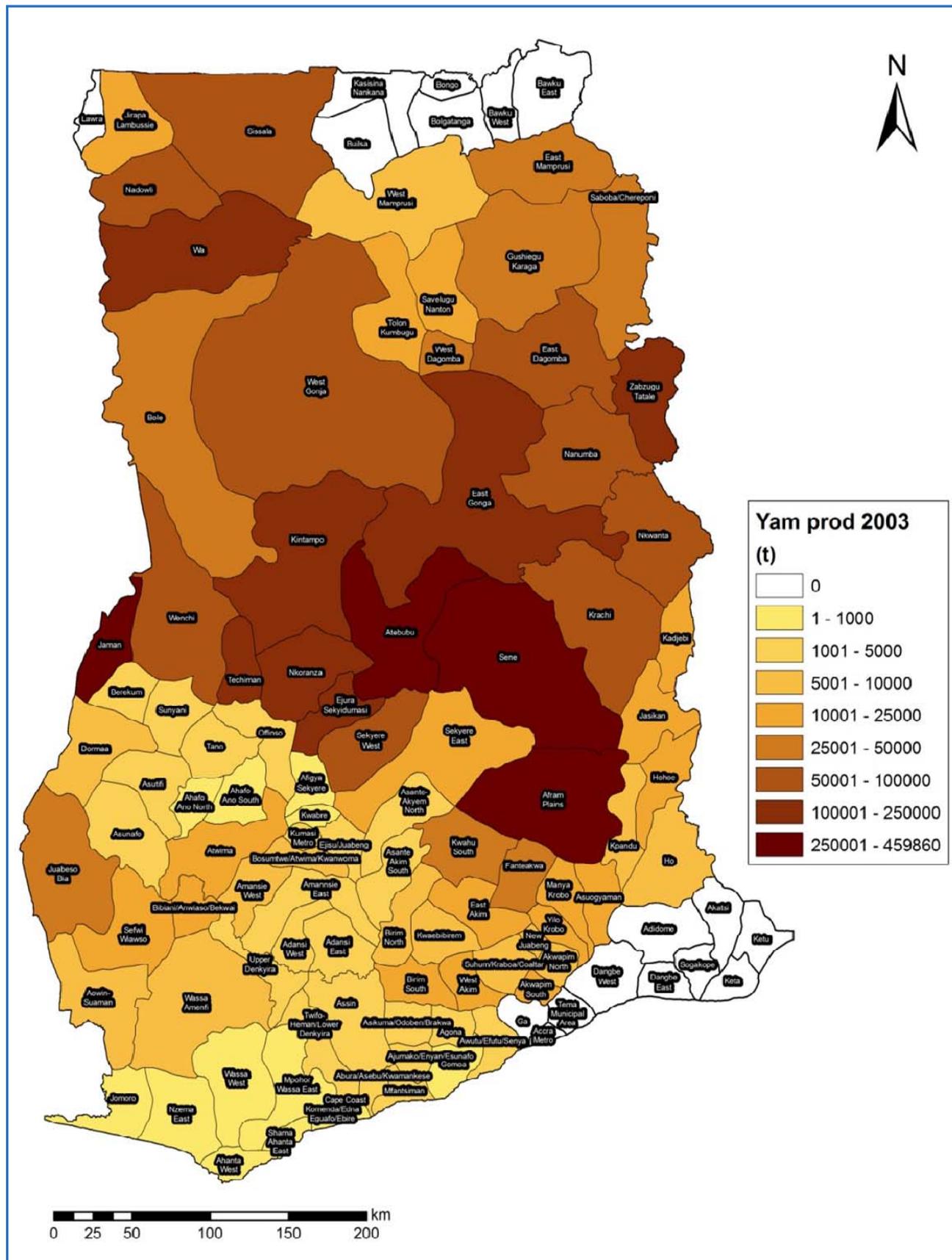
ANNEX II: COST STRUCTURE

ANNEX III: YAM VALUE CHAIN MAP

ANNEX IV: LAND ACQUISITION

ANNEX V: RESOURCES AND CONTACTS

# ANNEX I: YAM PRODUCTION IN GHANA, 2003



## ANNEX II: COST STRUCTURE

It is anticipated that a commercial seed yam grower could generate a profit of 65 percent based on the assumption that 3,000 yam tubers can be produced on one acre of land, and one seed generates one tuber. It is further assumed that one sett (cutting) generates six seeds. Under these assumptions, for a one acre plot of land, 500 setts would be needed to create 3,000 seeds, which in turn, would produce 3,000 tubers. If the commercial seed yam grower sells each seed for 0.50 Ghana cedis, based on current selling prices in Ejura, and assuming the cost of each sett used is 0.33 Ghana cedis, a profit of 65 percent can be achieved after land and planting costs are deducted. Since a commercial seed yam seller would have to get his or her own “root” stock from his or her own production to ensure that seeds are disease-free, the cost of the sett to produce the seed is assumed to be the cost of seeds on the open market. The 0.33 Ghana cedis per sett is the cost of seed yam that sellers incur in Ejura.

*\*Per oanda.com, exchange rate at 3/31/10, 1Ghana cedi=0.69602 US \$*

Estimated Revenue				
	Quantity	Price	Revenue Ghana cedis	Revenue US \$
# of Seeds	3,000	0.5	1,500	\$ 1,044.03

Estimated Cost for 1 acre				
	Quantity (setts or acre)	Per Unit Cost	Cost Ghana cedis	Revenue US \$
Setts	500	0.33	165	\$ 114.84
Cost of leasing land	1	50	50	\$ 34.80
Land Clearing (new land)	1	30	30	\$ 20.88
Land preparation	1	120	120	\$ 83.52
Planting	1	36	36	\$ 25.06
Staking	1	12	12	\$ 8.35
Weeding	1		0	\$ -
- 1st	1	21	21	\$ 14.62
- 2nd	1	21	21	\$ 14.62
Harvesting	1	70	70	\$ 48.72
Total Costs for 1 acre			525	\$ 365.41
<b>Total Profit for 1 acre</b>			<b>975</b>	<b>\$ 678.62</b>
<b>Profit Margin for 1 acre</b>			<b>0.65</b>	<b>0.65</b>

It should be noted that in the scenario illustrated above, costs for any specialized machinery for cutting the setts, related depreciation, or costs for specialized labor are not included. Furthermore, costs for storage, which are not expected to be high but require good management, are not included. Thus, the resulting profit margin is anticipated to be lower than illustrated above. Based on interviews with small scale farmers (who do not use specialized labor or machinery), the profit margin for a seed yam grower is 50 percent.

Costs have been retrieved from the relevant ministries and do not reflect the government’s incentive programs and tax reductions of which the investor could take advantage.

Financing options would be based on an individual assessment of the investor's own credit risk. In Ghana, the average lending rate for agricultural projects is 25 percent. However, the Export Development and Investment Fund (EDIF) has a credit facility that can provide loans of 1.5 percent available to investors in the export sector and those working in collaboration with local majority-ownership partners.

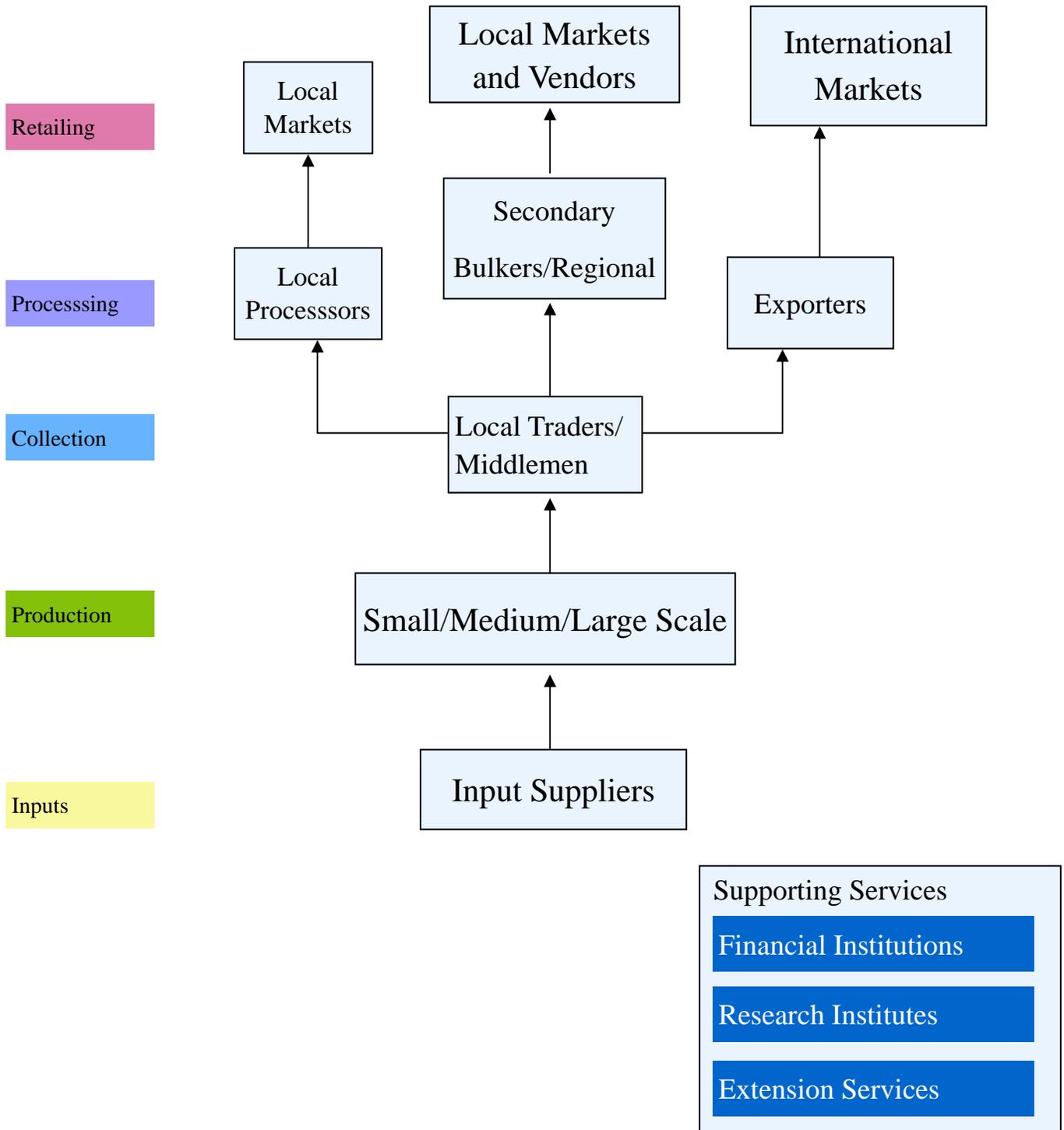
A selling price of 0.50 Ghana cedis may prove very expensive for a farmer. Assuming that a farmer sells each tuber for 0.92 Ghana cedis (farm gate price per 2009 MOFA data), he or she will have a profit margin of 14 percent. MiDA and other programs are working to increase farmers' access to credit. In addition, major players in the export market have agreed to document their commitment to purchase greater quantities of yam from farmers if they can increase their production and meet quality standards.

The following illustrates the revenue and costs for a commercial seed yam producer utilizing 200 acres:

<b>Profit to Farmers (to farm 1-acre; assumption that 1 seed will result in 1 tuber)</b>				
	Quantity Tubers	Per Unit Revenue	Revenue Ghana cedis	Revenue US \$
	3,000	0.9213	2,764	\$ 1,923.73
	Quantity Seeds	Per Unit Cost	Cost Ghana cedis	Cost US \$
	3,000	0.5	1500	\$ 1,044.03
	Other Planting Costs incurred by farmer		885	\$ 615.98
	<b>Total Cost to Farmer</b>		<b>2385</b>	<b>\$ 1,660.01</b>
<b>Profit to Farmer</b>			<b>379</b>	<b>\$ 263.72</b>
<b>Profit Margin to Farmer</b>			<b>0.14</b>	<b>0.14</b>

<b>Estimated Revenue for 200 acres (Assuming 200 acre produces 600,000 yams and it takes 1 seed to generate one yam; each sett creates 6 seeds, so 100,000 setts )</b>				
	# of Seeds	Price	Revenue Ghana cedis	Revenue US \$
	600,000	0.5	300,000	\$ 208,806.00
<b>Estimated Cost for 200 acres</b>				
	Quantity	Per Unit Cost	Cost Ghana cedis	Revenue US \$
Setts	100,000	0.33	33000	\$ 22,968.66
Cost of leasing land	200	50	10000	\$ 6,960.20
Land Clearing (new land)	200	30	6000	\$ 4,176.12
Land preparation: mound	200	120	24000	\$ 16,704.48
Planting	200	36	7200	\$ 5,011.34
Staking	200	12	2400	\$ 1,670.45
Weeding	200		0	\$ -
-1st	200	21	4200	\$ 2,923.28
-2nd	200	21	4200	\$ 2,923.28
Harvesting	200	70	14000	\$ 9,744.28
			105,000	\$ 73,082.10
<b>Total Profit for 200 acre</b>			<b>195,000</b>	<b>\$ 135,723.90</b>
<b>Profit Margin for 200 acre</b>			<b>0.65</b>	<b>0.65</b>

# ANNEX III: YAM VALUE CHAIN MAP



## **Inputs**

The key inputs for the production of yam are seed yam, land, labor, equipment for preparing the land, staking materials, and agrochemicals. Currently, most yam producers obtain inputs from local markets, but are constrained by high costs of materials, particularly seed yam, and difficulty in accessing credit. Most farmers use traditional methods of generating planting materials, which results in lower quality yams. The minisett technique is used on a small scale and often farmers will keep the seeds that they have produced rather than sell to others, therefore creating a market opportunity for a commercial seed yam supplier.

## **Production**

The majority of yam producers in Ghana are smallholder farmers. Steps of the production phase include clearing the land, preparing mounds or ridges, planting, weeding, staking and harvesting. Much of this is done by hired labor. The lack of affordable planting material has been the major bottleneck to increased production.

## **Collection and Transport**

The majority of yam produced is sold on the local market. Traders and middle men transport yams from the farms to the market. For the export market, there is an opportunity to improve the direct linkages between producers and exporters. Crop spoilage and loss is a problem that can be addressed by improved storage facilities.

## **Processing**

Processing of yam takes place on a small scale in Ghana. There is an opportunity to expand processing facilities and increase the production of fresh yam into other value-added products, such as yam flour, frozen or dry yam chips, or beverage products.

## **Retailing**

Yam is heavily consumed by Ghanaians, who purchase fresh yams at local markets. For external markets, exporters purchase yams from farmers and transport, normally by ship, to end markets including the United States, the United Kingdom, and the Netherlands. Yam is typically brought to warehouses and purchased by wholesalers as well as individual consumers. The majority is sold in ethnic markets. The export market has become the target for increased production.

## **Financing**

Rural banks can supply farmers with credit for the costs of inputs and production, but are often reluctant to do so because farmers have limited collateral. Major players in the export market have agreed to document their commitment to purchase greater quantities of yam from farmers if they can increase their production and meet quality standards. The Export Development and Investment Fund (EDIF) is also a source of funding for input suppliers and producers of export goods.

## **Research and Development**

The Root and Tuber Improvement and Marketing Program (RTIMP), funded by IFAD (the International Fund for Agricultural Development) and the Crops Research Institute (CRI) are among the prominent groups conducting research on the production of yam and seed yam. These organizations support value chain activities by disseminating their technical know-how.

## **Extension Services**

Extension services that facilitate value-chain activities include technical support from ADRA, MiDA, RTIMP, CRI, and EDIF. See Resources and Contacts (page 17) for more about how these organizations can facilitate business opportunities.

# ANNEX IV: LAND ACQUISITION IN GHANA

## Fertile Land and Water Resources

Ghana's vast tracts of fertile and inexpensive land with excellent water resources are attractive to investors interested in acquiring land for commercial seed yam production. Given that only 16% of Ghana's arable land is currently under agricultural production, there is significant supply of land resources available for foreign investors interested in establishing commercial farm operations.



However, the process for acquiring land can be relatively cumbersome, time-consuming and complex for outside investors to navigate. Foreigners are permitted to lease land for up to 50 years under a registered leasehold title. Sample annual rates for leasing an acre of agricultural land range from 10-50 GH¢ (\$7.15-\$35.70) per year.

## Types of Land

In Ghana, the Constitution identifies three types of land:

- *Public lands* controlled by the state government
- *Stool or skin lands* controlled by traditional authorities (chieftaincies) on behalf of communities
- *Family or private lands* controlled by individuals or family clans

Foreigners may be able to acquire leasehold interests in public land directly from the government for very large tracts of land, but public lands represent only 20 percent of land in the country. Family or

## *The Importance of Local Customs*

The negotiation process to lease land from traditional authorities can differ from area to area, and in some cases can involve more than one chieftaincy. It is not uncommon for a representative to act on behalf of the traditional authority, at least in the initial stages. Following customs and respecting traditional authorities early in the process can reduce the possibility of misunderstandings or disputes over land rights as negotiations proceed.

There are often traditional ceremonial protocols to be followed with which foreign investors are unfamiliar; for example, in many areas, a business person is expected to bring schnapps to the chief before any request to negotiate for land. It is recommended that investors work through a trusted local partner, implementing partners and local contacts, to assist in the process to ensure that customs are followed. An investor who is unfamiliar with these informal, yet very important, processes risks damaging the opportunity to work with a potentially beneficial partner for the simple lack of knowledge regarding local customs.

# MiDA SUPPORT

The highlighted MiDA intervention zones represent areas within Ghana where investors can access communities with attractive land and water resources and where MiDA and its partners can provide information on land available for seed yam operations. MiDA and its partners have established relationships with the traditional authorities in these areas, as well as the relevant authorities from government entities involved in land transactions. This enables MiDA and its partners to provide information and facilitate meetings for investors during the negotiation process. Investors can look to MiDA as a trusted partner available to help navigate the unfamiliar process of land negotiation in Ghana.

MiDA and its partners will train up to 60,000 farmers in value chain approaches to agricultural production and assist in the growth and development of farmer-based organizations (FBOs) in these zones. Farmers participate in six weeks of classroom training on business aspects of farming, FBO organizational development, and crop planting decisions based on market dynamics. Farmers also receive three weeks of field training on a specific crop, assisted with a starter kit of inputs for the chosen crop. The FBOs develop an understanding of the benefits that a commercial operation can bring to their communities. In many cases, the FBOs act as economic development agents for their areas. These FBO-trained communities are particularly attractive from the perspective of an outside investor interested in a mutually-beneficial relationship with a local community in which to locate operations.

## Key Points in Negotiations

Investors should initially focus on ensuring that the land in which they are interested will not be contested by neighboring families or chieftaincies. Investors or their representatives cannot be seen on the property until after they have met with the appropriate traditional authorities and the regional council to obtain their blessing and approval to proceed with exploration of the land and due diligence measures. Because most land available to investors is fallow, specific boundary lines are not always well established, thus care must be taken to identify any and all claims at the outset. Investors will also be interested in securing transferable rights and negotiating leases that are sufficiently long-term to justify the investment necessary to establish commercial operations. Equally as important as the terms that the investor is seeking are the terms that the investor is willing to offer to the community. The traditional authorities act as stewards of the land on behalf of the community. As a result, the negotiation process must involve all stakeholders, including the chiefs, elders, and members of the community. This helps to ensure that a lease agreement is not challenged in the future for failure to adequately compensate the community for the use of its resource.

Typically, communities are most interested in a combination of benefits from a commercial operation. In addition to direct employment opportunities, farmers desire access to better technologies and techniques brought by a commercial farm. Farmers also value access to machinery for hire, post-harvesting services, and market linkages from the improvement of transportation services or the direct purchase of product by the commercial operator. Any investor interested in securing a long-term lease should be willing to enter into a mutually-beneficial, long-term arrangement with the local community in order to ensure the best possible opportunity for success.

# ANNEX V: RESOURCES AND CONTACTS

## **Millennium Development Authority (MiDA)**

Matthew Armah  
Chief Operating Officer  
4<sup>th</sup> Floor, Heritage Tower, 6<sup>th</sup> Avenue, Ridge  
P.M.B. M.B 56, Ministries, Accra  
Tel.: +233 21 666 619  
Email: marmah@mida.gov.gh  
www.mida.gov.gh

MiDA is tasked with facilitating investment in this business opportunity for interested domestic and foreign investors. MiDA can help investors access farmer organizations, service providers, government agencies, and other organizations as needed. It can also provide more information about its current agriculture, transportation, and rural development projects that will complement the establishment of new businesses in the yam sector.

## **Adventist Development and Relief Agency (ADRA)**

Samuel Asante-Mensah  
Project Manager, MiDA Agriculture Project  
21 Osu Avenue, Ringway Estate  
P.O. Box GP1435, Accra  
Tel: +233 21 220 779  
Email: asante\_mensah@yahoo.com  
www.adraghana.org

ADRA is the Regional Implementation Consultant for the MiDA Agriculture Project in the Afram Basin, where yam production is high. ADRA can provide interested investors with direct contact to yam farmer based organizations as potential clients of the commercial seed yam investor as well as to exporters of yam. In partnership with MiDA, ADRA is an important source of local knowledge.

## **Ministry of Food and Agriculture (MoFA)**

Richard Twumasi-Ankrah  
Directorate of Crop Services  
P. O. Box M 37  
Tel: +233 21 665 066  
Email: cropserv@ighmail.com  
www.mofa.gov.gh

The Directorate of Crop Services is responsible for ensuring that adequate planting materials are available for production. MoFA can provide instruction on integrating the business investment with government initiatives and can work with the investor to ensure that projects in line with national agricultural strategy are supported. MoFA is also a source of data on all agricultural products produced in Ghana.

## **Ghana Investment Promotion Center**

George Aboagye  
Chief Executive Officer  
P. O. Box M193, Accra  
Tel: +233 21 665 125-9/664276  
Email: gaboagye@gipcghana.com;  
info@gipcghana.com  
www.gipcghana.com

GIPC's mandate is to coordinate and monitor all investment activities in Ghana. GIPC will assign an officer to help an investor with the procedures involved in land access, incorporating a new business, and other steps of the decision-making process. GIPC can provide detailed information about all investment incentives that Ghana offers.

**Export Development and Investment Fund (EDIF)**

Frank Obeng  
Assistant Director, Export Development and Promotion  
P.O. Box MB 493, Accra  
Tel.: +233-21-671-583-4  
Email: fkobeng@yahoo.com  
www.edifghana.org

EDIF can facilitate the development of a seed yam industry by providing financial support to commercial seed yam growers. EDIF provides concessionary resources to farmers and can support investors through a credit facility. The organization has identified yam as a target product for export promotion and has designed a Yam Production Initiative to support the development of the sector.

**Ghana Export Promotion Council (GEPC)**

Republic House, Tudu Road  
P.P. Box M146. Accra  
Tel: +233 21 683 153 / 689 889  
Email: info@gepcghana.com

The GEPC provides technical advisory services to facilitate product and market development. Market access missions are a core part of organization's activities which can help an investor gain information and penetrate new markets. GEPC also maintains data on the export of Ghana's agricultural products and can disseminate selective trade information.

**Crops Research Institute (CRI)**

Emmanuel Otoo  
Yam Breeder/Head of Yam Program  
P.O. Box 3785  
Kumasi  
Tel: +233 (0) 51 60 389  
Email: otooemmanuel@gmail.com

The CRI is a leading research institute in Ghana, with staff devoted exclusively to yam and seed yam production. CRI can provide technical support for commercial seed yam growers based on up-to-date research. CRI has been involved in the development of the minisett technique and continues to develop improved crop varieties and production technologies.

**Root and Tuber Improvement and Marketing Program (RTIMP)**

Akwasi Adjei Adjekum  
National Program Coordinator  
P.O. Box KS 7728  
Kumasi  
Tel: +233 (0) 51 33 159  
Email: rtip@africaonline.com.gh

RTIMP is working in the Ashanti Region on the improvement of production methods for yam and other tubers. RTIMP can support investors by linking them to farmers and organizing the outgrower scheme, providing technical trainings to farmers, providing seed inspectors to ensure the high quality of seed yam produced, liaising with the Ministry of Food and Agriculture, and providing general consulting.



# MAP OF GHANA

## WITH MIDA INTERVENTION ZONES

Northern Agricultural Zone

Savelugu Nanton
Tolon Kumbungu
Tamale
West Mamprusi
Karaga

Afram Basin Zone

Kwahu North
Kwahu South
Kwahu East
Fanteakwa
Akuapem South Municipal
Yilo Krobo
Upper Manya Krobo
Lower Manya Krobo
Sekyere East
Sekyere Afram Plains
Mampong Municipal
Sekyere Central
Ejura-Sekyedumasi

Southern Horticultural Belt

Gomoa East
Gomoa West
Efutu Municipal
Awutu-Senya
Dangme West
Kpandu
Hohoe Municipal
Ketu South
Ketu North
Keta Municipal
South Tongu
Akatsi

