

General overview of agriculture in ghana economics essay

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BRIEF
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Introduction

The non-traditional export sector though suffered during the economic downturn in 2009, it has had an average performance since. Earnings from the subs-sector fell by 9 percent from US\$1, 340. 9 million in the year 2008 to US\$1, 216. 6 million in 2009. Processed and semi-processed goods make up the bulk of non-traditional exports followed by agricultural products. The share of non-traditional agricultural exports in total non-traditional exports improved from 18. 6percent in 2000 to 23. 5percent in 2003 but declined thereafter to 10. 1percent in 2010 (ISSER, 2010). Despite numerous challenges the sector faces, some products in the horticulture sub-sector have performed better than others and this is believed to be due to the role of policies, institutions and markets. The objective of this paper is to find out the reasons behind the success of the horticultural (pepper, pawpaw, yam, mango, pineapple and others) sub-sector in terms of crop yields and crop incomes using a household survey organized by ISSER and MiDA as well as annual data collected by Ghana Export Promotion Council (GEPC). The key questions are: Has access to information through training impacted on the crop yields and income of farmers? Do other factors like credit and farm inputs play a role in this performance?

General overview of Agriculture in Ghana

Performance Ghana's agricultural sector has been very important as well as faced with a lot of drawbacks since the 1960s. Beginning with the fall in prices of commodities in the late 1960s, farmers had little incentives to undertake production which was coupled with a general deterioration of the necessary infrastructure and services. Farmers also had to deal with increasingly costly inputs, such as fertilizer, primarily because of overvaluation of the cedi. Food production fell as well, bringing down the food self-sufficiency ratio from 83 percent (1961-66) to 71 percent (1978-80), coupled with a fourfold rise in food imports in the decade before 1982. When drought hit the country in 1983, food shortages became widespread, and export crop production got to an all-time low (Clark, 1994). Since phase one of the Economic Recovery Program (ERP) in 1984, agriculture was recognized as the economic sector that could liberate Ghana from financial ruin. Since that time, accordingly, the government has invested considerable amount of funds in the rehabilitation of agriculture. Basically, loans and grants has been used to repair and improve the transportation and distribution infrastructure; improve extension services for farmers; improve crop-disease research; support government's switch to depending more on the private sector for desired services and to lessen the role of the public sector; and the establishment of farmer associations to reduce government's role in marketing and assistance to farmers in several ways. However, except for specific development programs, government has tried to permit the free market to encourage higher producer prices and to boost efficiency (Clark, 1994). In 1999, agriculture accounted for over than 40 percent of GDP

(Figure 1) and employed three-fifths of the workforce after hitting rock bottom level in 1983. A decade later (2009), it has declined to 31.8 percent of GDP. Despite the continued importance, sectoral growth has been behind other sectors of the economy. Between 1980 and 1990, it grew at just 1.0 percent per year, and 2.7 percent between 1990 and 1997. The growth of agriculture in 2009 increased to 7.6 percent but declined to 5.3 percent in 2010 and as low as 0.8 percent in 2011. Agriculture in Ghana has been subsistence in nature, unpredictable, and for time immemorial being reliant on rainwater. The long term improvement in the performance of agriculture could be attributed more to public policy changes even though most of the year-to-year trends are well explained by weather patterns. With reforms which affect the entire economy, such as altering controls on interest rates, changing the exchange rate, and adjusting the money supply, the government has raised cocoa prices paid to producers, removed food price controls, and boosted extension services, all in the quest of increasing farmer productivity.

Figure1: Performance of the Agricultural sector as a percent of GDP

Source: World Development Indicators, World Bank, 2012 Who is engaged in agriculture? Farming and livestock keeping are predominantly rural, involving 85 percent of rural households but only 28 percent of urban household. Among the rural areas, rural savannah registers the highest percentage of households in agricultural activities (92 percent). The corresponding figures are 73 percent and 86 percent for rural coastal and rural forest respectively. About 38 percent of women have agricultural

activities responsibility in Ghana. The role of women in agriculture varies only by four percentage points between rural (39percent and urban (35percent) areas. In the rural forest and the rural coastal zones, about 44 percent of women are engaged in agricultural activities. In the rural savannah zone however, the participation of women in agriculture is about 9.5 percentage points below the national average of 37.9percent (GLSS5, 2008). Main Crops Ghana is one of the world's most important producers of cocoa which are mostly grown on small farms. Other export crops are Coffee, Pawpaw, Bananas, Mangoes, Spinach, Millet, Rice, maize seeds, and cotton seeds. The main food crops are coco yams, cassava, yams, maize plantain, millet, corn, rice, fruit, and vegetables. According to the GLSS5 household survey report, out of the estimated total number of households who harvested staple and or cash crops within the twelve month period preceding the survey, majority (2.5 million) harvested maize (Table 1). Other major crops, in terms of number of households involved, are sorghum/millet/guinea corn (848, 527), cocoa (725, 480), groundnut/peanut (698, 905), beans/peas (501, 484), and rice (306, 153). Estimation of the number of households in each ecological zone that harvested different crops during the reference period shows great variation in types of crops grown around the country. Maize is the only staple grain that is grown extensively in all of forest, coastal and savannah zones. Over half of households that grow kenef, groundnut/peanut, rice, tobacco, other tree crops (sheanut and cashew nut) and beans/peas, and virtually all the households that grow cotton and sorghum/millet/guinea corn, are located in the savannah ecological zone. Rubber, coffee and the major export crop, cocoa, are grown almost

exclusively in the forest zone. In addition almost half of the 2.5 million households who cultivate maize are located in the forest zone. The coastal belt is, however, associated with the cultivation of sugar cane, wood lot and coconut. Welfare dimensions of Agriculture Majority of Ghanaian households rely on some form of agriculture for their survival. A household might survive on agriculture through subsistence means by growing or rearing of animals. The estimated total annual value of harvested crops (Table 1) produced by Ghanaian households is about GH¢1,414.74 million, while the total value of sales is about GH¢1,007.02 million. Cocoa and maize are the major cash crops in terms of both harvest value and sales value; cocoa harvested by households within the one year period is about GH¢436 million, and sales value amounted to about GH¢361.1 million, while the annual maize harvest is valued at GH¢484.7 million and value of maize sales is GH¢412.3 million. These two crops thus account for about 68 percent of the total harvest value of staple grains and cash crops, and 79 percent of all sales value. Four other crops are important in terms of the value of their sales: cotton, groundnut, millet, and rice with annual sales of about GH¢20.7 million, GH¢76.2 million, GH¢11.6 million and GH¢29.8 million respectively.

Table 1: Households’ annual main crops grown and harvested as well as their annual harvest and sales value in the previous 12 months

Name of Crop Main crops grown by HH (%) No of HH harvesting crop 000 GH¢

Annual value of harvest

Annual value of sales

avocado pear0. 2198, 690230100bananas0. 7250, 1411,
 060520beans/peas3. 92501, 48441, 53115, 578cassava17. 891, 800, 51014,
 5304, 850cocoa3. 39725, 480435, 968361, 132coconut0. 15105, 3189,
 4928, 696cocoyam4. 95639, 3882, 660640coffee0. 648, 513366452colanut0.
 0916, 9326040cotton0. 3928, 22913, 38620, 742garden eggs1. 15291,
 5291, 1701, 270groundnut/peanut5. 33698, 905127, 69876, 180guinea
 corn/sorghum4. 41848, 52761, 42311, 847kenef0. 021, 862248153leafy
 vegetables0. 24485, 20851040lime/lemon0. 046, 37411020maize19. 422,
 529, 137484, 661412, 274mango0. 1937, 750786335millet3. 97
 -
 61, 38411, 647oil palm1. 8583, 3133, 5001, 620okro2. 45454, 5221, 7501,
 010onion0. 3760, 983900240oranges/tangerine0. 53187, 703590260other
 crops0. 65151, 50719, 2259, 918other fruits0. 1329, 418250100Other root
 crops (Ginger, tiger nut)0. 0816, 4882, 3822, 027Other tree crops (Shea nut,
 cashew nut)0. 63109, 6978, 3915, 126other vegetables0. 28107,
 32828070pawpaw0. 26272, 93931080pepper4. 7983, 9394, 2802,
 010pineapples0. 52170, 627340370plantain8. 291, 267, 8548, 8003,
 570potatoes/sweet potato0. 1724, 76419060rice2. 5306, 15364, 01129,
 839rubber0. 024121, 1301, 130sugar cane0. 2335, 0853, 9552,
 887tobacco0. 0918, 8538, 1867, 529tomatoes3. 07511, 64711, 0104,
 800wood lot0. 031, 6656256yam6. 1594, 08817, 9207, 800Total100

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1, 414, 7351, 007, 018Source: GLSS5, 2008 and author's own computation

Traditional versus Non-Traditional Exports in Ghana

Traditional ExportsThe composition of Ghana's exports remains virtually unchanged with cocoa, gold and timber making up over three-quarters of total export revenue. Export revenue from the three major categories of exports, namely cocoa, minerals and timber increased between 2009 and 2010 from US\$1886. 0 million, US\$179. 8 million and US\$2619. 2 million respectively for cocoa, minerals and timber to US\$2285. 2 million, US\$189. 5 million and US\$3888. 2 million. Revenue from timber has been declining since 2008's value of US\$316. 8 million. The rise in the value of cocoa export has primarily being the increase in volume of cocoa product exports. The proportion of cocoa exports that are processed has increased steadily over some years now as it reached 23 percent in 2010 giving the indication that Ghana seems to be slowly moving up the cocoa value chain. On the minerals category, the increase in value is attributed to increased gold exports (increased in volumes by 17 percent and in prices by 27 percent for 2010). Other minerals in the minerals sub-sector are diamonds, bauxite and manganese which make up about 2 percent of total earnings in 2010. Timber and timber products export receipts, after experiencing a 43 percent decline in 2009 following the worldwide slump in trade, rebounded slightly in 2010. It increased by 5 percent from US\$179. 8 million to US\$189. 5 million due to the 6 percent increase in unit price which overcame the 0. 3 percent in export volume.

Non-Traditional ExportsNon-traditional goods are all other export commodities apart from the popular exports such as the cocoa beans,

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timber and minerals, which the country is well-known for. Horticulture products collectively are one of the largest categories of non-traditional exports in Ghana, but even then they comprise a very small percentage of the total revenue from non-traditional exports. While many types of non-traditional exports exist, they are exported in small volumes. As a result, substantive industries around them have not emerged. Comparing total non-traditional exports revenue to total revenue from cocoa and gold exports, it becomes clear that the economy is still dominated by these traditional exports (since the colonial period) and has not been significantly transformed (Whitfield, 2011b). For example, while palm oil and tropical fruits were the two main non-traditional export commodities in 2007, they accounted for only 4 percent of total agricultural exports, while cocoa accounted for about 50 percent (Breisinger et al. 2008: 5). Whole fresh pineapple was Ghana's major horticulture export product from the 1980s through the 2000s. Non-traditional export (NTE) products faced a very challenging market environment in 2009, with subdued demand in the industrial countries. As a result earnings from the sub-sector fell by 9 percent from US\$1, 340. 9 million in 2008 to about US\$1, 216. 6 million in 2009. This decline resulted from the fall in both volume and value of virtually all categories of non-traditional exports. In 2010, the NTE sub-sector grew by about 34 percent in value and this was fuelled by an increase in the value of processed and semi-processed exports, which grew by 37 percent, from US\$1, 062 million in 2009 to about US\$1, 600 million in 2010. Ghana earned US\$2. 4 billion from the export of its non-traditional exports for 2011. This is the highest earnings grossed by the country in a long while (Myjoyonline

(2012). 2011 earnings represent a 50 percent increase over the 2010 figure of US\$1. 6 billion which came mainly from processed and semi processed goods, agriculture and handicrafts. Processed and semi processed goods contributed almost 90 percent of the earnings whilst agriculture and handicrafts made up for the rest. Of the about 400 different products that were exported, cocoa paste alone grossed 673 million dollars, the highest earner. Half of the exports went to European destinations, while ECOWAS took up 27 percent. This sterling performance is attributed to among others aggressive promotion by the Ghana Export Promotion Authority and proper coordination of all the sectors under it. Among the European countries Netherlands absorbed most of the products constituting about 403 million dollars.

Key challenges/constraints for non-traditional export value chain

The numerous challenges or constraints that confront the non-traditional export sub-sector and have brought the poor performance over the years generally is the increased cost of production caused by high costs of imported raw materials and production inputs, and high interest credit facilities from the financial institutions. The following stand out as the main strategic challenges facing generally the Ghana non-traditional export sector but most specifically the horticultural products. Freight costs amount to about 40 percent of the total cost and freight (C&F) value of Ghanaian horticultural products. These charges are high and are due to low shipping volumes as well as to inefficient and expensive port services -pilotage, towage, mooring, port and light dues- charged by Ghana Ports and Harbours

Authority to the shipping companies. Duodu (2011) stated that " compared to other West African ports, such as Abidjan, show that their average freight rate to European ports range between US\$70 to US\$80 less than the rate from Tema, (US\$110 against US\$182 per 780 kg pallet). The limited shipping volumes have attracted limited shipping services, especially in the sea transportation sector, which in turn limits diversification of markets for horticultural products". Low financial status; farmers are financially weak because they do not receive any direct incentives from government. This is because IMF and other funds Ghana accesses prevent the government from subsidizing farmers. It is also impossible for them to access bank loans as they do not meet the stringent collateral security requirements of banks. There are only few banks interested in agriculture due to perceived risks of agricultural investments. Since banks only do collateral lending, it is almost impossible for farmers to produce clear title to their lands due to the structural problems surrounding land ownership and titling in Ghana. About 92 percent of households in the total sampled population (about 6000 farmers) indicated the lack of production credit as a constraint to expanding output (ISSER, 2011) Local and regional markets are more often ignored mainly because of its informal nature. The local and regional market in one way or the other serves as an integral part of the industry not only as a channel for the marketing of non-exportable quality produce but equally as the basis for the development of the competencies of the local growers, fed by increasing local consumer demand. Currently, the produce marketing lacks access to proper infrastructure such as wholesale consolidating and distribution platforms which would organize distribution both for the urban

and regional markets. Competition issues; there is an increasing need for the Ghanaian horticultural industry to strive and differentiate itself among the increased number of competitors. This should not only be on the basis of price but also on reliability of supply and quality assurance. According to Duodu (2011), " the rapid introduction of MD2 variety in production would certainly improve the opportunities in the immediate accessing of the EU markets which needs to supplement by efficient supply chain logistics and quality assurance". Another major challenge suggested by Duodu (2011) in the fresh pineapple produce industry is the limited innovation capacity which has brought about slow adaptation of improved varieties and high yield hybrids corresponding to the current market trends. The current production approach has contributed successfully to Ghana's market penetration effort as a low-cost alternative, but the sustainability of the industry requires the quick introduction of the adapted variety (MD-2) and the transfer to farmers of adapted modern growing techniques. One main challenge is export orientation in producing the right varieties, which is in demand in intended markets. The market demand currently in the EU is completely shifted to MD2 variety which has completely run past its main competitor " Smooth Cayenne". Global Good Agricultural Practices (GGAP); Ghanaian exporters are expected to meet the standards set by the new dominant European supermarket channels which is the imposition of the rigorous quality and management performance norm. These standards also cover the overall capacity to supply integrated supply chains aside the much publicized detection requirements or traceability systems and pesticides residue management. Duodu (2011) suggested that " there has to be a serious effort

at enabling and building capacity of various smallholders to follow highly controlled management operations. The high cost of certification is another issue and financing smallholders through micro credit schemes is very crucial for their successful participation in the modern supply chains".

Logistics and post harvest treatment; There is the problem of continuous cold chain for Ghanaian farmers and exporters from their field of production to where the exportation takes place. There are inadequate storage facilities at the airports and the ports and these limitations increasingly demand investment of refrigerated transport from the farm to the port to guarantee quality as well as safety of the produce. Currently, inadequate capacity in reefer containers affects the country's ability of exporting fresh produce. Ghana makes use of the existing reefer line that stops at Tema port from Douala and en route to Abidjan under the current system. As a result, the freight capacity is sometimes limited and this is increasingly becoming a constraint for Ghana's export. Ghana will soon be in a suitable position to negotiate its freight rates as the pineapple volume keeps increasing and on other perishable cargoes as more carriers will be attracted to Tema (Duodu, 2011). The impact on agricultural infrastructure on agricultural productivity can be profound. According to Nankani (2009) examples like the Vietnamese experience " suggests that living in a rural community with roads increased the probability of escaping poverty by about 70percent compared to being in a non-road community". He again stated that " in China, a 1percent increase in irrigation resulted in a 1. 2 percent poverty reduction impact in the average community, through higher agricultural productivity. Irrigation investments are very low in African countries: only about 4percent of land is

irrigated, compared to 40 percent in South Asia. In Ghana, the reliance on rain fed agriculture is overwhelming. Existing irrigation schemes include 10 small scale ones, 6 medium scale schemes and 6 large scale schemes, for a total of about 20, 000 ha, compared to an estimate of cultivable land of 13.66 million hectares (about 7 percent). But even for this low level, utilization rates were extremely low with estimates of 64 percent (gravity), 8 percent (pump and gravity) and 40percent (pump and sprinkler systems)". Land markets have played an essential role in facilitating agricultural revolutions. Uncertain and complex land tenurial relations seem to impede private investments in Ghanaian agriculture as suggested by recent work of Goldstein and Udry (2008). Goldstein and Udry found that agricultural investments and consequently productivity in Akwapim were held back by farmers who did not have political power and were not sure about their property's security during the fallow periods; and if such restraints are true in the whole country, would be worth about 2 percent of GDP. According to Goldstein and Udry " estimates suggest also that the rate of return to land titles is about 39percent, which also suggests that the economic potential from improved security is substantial". A vast percentage of Ghana's arable land remains uncultivated, in part as a result of insecure property rights. There still exist severe a long term challenge under reforms of land tenure systems under customary tenureship. However, there is a problem in laying down an action plan that will ensure that the issue of land as a major constraint on agricultural investment remains a thing of the past for both small farmers and commercial investments. An expected challenge is climate change which will have many effects, and one of the major effects will be on

agriculture and hence the NTE component. Cline's (2007) review of global warming and agriculture concludes that " the risks to world agriculture stand out as among the most important and that, developing countries will lose more than industrial countries. Climate change will gradually have a negative impact on agricultural productivity. And the closer a country is to the equator; the more likely it is that its agriculture will suffer. For Africa, there are large losses, with Nigeria's ranging from 6 to 19 percent and South Africa's and Ethiopia's being much larger". Also agriculture has been affected negatively in most oil-exporting countries by the so called " Dutch" disease that is, when the exchange rate is strengthened through a higher foreign exchange earnings to such a level that makes traditional exports (such as agricultural foods and cash crops) become less competitive in international markets and the importation of food become cheaper at home. A clear example is Nigeria whose booming agricultural sector declined after its discovery of oil. Ghana needs to take cue from these experiences from countries experiencing this otherwise it falls victim to same issues with commencement of oil export (Nankani, 2009). To sum it all, an FBO survey report by ISSER (2011) had the below mentioned factors as the critical factors that households consider before deciding on what to produce. The report suggested an average of 62 percent of the total sampled population considered rainfall pattern, 49 percent considered their own family needs, 51 percent considered existing market demand and 49.5 percent considered availability of capital resources as most important factors that influence their production. This may be proof to the subsistence nature of farming of the households interviewed and also the dependence of these households on

rain to water their farms. Additionally, a significant proportion of households mentioned the following: unpredictable rainfall patterns (72%), poor production resources such as land fertility (52%), paucity of technical skills/knowledge (38%) and lack of ready market demand (36 %) as the reasons why they are unable to expand output.

Importance of policies, institutions and markets in dealing with non-traditional agriculture exports

With the dissatisfaction of the country's non-traditional export earnings which plummeted after admirable gains in 2004 raise questions on institutions and policies that are governing this sub-sector. Since 2004, pineapple export volumes have dropped from a peak of 71, 000 tonnes to about 29, 000 tonnes in 2009; a decline of over 59 percent. There has been work done and others on-going by major institutions both formal and informal and also through laid down policies to make this sector reach its current status and aspiring to hit its goal of earning about five billion dollars by 2015. Institutions like Ghana Export Promotion Council (GEPC) and Millennium Development Authority (MiDA) and many others continue through collaborative efforts to undertaken projects and policy initiatives that in the short/medium/long term will be beneficial to the growth of the non-traditional export sector. InfrastructureThe sector needs massive infrastructural investment in order to increase production to meet the high demand by consumers abroad. One of such projects is the 2. 5 million-dollar Perishable Cargo Centre (PCC) which is funded by the Millennium Challenge Corporation (MCC) of the United States which will provide handling and transit storage of perishable produces mainly fruits and vegetable for export. The PCC will also

form part of an integrated cold chain for horticultural sub-section required to achieve a better produce, quality and higher export market prices. It would also enable exporters to maintain produce quality to meet international standards of the high-end export market. It is managed by the Ghana Airport Company Limited (GACL). There is also a public pack house project, an infrastructure for cooling and storing pineapples, at Mariakrom in the Akuapem-South Municipality of the Eastern Region would attract and retain the youth in agriculture, particularly horticultural farming. The 50 metre-square pack storage facility would guarantee good quality produce to meet the standards of the high-end market, increase incomes for small holders and exporters as well as increase packing efficiency of the pineapple produce. By virtue of funds from the MCA, the pack house has been refurbished and equipped with modern packing line and cooling facility to the tune of 1.4 million dollars for use by exporters and farmers' groups in the district (GNA, 2012). The MCC Funding that were used in providing support to some transportation projects in the country totaled US\$218.37million. The Project which has the objective to reduce the transportation cost affecting agricultural commerce at the sub-regional levels in Ghana, had three key activities namely Highway, Trunk and Ferry activities covering 40 percent of the MiDA total budget. Besides the 357km of feeder roads rehabilitated, MCC funds have also been applied to the upgrade of N. 1 Highway, trunk road constructions as well as the provision of ferries, under the broader transportation project. Within the last 30 months (currently in year 2012), MiDA have been able to complete the upgrading of 41.1 km of major urban highways into a 3-lane dual carriageway from the

TettehQuarshie Interchange to Mallam junction in Accra. This is the main thoroughfare that brings agricultural goods to the Tema seaport and the Kotoka International Airport, a project which has been on the drawing board since 1965. This intervention which has improved the efficiency of the greater road network in and around Accra, will also reduce the bottlenecks that delay access to the International Airport, Tema Port as well as supports the expansion of the horticultural exports of Ghana. The intervention also constructed the 75km Agogo-Dome Trunk Road with a new bridge over River Afram at, at a cost of US\$30. 11million, in order to improve road access to farmers and traders to the Afram Plains and reduce vehicle maintenance costs. This major intervention, which provides an alternative route into the Afram Basin Area, has opened new economic opportunities for many agricultural households and road users in the corridor and will stimulate higher agricultural production levels to the people. To improve the reliability of ferry services in the busiest crossing points on the Volta River and in the Afram Basin, US\$16. 5million of MCC funds have been used to construct two RoRo Vehicle and Pedestrian Ferry Boats to augment the ferry fleet of the Volta Lake Transportation Company (VLTC). As part of the ferry activity, MiDA has also rehabilitated and modernized the 43year old Floating Dock at Akosombo in the Eastern Region, for use by the VLTC. New Landing Stages have been constructed at both ends to increase ferry and vehicle handling capacities as well as the upgrading of the Passenger Terminals at Adawso and Ekye Amanfrom. There was also the extraction of all the dangerous tree stamps in the 5km Ferry Path, to allow for safe passage and to prevent any accidents. Capacity building

The positive impact of information on

productivity cannot be underestimated. A farmer who is well informed is likely to be more effective than his/her counterpart who does not have enough information. It is therefore crucial for farmers to have access to relevant information pertaining to their farming activities. This section inquires the level of interaction between respondents and his/her family, organizations in the village (local, government, agricultural, etc) for information on their farming activities. There is also the need for capacity building of farmers and producers to make them more productive so as to bridge the untapped excess demand in the export market. As at the end of 2010, only 4, 000 tonnes, out of the 10, 000 tonnes of pineapple demanded by markets across Europe could be produced. This is where there is the need for interventions by all stakeholders. A clear case of capacity building was the training of farmers in Farmer-Based Organizations in 30 districts across the country through the MCA-Ghana programme implemented by MiDA. These districts were grouped under the Northern Agricultural Zone, Southern Horticultural Belt and Afram Basin. Some of the crop that these farmers were involved in were maize, pepper, papaw and pineapple. A survey to assess the impact of MiDA training on farmers' productivity was undertaken in within 2008 and 2010 by ISSER. MiDA training focused principally on Agricultural Production best practices. It was however evident that Credit management, Group formation/ development and Business Literacy were also given the priority which is in line with the priority of accelerating the development of commercial skills and capacity among Farmer-Based Organizations and their business partners. Farmers in this survey were put into treatment and control groups as well as in two batches for survey

purposes. Two rounds of data were collected for each batch. From the FBO survey report, an average of 89.7 percent of the sampled population of about 6000 farmers received information on agriculture production as well as business related information. This suggests a considerable level of interaction between household members and the various sources of information. For batch one farmers in round one, most of information received was from government extensions (46%) and MiDA training services (40.7%). Very little information is sought from private extension agents (0.34%) for batch one round one. For batch two round one most of information received was from government extensions (46.21%) and MiDA training services (44.95%). Again very little information is sought from private extension agents (0.19%) for batch two round one. It is clear that households use a lot of the information requested/received on agricultural production (over 90 percent). Other significant uses of the information received are post-harvest related, agricut marketing related, resource management, and post-harvest related. A significant proportion of households (over 70 percent) requested information on the use of fertilizer. Households also had information on new seed varieties (46.7%), pest infestation (36.1%), and marketing (35.3%) amongst others. Personal communication (80 percent), group meetings (45 percent) and field demonstration (16 percent) were reported by farmers as the main media through which households received information. On the average 37 percent of households received home visits from extension officers with the average number of home visits being seven. In 2010, there was an export-related human resource development for export companies. With the increase in

awareness of the export school system run by GEPC, three courses in export marketing fundamentals were organized for 80 exporters to enhance their capacity to produce quality products for the export market. Twenty-five more export companies, banks and export related agencies also benefited from training on solution to risks in Export Financing. 30 officers from the Ministry of Foreign Affairs and Regional Integration and NEPAD were trained in commercial representation abroad whilst 890 Agricultural Extension Officers and farmers in 15 districts in the Volta, Eastern, Greater Accra and the Central regions were trained in export Marketing and Quality Awareness to facilitate the production of quality products for the export market. This was done in collaboration with the Ministry of Food and Agriculture. There was also the provision of market information services for exporters and export facilitation agencies. GEPC provided 2200 exporters and potential ones with export trade advisory and referral services to position and equip them with the necessary information for the export market. Internet based market analysis tools, publication of new world tariff profile and advice on export market prices were made available to 320 members of the exporter community. Ghana's Export Policies

The profile of PROFILE OF GHANA EXPORT PROMOTION AUTHORITY (GEPA) from www.gepaghana.org states that " GEPA is the National Export Trade Support Institution of the Ministry of Trade and Industry (MOTI) responsible for the facilitation, development and promotion of Ghanaian exports. GEPA was established by Act 396 in 1969 as an agency of the Ministry of Trade and Industry with the mandate to develop and promote Ghanaian exports. GEPA's focus has primarily been to diversify Ghana's export base from the

traditional Gold and other unprocessed minerals, Cocoa Beans, Timber Logs and Lumber. Currently there are over 383 different Non-Traditional Export products categorised as Agricultural, Processed/Semi Processed and Handicrafts. Export Trade in Services is a new and recent addition to the non-traditional export portfolio. GEPA acquired its Authority Status and was publicly launched as such at the 72nd National Exporters' Forum in September 2011. The change to Authority is in accordance with the Revised Laws of Ghana Act 1998, (Act 562) (1) of the Ghana Export Authority Act, 1969 (NLCD 396). This new designation helps to more clearly define the core functions of GEPA in terms of the marketing and promotion of NTE products. GEPA's clientele include over 3000 registered private sector exporting companies organized into 17 Export Product Associations. GEPA relate to these clients both on individual corporate basis and as groups/associations. GEPA also acts as an interface between these exporters and other public organizations". Recognising the need to diversify Ghana's export from the traditional cocoa, timber and a few minerals, the government in 1969 set the Ghana Export Promotion Council (GEPC). In pursuing export diversification drive, the GEPC engaged in a number of activities, namely: (i) development of national export awareness; (ii) Identification of products that has export potential and getting markets for them; (iii) creating goodwill through local and overseas trade fairs and exhibitions for Ghanaian products; (iv) providing exporters with necessary assistance to penetrate the highly competitive international markets; (v) organising market missions which will enable Ghanaian exporters to meet prospective overseas buyers; (vi) assisting with information on target markets for businessmen travelling

abroad; (vii) training exporters to upgrade their skills in the export marketing; (viii) recommending the necessary support and incentives that is needed by Ghanaian exporters to government". In August 1995, an Act was passed by parliament, Import/Export Act 503, which broadened the export base of the non-traditionals. By this Act, coffee, veneers, cocoa butter, cocoa cake, cocoa powder and cocoa liquor were added to increase the number of commodities classified as non-traditional. The general macroeconomic measures and strategies which have been implemented in recent years have improved performance of the non-traditional export sub-sector. Due to constraints which militated against the growth of the sector, the following strategies were pursued: (i) improving the policy environment for the export sector; (ii) improving the ability of the public sector agencies to provide adequate support services to the export sector; (iii) improving the capacity of firms to export i. e. strengthening the private sector associations such as the Federation of Association of Ghanaian exporters, Private Enterprise Foundation so that they can offer improve services to their members. The initiatives also ensure that under the various private sector support projects, the following services are provided; (i) a firm level export development and advisory services; (ii) institutional development support and industry-focussed activities; (iii) technical assistance in management skills and technology, marketing capabilities of the firms and entrepreneurial training generally. Trade and Investment Programme (TIP) under USAID came as a result of the provision of the above mentioned three broad services. Under this programme, the creation of enabling environment for a vigorous promotion of the NTE was undertaken. Again some selected institutions were

strengthened of which GEPC was re-oriented to focus on the provision of enhance trade information for use by exporters. Ghana Investment Promotion Council (GIPC) was also to focus on the promotion of both domestic and foreign investment in Ghana. The duty draw-back scheme under Customs, excise and Preventive Services (CEPS) was revitalised to allow manufacturers to apply for refund of duties paid on imported inputs meant for production and towards export. Export Infrastructure: Another program that was to build up the capacity of firms to produce and export was the five-year Medium Term Plan for Non-Traditional Exports (MTP-NTE). A major element of this program was to expand the Export Production Villages (EPV) as a means of mobilizing small-scale farmers and artisans to engage in the production for export. It was also envisaged (but now in place-PCC) that a Refrigerated Warehouse facility to cater for the export of perishable products would be constructed at the Kotoka International Airport. With the passage of the Free Zone Act of 1995, the ministry was set to introduce a set of policy instruments to promote export-oriented investment. As part of this the Ministry has established Export Free Zones in the country. Financial Support: A complementary program to support the development and expansion of non traditional export sub-sector was the Private Enterprise and Export Development Project (PEED). This was a US\$451 million facility which was implemented by the Government of Ghana in collaboration with the World Bank to provide the much needed export finance to the non-traditional exporters. Evidence from the MCC-MiDA Ghana programme (Agricultural Credit Programme (ACP)) present the average amounts of loans received by household members, by the source of the loan in Table 2 Mean

Loan Amounts by Source and Batch. The amounts in the first batch showed that household members received an average of about GH¢703.3 as loans while those of batch two received about GH¢887.8. Loans from MiDA ACP averaged 1,204.35 for batch one and GH¢876.25 for batch two. Other institutional loans amounted to GH¢869.38 and GH¢1,330.22 on average for batch one and batch two respectively. Household members also received loans averaging over GH¢400 from their relatives, neighbours and friends. Various reasons were advanced for contracting loans. In the baseline survey, among the treatment group of batch one, most loans were contracted to purchase agricultural inputs (27.5%), followed by agricultural equipment/vehicle (17.9%), to be used as a working capital for a farm business (17.5%), to be used as a working capital for a non farm business (17.5%), education/training (14.6%). In the follow up of the same group, loans were contracted for agricultural inputs (57.2%). The other reasons why loans were contracted were to be used as a working capital for farm business, to purchase/rent agricultural land (26.3%), and to be used for other farm investments (22.7%) among others. In the batch two, the three most pressing reasons provided by households in the treatment group of the baseline for demands of loan contracts were to purchase agricultural inputs (32.4%), to be used as a working capital in a farm business (25.3%) and non-farm business (25.3%). The same reasons were provided in the follow up of the same group.

Table 2 Mean Loan Amounts by Source and Batch

| Source | Batch 1 Amount (GH¢) | Batch 2 Amount (GH¢) |
|---------------------------|----------------------|----------------------|
| Relative/neighbour/friend | 426.97 | 449.10 |
| MiDA loan | 1,204.35 | 876.25 |
| Other Institutions | 869.38 | 1,330.22 |
| Total | 703.26 | 887.8 |

8Source: Author's own computation, FBO Survey, 2010

Strengthening Regional Trade Offices: In order to achieve results in Ministry of Trade and Industry's (MOTI) export development and expansion program, it became necessary to strengthen the Ministry's regional offices to undertake and coordinate rural-based export production and marketing at district and regional level in the context of Export Promotion Villages (EPVs). There was the need to monitor and mobilize the micro/small scale enterprises in the informal sector. The regional offices now serve as conduit for transmitting timely and accurate data on performance, and particularly on production constraints facing exporters. The regional offices were equipped with telephones and fax facilities as well as transport to cover their districts.

Opening of Trade and Investment Offices Abroad: To foster investment promotion and gain increased market access for Ghana's goods, the MOTI has established trade and investment offices in Ghana's major trade partner countries. This was also intended to help in maintaining favourable trade balances which have begun to emerge in Ghana's trade with her major trade partners. Currently, there are five overseas offices in London, Washington DC, Geneva, Brussels and Abuja.

Market Access: To increase the value and volume of non-traditional exports, GEPC embarked on market development and diversification programs in 2010. In this regard GEPC undertook a solo exhibition of made in Ghana goods in Equatorial Guinea in which 102 companies participated and spot sales as well as confirmed orders were made. Trade and investment missions were carried out to Tehran, Dubai, Abu Dhabi and Istanbul under the invitation of the Ghana Investment Promotion Centre. Again GEPC coordinated exporters participation in 5 trade

fairs i. e. Ambiente in Germany, Abuja and Lagos International trade fairs in Nigeria, Tripoli International fair in Tripoli and SIAO International fair in Burkina Faso. Furthermore GEPC opened Ghana Trade Center in Lusaka, Zambia to attract and expand Ghanaian goods into those countries.

Currently, some economic policies that impacted positively on the exports of non-traditional exports include the following: Expansion and upgrade of infrastructural facilities Modernization of agriculture. Promotion of selected commodities that cover items under food security, agricultural raw materials for industry and agricultural commodities for exports. Targeted support by way of training, credit and opening services to farmers for production and exports. Promotion and development of the salt industry. Attracting foreign direct investment as a means of promoting and development of exports. Enhanced concessionary financing of export operations. The Export Development and Investment Fund (EDIF) deepened its operation in 2010 to provide concessionary financing to exporters.

Some econometric evidence using MiDA & GEPC data – General/selected crops

Trends in Non-Traditional Exports (NTE's) The responses to the efforts of the GEPC and the macroeconomic and trade policies have been very remarkable. From 1986 onwards, there have been increases in the number of products exported, the value of the exports and the number of exporters. Over the same period, the proportion of processed and semi-processed commodities has been rising. Earnings of non-traditional exports increased significantly to US\$276. 2 million in 1996 from US\$23. 8 million in 1989. The increased earnings represent a growth of 1060. 5 percent in the value of earnings over

the period 1986 to 1996. From 1995 to 1996 alone, the value of exports increased to 72.6 percent. However, this phenomenal increase in earnings was largely due to the change in classification on non-traditional exports in August 1995 by the Export/Import Act 503. If the old classification is used, then earnings from non-traditional exports increased by only 31.3 percent from 1995 to 1996. In 2005, earnings of NTE reached US\$777.6 million and had peaked to US\$2,345.0 million in 2010. Analysis of the sub-sectors since 1986 in Figure 2 shows a rising performance for processed and semi-processed products. In 1995 and 2000, the share of processed and semi-processed products to NTE was about 80.5 percent but has increased to 89.7 percent in 2010. In 2000, the contribution of agriculture to non-traditional exports was 18.3 but this has reduced to 10.1 percent in 2010. In the same light, the share of horticultural product has declined from 1.22 percent in 2000 to 0.17 percent in 2010. Figure 2 Trends in Non-Traditional Export (1986-2010) Source: GEPC, 2012 In the MiDA/ISSER FBO survey data (2010), the main crops grown by the FBO farmers were cereals (maize, rice, millet, and sorghum), root crops (yam, cassava, and cocoyam), and vegetables (tomatoes, pepper, okro and garden eggs). Farmers also grew legumes (beans/peas and groundnuts), plantain, and fruits such as orange, mangoes, pineapple and pawpaw. The crop that was planted by most of the households was maize, planted by about 75 percent of the farmers in the baseline survey and for the Batch 1. This increased to about 87 percent in the follow-up period. The proportions are even higher for the second batch (86% for round one and 92% for the follow-up). From the distribution of the various crops grown by the MiDA zone we note that, crops such as rice, millet,

sorghum, groundnuts and soybean are predominantly cultivated in the Northern Agricultural Zone (NAZ). Pineapple, tomatoes and mango are predominant in the Southern Horticultural Belt (SHB). For the Afram Basin (AFB) we find that plantain and cocoyam are relatively important. For yam cultivation, we find it to be important in the Northern Agricultural Zone and the Afram Basin, while cassava and pepper are important in the Afram Basin and the Southern Horticultural Belt. Okro cultivation is mainly in the Northern Agricultural Zone and Southern Horticultural Belt. The reported distributions are in Table 3 Major crops grown and the proportion of households that grows them. Table 3 Major crops grown and the proportion of households that grows them Proportion of Households that grow crop MiDA Zone

Batch 1 Round 1

Batch 1 Round 2

Batch 2 Round 1

Batch 2 Round 2

Batch 1 Round 1

Batch 1 Round 2

Batch 2 Round 1

Batch 2 Round 2

Maize

Groundnut

SHB68. 581. 984. 389. 74. 13. 74. 03. 3AFB80. 485. 784. 889. 220. 617. 320.
 114. 9NAZ71. 492. 989. 296. 672. 762. 669. 664. 4Total74. 587. 186. 291.
 930. 528. 433. 329. 1Soybean

Okro

SHB0. 01. 00. 10. 017. 020. 214. 111. 0AFB0. 10. 00. 30. 15. 05. 04. 43.
 8NAZ23. 518. 821. 324. 014. 75. 99. 423. 3Total6. 66. 37. 78. 411. 19. 38.
 812. 6Beans/Peas

Pepper

SHB3. 53. 86. 26. 632. 245. 637. 532. 0AFB15. 515. 413. 715. 015. 017. 018.
 917. 5NAZ14. 711. 014. 313. 88. 96. 38. 012. 6Total11. 910. 911. 912. 318.
 121. 020. 119. 7Cassava

Plantain

SHB31. 558. 266. 166. 67. 58. 64. 96. 9AFB44. 954. 960. 759. 524. 824. 233.
 037. 3NAZ8. 212. 111. 78. 50. 00. 00. 10. 0Total30. 941. 944. 843. 613. 012.
 313. 815. 9Cocoyam

Rice

SHB1. 42. 22. 22. 95. 45. 47. 67. 8AFB14. 915. 321. 022. 33. 63. 23. 95.
 7NAZ0. 00. 00. 10. 042. 547. 351. 256. 4Total7. 06. 98. 59. 214. 918. 121.
 624. 1Yam

Tomatoes

SHB6. 28. 26. 39. 819. 116. 814. 013. 9AFB34. 235. 927. 930. 66. 97. 36. 16.
 7NAZ30. 031. 233. 336. 12. 72. 11. 72. 0Total25. 227. 224. 026. 89. 28. 16.
 67. 0Sorghum

Millet

SHB0. 10. 00. 10. 00. 30. 50. 00. 3AFB0. 40. 20. 00. 31. 71. 61. 10. 7NAZ5.
 32. 44. 79. 615. 516. 015. 614. 0Total1. 70. 91. 73. 55. 26. 06. 05.
 2Pineapple

Mango

SHB5. 07. 75. 05. 63. 54. 20. 81. 1AFB0. 40. 50. 90. 30. 20. 50. 10. 0NAZ0.
 10. 00. 00. 00. 30. 10. 30. 2Total1. 62. 21. 71. 61. 21. 30. 40. 4Source:

Author's own computation, FBO Survey, 2010
 From Table 4, we note that pineapples have the highest crop incomes/profits (GH¢2, 488. 97) followed by mangoes (GH¢2, 083. 12) and then yams (GH¢1, 095. 15). In terms of yields, pineapple still was the most important crop with an average yield of 14. 4 tons per hectare. This was followed by yams with an average yield of 5. 6 tons per hectare. Mangoes and cassava also performed well with an average of 4. 3 and 3. 5 tons per hectare respectively. The high income from pineapple is consistent with prior expectations. Indeed pineapple is one of the very important non-traditional exports for Ghana. The crop incomes are lowest for crops that thrive relatively more in the northern agricultural zone – soya, groundnuts, sorghum and millet. The average crop income from sorghum, groundnut, millet and soybean were respectively GH¢431, GH¢369. 63, GH¢305. 56 and GH¢174. 95. Table 4 Average crop incomes and yields

for selected crops

| Crop | Average crop income GH¢ | Average Yield/tons per hectare |
|------------|-------------------------|--------------------------------|
| Maize | 661.681.5 | 5 |
| Cassava | 588.393.5 | 5 |
| Soya | 174.950.7 | Yams |
| 1095.155.6 | | |
| Sorghum | 431.000.9 | Rice |
| 691.391.4 | | |
| Millet | 305.560.8 | Groundnuts |
| 369.631.1 | | |
| Pineapples | 2488.9714.4 | Mangoes |
| 2083.134.3 | | |
| Pepper | 549.771.2 | |

Source: Author's own computation, FBO Survey, 2010

From Table 5, the value and weights of selected non-traditional export crops are presented. The major crops in terms of value in US dollars in the selected crops were pineapples and yams. For years 2001 (US\$77.9 million), 2007 (US\$14.6 million), 2008 (US\$14.8 million) and 2009 (US\$12 million), the value of yams outweighed that of pineapples but the reverse was the case for years 2002 (US\$15.5 million), 2004 (US\$22.1 million), 2005 (US\$12.8 million), 2006 (US\$19.1 million) and 2010 (US\$13.6 million). The year 2003 saw millet taken the lead with US\$16.7 million followed by pineapples with US\$14.4 million. The value of pineapples peaked in 2004 but has been declining over the years. This is also the case for yams which peaked in 2001 and continues to be on the decline.

Table 5 Value ('000 US\$) and weight ('000 Kgs) of Selected Non-Traditional Export crops (2001-2010)

Crops**2001****2002****2003****2004****2005****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$**

Maize11, 000. 00448. 6842, 100. 002, 282. 092, 724. 41177. 6511. 202. 986,

406, 215. 11702. 44Manioc, fresh or dried (Cassava)15. 243. 561. 030. 3211.

934. 1163. 7321. 8922. 629. 27Soya bean4. 501. 375. 122. 38538. 6411.

937, 374. 01286. 38

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Yams14, 400. 0077, 900. 0013, 000. 008, 247. 917, 973. 654, 442. 3916,
169. 448, 399. 8518, 376. 9610, 951. 35Grain Sorghum

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0. 090. 174. 536. 24Rice3. 230. 64189. 6529. 47148. 4442. 320. 180. 2026,
203, 990. 492, 872. 14Millet2. 202. 19877. 48152. 0267, 000. 0016, 700.
002. 520. 474, 995, 448. 91547. 74Tomatoes - fresh or chilled4, 538. 50757.
454, 960. 711, 096. 394, 368. 94426. 87606. 5356. 04

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Pineapples35, 200. 0013, 300. 0046, 400. 0015, 500. 0045, 100. 0014, 400.
0071, 804. 6222, 068. 6546, 694. 5312, 784. 32Mangoes231. 7178. 48125.
9869. 61234. 38108. 08375. 91163. 85407. 23134. 56Dried pepper (excl.
crushed or ground)5, 344. 061, 952. 724, 706. 741, 792. 394, 680. 211, 824.
992, 491. 79939. 351, 365. 61731. 74Pawpaw (Fresh)1, 791. 64992. 871,
473. 76864. 471, 016. 477, 368. 153, 751. 951, 266. 693, 211. 831, 081.
28Groundnut140. 7182. 961, 495. 83911. 366, 618. 761, 939. 71

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5, 481. 502, 881. 90

Crops**2006****2007****2008****2009****2010****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$****Net weight Kgs****Value US\$**

Maize4, 729. 52282. 53210. 1221. 01902. 1281. 51456. 5033. 76121. 0111.

65Manioc, fresh or dried (Cassava)54. 7040. 4011. 313. 8527. 7310. 2940.

8812. 1326. 297. 63Soya bean13. 635. 9820. 729. 67203. 6779. 1218. 475.

231. 870. 90Yams20, 296. 5214, 156. 9119, 715. 7514, 551. 4320, 841.
 5514, 888. 8017, 571. 3212, 032. 0619, 484. 9612, 688. 20Grain Sorghum0.
 240. 200. 710. 401. 010. 82

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Rice2, 401. 99418. 076, 108. 961, 256. 40743. 50256. 29586. 33141. 2114.
 4824. 42Millet13. 696. 713. 441. 030. 040. 0310. 436. 786. 627. 37Tomatoes
 - fresh or chilled109. 2439. 946. 2315. 3718. 5415. 9943. 879. 7723. 187.
 25Pineapples60, 751. 0819, 086. 1340, 456. 2513, 474. 5535, 134. 3511,
 842. 2531, 566. 6710, 628. 2340, 141. 4013, 554. 62Mangoes182. 4683.
 21823. 73998. 16857. 57521. 83434. 87234. 95291. 13230. 43Dried pepper
 (excl. crushed or ground)1, 903. 58601. 501, 527. 78539. 161, 532. 91627.
 02891. 80434. 53932. 86322. 01Pawpaw (Fresh)1, 911. 98936. 541, 193.
 761, 020. 25967. 85334. 45891. 90545. 60812. 53971. 11Groundnut3, 911.
 872, 486. 133, 318. 834, 812. 953, 373. 765, 575. 00399. 37472. 65181.
 12124. 85Source: GEPC, 2012 and Author's own computation

Conclusions

There seem to be a rising trend in the performance of the non-traditional export sub-sector. However, this rising trend has mostly being from the increasing number of processed and semi-processed products from the country. The shares of the various components in the non-traditional export sub-sector have been declining with the exception of the processed and

semi-processed products. Though there seem to be a decline in shares of the agricultural component of the non-traditional sub-sector, there are clear evidences of the importance of institutions and policies in the sector. Institutions with policies of the form of capacity building (MiDA and GEPC) like the provision of extension services to farmers or training of individuals and exporters in the various best practices of their industry; financial support like that of the MiDA Agricultural Credit Programme that ensured that farmers that were eligible for loans and applied got loans for their agricultural businesses; and enhanced infrastructure which is of the form of roads that linked markets and farming communities. Aside these, the distribution of starter packs in the form of seeds, fertilizers, Wellington boots and other farm inputs as part of the training package for the MiDA training really went a long way to enhancing best farm practices as well as increased outputs of farmers. To enhance the non-traditional export sub-sector the more, institutions should come on board and policies such as the ones outlined should be adopted and carried out to make the horticultural bit of the agricultural component a very vibrant one. Constraints to the NTE sub-sector come in various forms and it is high time institutions and policies are meted out to tackle these constraints we really want the subsector to grow the way it should.