AGRICULTURE DIALOGUE

Case Study

Should Ghana give a discount on main crop cocoa beans to local cocoa processors?

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Contents

List of tables, figures and boxes

Acronyms and abbreviations

ARD	Agriculture Research Dialogue
CABRI	Collaborative Africa Budget Reform Initiative
CMC	Cocoa Marketing Company
COCOBOD	Ghana Cocoa Board
GDP	Gross Domestic Product
GEPA	Ghana Exports Promotion Authority
GFZB	Ghana Free Zones Board
GIPC	Ghana Investment Promotion Council
GOG	Government of Ghana
LBC	License Buying Companies
MoF	Ministry of Finance
MOTI	Ministry of Trade and Industry

Abstract

Should Ghana continue to export its raw cocoa beans or encourage domestic processing of its beans? If so, what should the conditions of price and non-price incentives be?

Despite the intent of policy to promote value addition and having already attracted major processors, the system is not working well. Ghana appears to be following a strategy of exporting its raw beans rather than adding value by processing the beans into semi-finished and finished products.

This report explores three related questions:

- How can Ghana balance its immediate revenue gains from the sale of cocoa beans exports on one hand, with its desire to maximise value and to create jobs with further processing on the other?
- How far along the value chain should Ghana go if it decides to pursue further processing?
- Under what arrangements should Ghana pursue this value addition proposition to the mutual benefit of Ghana and the processing firms?

This case study throws some light on these questions, and suggests options for discussions.

Acknowledgements

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1. Statement of the problem

Sometimes it is difficult to pinpoint when a great story begins. But when the British Colonial Governor Sir William B. Griffith in the late 1890s started a botanical garden to distribute cocoa seedlings to farmers, he was seeding what would become the most important crop to Ghana. By this initiative, he exalted Tetteh Quarshie, the man credited to have brought cocoa to Ghana from Fernando Po (now Equatorial Guinea). The first documented shipment of cocoa from the then Gold Coast was made in 1893. By 1911, Ghana was the world's leading exporter, supplying the then emerging European chocolate market.

For over half a century, Ghana exported all its raw cocoa beans. This happened until value addition became a national goal to enhance the earnings from the cocoa industry and to expand growth opportunities through cocoa.[1] But there seems to be a contradiction between the national goal and the ways and means of achieving that goal. Despite the stated goal and having already attracted major processors into the country, the system is not working well. It appears that the practice is oriented more towards exporting raw beans rather than adding value by processing the beans into semi-finished and finished products.[2] According to industry stakeholders, the limited progress is linked to the government's immediate revenue needs from exports of raw beans on the one hand and the appropriate incentives (especially the reliable supply of beans and price discounts) to attract investments in value addition on the other. A complementary view is that although there may be higher margins to processed cocoa, Ghana also earns high premiums from the export of raw beans because of its high quality cocoa.

2. Introduction

2.1 The case study

This case study forms part of the Agricultural Sector Dialogue initiated by the Collaborative Africa Budget Reform Initiative (CABRI), a peer learning network of senior budget officials in Africa. The goal of the Agriculture Research Dialogue (ARD) is to facilitate conversation among public officials on the policy challenges in the agriculture sector and to discuss better and more efficient ways to plan, finance and manage spending in the sector. The question remains, why a case study on Ghana's cocoa raw bean exports and its value addition dilemma?

As the second largest producer of cocoa beans after its neighbour, The Ivory Coast, Ghana in 2010/2011 captured about 20% of the estimated US$9 billion global cocoa beans market. Cocoa has long played a crucial and strategic role in Ghana's economic development, accounting for about 10% of Gross Domestic Product (GDP), generating about 25% of export revenues and remains an important source of rural employment.[3] Like many of the continent's commodity producing economies, less than 25% of Ghana's cocoa beans are locally processed, limiting Ghana to capture only 5% of the estimated US$28 billion of the global intermediate products market and only an insignificant share of the global final consumer market of US$87 billion.

Cocoa has long held a unique position in Ghana's agriculture as the most important economic crop for the nation. Six of Ghana's ten regions grow the crop. And for the nearly 800,000 or so smallholder farms and their households cocoa farming represents a fundamental capital base for income and employment.[4] The direct benefit of cocoa is critical in poverty reduction in the

1 Essegbey and Ofori-Gyamfi (2012).

2 Adwoa Pinaming Tutu (2010).

3 World Bank (2012).

4 Essegbey and Ofori-Gyimah, 2012.

areas where it is grown and for the overall growth of the economy. The indirect benefits of cocoa are in food security. Most farmers inter-crop cocoa with food crops to generate immediate income because of the time it takes for cocoa to yield fruits for harvesting. When cocoa starts bearing fruits, higher productivity and greater incomes are most vital since it is no longer possible to grow food crops on the same land. Government interventions to increase productivity, crop quality, guarantee prices and enhance farmers' incomes are therefore vital. Government spending on the cocoa sector is generally expected to be self-financing. Revenues from cocoa sales form the backbone of the government's active management of the cocoa sector which, according to many observers, has contributed immensely to the success of the Ghana cocoa story.[5]

How does the export or the processing of raw beans affect government revenues? The export of raw cocoa beans have been central to Ghana's development since independence, and of late to its poverty alleviation strategy. Having emerged as the leading cocoa producer, production declined markedly in the 1960s – 1970s, suffered a near collapse in the early 1980s, recovered in the mid-1990s, and re-emerged at the turn of the millennium as the second leading producer after The Ivory Coast. Despite having successfully regained its position as major raw beans producer, Ghana has not developed a clear strategy or articulated its expectations on how to leverage its position to enhance value addition. Despite value addition as a recurring policy theme, there is uncertainty around the implementation of the policy.

For Ghana, the longstanding questions have been whether to continue to export raw cocoa beans or to process locally. They must take the grade and quantity into consideration, and regard the price and possible discounts to local processors. This forms part of the industrial policy reforms and the appropriate incentives which successive governments have had to contend with. From the perspective of efficiency in cocoa sector spending, the government has been successful in the supply of inputs, in disease control and in ensuring the high quality of Ghana's cocoa beans. Unresolved is how to create the environment to facilitate value addition at the origin of production.

There are three related questions:

- How can Ghana balance its immediate revenue gains from the sale of cocoa beans exports on one hand, with its desire to maximise value and to create jobs with further processing on the other?
- How far along the value chain should Ghana go if it decides to pursue further processing?
- Under what arrangements should Ghana pursue this value addition proposition to the mutual benefit of Ghana and the processing firms?

This case study will throw some light on these questions and suggest options for discussions.

2.2 Outline of study

The rest of the report is organised as follows: Starting with the methodology of the study. Followed by Section 3, providing an overview of the cocoa industry and the facts of the industry in Ghana; recent trends in value addition; the local processors; and motivates the questions for dialogue. The legal environment, institutions, incentives and the implications for the supply of beans for further processing follow in Section 4. Section 5 outlines the options for policy considerations and discussions, followed by the conclusions in Section 6.

5 Shashi K. and Marcella V, "Cocoa in Ghana: Shaping the Success of an Economy", (not dated).

2.3 Methodology

The case study has relied on desk research and face to face interviews with Ghana Cocoa Board (COCOBOD), cocoa processing firms, Ministry of Trade and Industry, Ministry of Finance, and the Ghana Revenue Authority. Where there are discrepancies in data, as there often are in all the data among the relevant government institutions, we have tended to rely on data from the COCOBOD as the primary data source. Reporting lags and failure to update provisional data often account for the data discrepancies.

3. Cocoa in Ghana

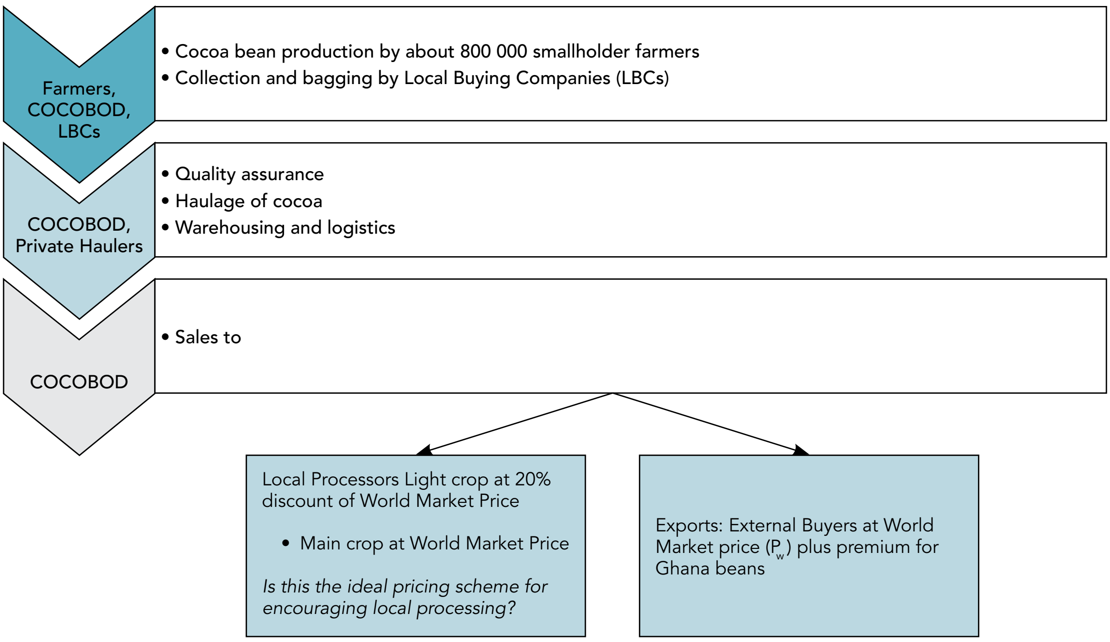
3.1 From production to sales

Estimates differ. There are about 700,000 to 800,000 small cocoa farmers, forming the backbone of Ghana's biggest agricultural sub-sector industry. These figures exclude those working in other areas of the industry such as processing firms, License Buying Companies (LBCs) and vendors.

Figure 1 below shows the chain of industry activities from production to sales, the enabling agents, the public-private sector relationships, and the pricing scheme for the supply of beans to local processors.

Ghana has partially liberalised the internal marketing of raw beans. The 28 LBCs at the time of writing are allowed to compete for local market share with each other but without price competition.[6] The LBC provide the first line of quality control and undertakes the transportation of the raw beans to collection depots and warehouses.

Figure 1: The cocoa industry – from production to sales

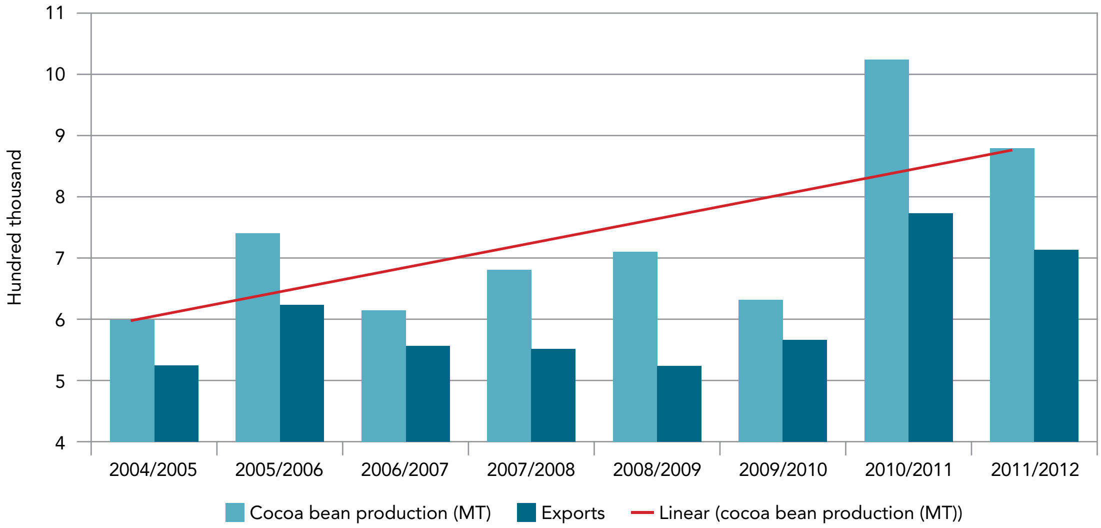


6 Ghana Cocoa Board, Ghana Cocoa Sector Strategy, Ministry of Finance, April 1999.

3.2 Cocoa bean production and export

Figure 2 shows trends in cocoa bean production and export. Apart from the slight dip in 2006/2007, cocoa production has been increasing consistently between 2001 and 2010/2011. Improved cocoa bean yield has been attributed to the concerted efforts of support to the cocoa sector, farmers, major stakeholders and favourable weather conditions.

Figure 2: Cocoa bean production and export



Efforts include privatisation of input supply,[7] disease control, fertiliser applications, the development of hybrid cocoa seedlings with higher yields, adherence to improved farm practices, higher cocoa prices paid to farmers, rehabilitation and replanting of old farms, and increased public spending on infrastructure, especially road rehabilitation works in cocoa growing areas and upgrades of the country's two primary ports at Tema and Takoradi.[8] The stated goal to achieve a total cocoa production of 1 million tons was achieved in 2010/2011. This progress notwithstanding, cocoa yields in Ghana are reported to be well below international average, suggesting there is scope for further productivity increases.[9]

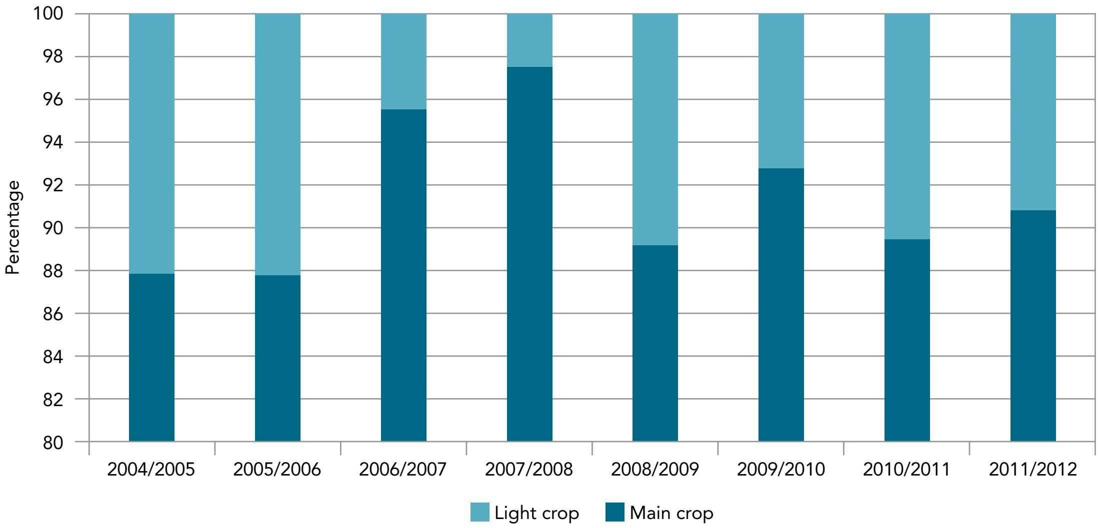
Ghana's bean production is of two types: the main crop (main season: October – June) and the light crop (minor season July – August). What is striking about production trends is the high proportion of the main crop (Figure 3), representing about 83% of the total bean production. Compared to production in the late 1990s and early 2000s, the light crop output is on the decline as a fraction of the total production because of improvements in bean characteristics (through research) and cocoa varieties, with improved bean size and yield per tree.

7 Although input supply is for the most part in the hands of the private sector, government through COCOBOD retains an active role through subsidised input distribution programs, while farmers bear the bulk of the costs (World Bank, 2012).

8 USDA Foreign Agricultural Service, Global Agricultural Information Network Report, March 2012.

9 Ghana's average annual cocoa yield of about 330kg/ha is judged to be among the lowest in the world and according to the World Bank (2012), compares unfavourably to leading producers Cote d'ivoire (580kg/ha) and Indonesia (770 kg/ha).

Figure 3: Main and light crop production



Ghana's main cocoa crop is considered to be among the finest in the world, with its bigger size beans and higher butter yield. Known for their quality and depth of flavour, the main crop beans, according to the International Cocoa Organisation, has become the world's standard against which all cocoa is measured. Manufacturers want beans that are of that quality and depth of flavour. For this reason, buyers of Ghana cocoa pay a premium ranging US$50–US$100 per metric ton.[10] Ghana's rigorous quality control practices and the layers of monitoring at the time of purchase are all part of the government's intervention through the COCOBOD.

3.3 Value addition

For Ghana, whether to export raw cocoa beans or to process (what grade and quantity) locally and under what arrangements by way of assurances of supply and at what price (or discount) to local processors is the policy question successive governments have had to deal with. Predictably, public policy response has been to increase earnings through further processing. Yet, the implementation of this long-standing national goal has varied from one regime to the other. A legacy of inappropriate incentives and institutional coordination challenges partly account for the limited progress in further processing.

10 International Cocoa Organisation and USDA Foreign Agriculture Service, 2012. Ghana's cocoa is subjected to a minimum of three stages of quality control prior to shipment. This gives assurance and confidence to buyers to buy Ghana's raw cocoa beans.

Figure 4: Cocoa processed as percentage of export

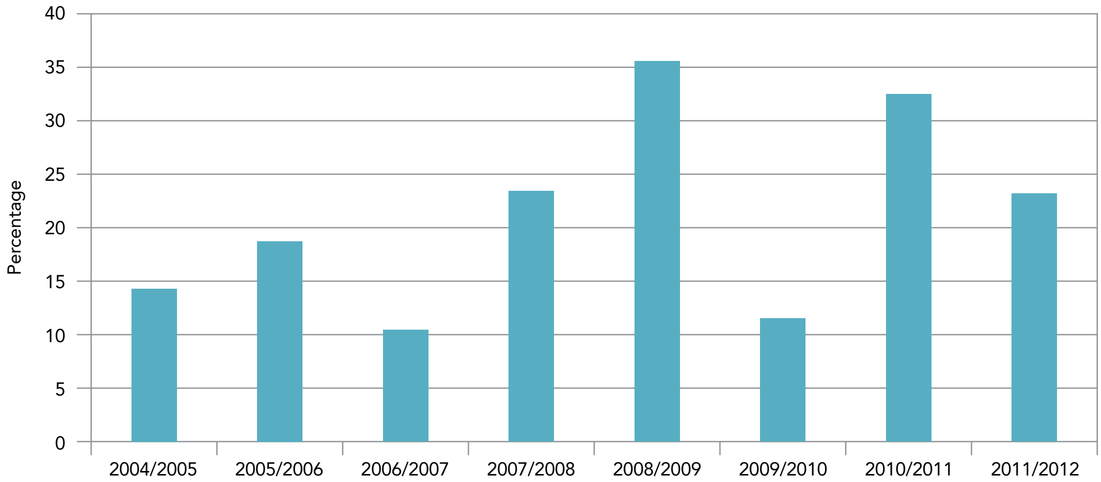
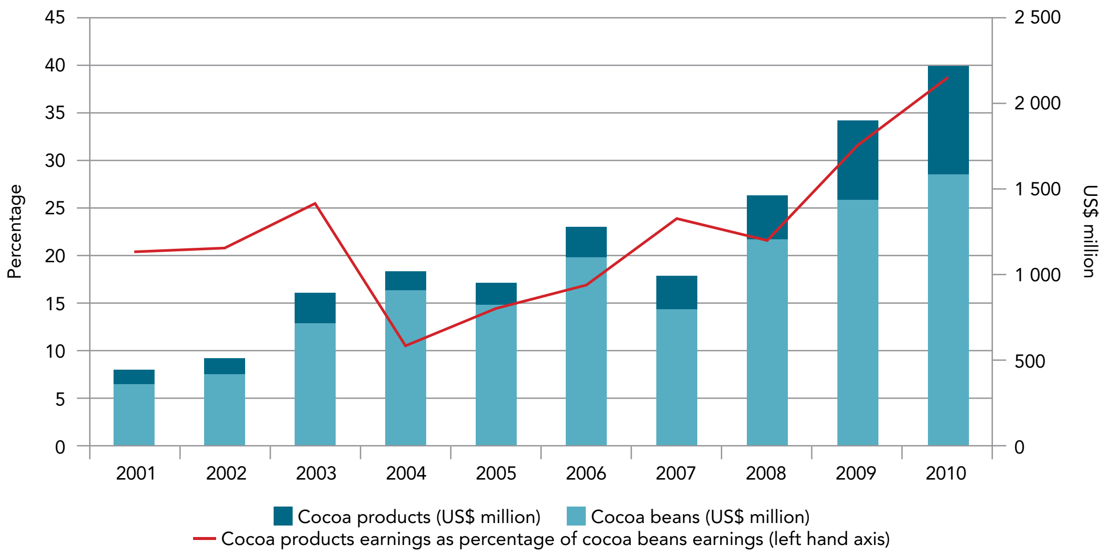


Figure 4 shows that the goal to achieve at least 40% processed cocoa as a proportion of export is far from being realised. The proportion of cocoa processed as a percentage of exports has ranged from as low as 10.4% in 2006/2007, to a high of 35.6% in 2008/2009, averaging 25% between 2007 and 2011.

Figure 5 shows the value of cocoa beans and cocoa products (intermediate processed products such as butter, cake, and powder) export. Despite the increase in the volume of cocoa bean export compared to what is processed locally, the growing contributions to the total value added are evident in Figure 5. Processed cocoa product earnings as a percentage of cocoa bean export have risen markedly since 2004 from a little over 10% in 2004 to nearly 40% in 2010. There has been a significant increase in value addition since 2008, indicating the high value uplift and premiums in earnings from processed products. The important question is whether more of the beans are to be processed and if so, under what terms and conditions and how much progress is being made.

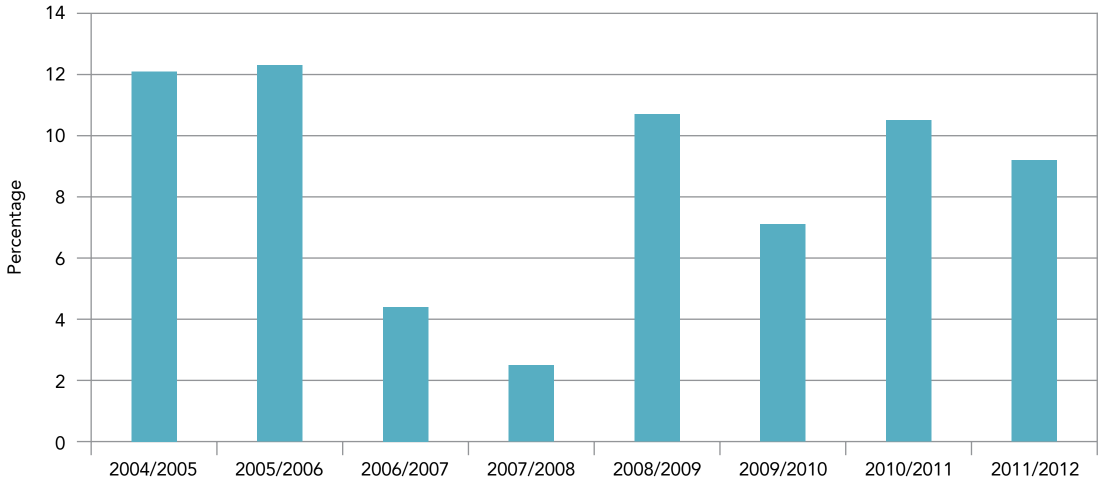
Figure 5: Cocoa export earnings 2001 – 2010



Current cocoa value chain policies appear more tilted toward maximising revenue from cocoa beans sales from which the government of Ghana and COCOBOD keep 9% of cocoa gross revenue. The only policy in place for attracting and encouraging local cocoa processing is the

20% discount given to the light cocoa bean harvests that constitutes less than 10% of the total cocoa production (Figure 6). As we will see later in the report, competition for low-grade discounted beans is on the rise, amid declining availability. This is largely the result of quality-enhancing on-farm investments, turning even the minor season crop into high-quality beans. The chief concern then is the availability of affordable, high quality cocoa for domestic processing.

Figure 6: Light crop as percentage of total production



Given the diminishing supply of light crop beans as a percentage of total production, many processors operate below capacity. A range of views has been expressed on the prospects of local value addition and the supply of beans. Processors argue that, to meet even the 40% mandate, there should be a discount on main crop beans for those who process the beans locally. This is an argument that COCOBOD rejects on the basis of a lack of strong evidence of the impact of local cocoa processing in Ghana's economy. Moreover, in light of the high transaction costs of doing business in Ghana, most notably energy cost and unreliable water access, processors see no advantage in locating at the origin of supply of input under the Draft Bean Supply Agreement (Box 1), especially since the domestic chocolate confectionary market is undeveloped.

Box 1: Some key elements of the Draft Bean Supply Agreement

- Buyer and the Supplier have agreed that the Supplier shall supply Ghana cocoa beans to the Buyer for processing in Ghana.
- Light crop is normally made available to the Ghanaian Processing Industry. However, after satisfying the local plant, the rest will be offered for export.
- The Supplier allows the Buyer to buy light crop beans in year zero of investment, under the condition that existing local industries are supplied as per the prorate system based operating capacities.
- If there are not enough light crop beans in any given year, the Buyer will be entitled to purchase (subject to availability and quantity of) main crop beans from the Supplier at the prevailing market price.

Source: Extract from Draft Bean Supply Agreement from Ghana Cocoa Board (Not dated).

There are two conflicting goals. How can Ghana balance the immediate revenue and the foreign exchange earnings from cocoa beans exports on one hand and the potential fiscal and job-creation benefits associated with cocoa processing on the other? Local processing means immediate foregone revenue if the additional main crop beans are sold to local processors at a discount. The gains from cocoa processing are less direct and the fiscal benefits accrue over time through payroll and corporate taxes that also depend on the degree of processing up the value chain; the lower the scale of value addition, the lower the demand for complementary inputs, and the lesser the employment and potential tax revenue effects.

Currently, main crop beans are sold to local processors at full international market rate while the light crop beans are sold at a 20% discount rate. (See Box 1.) The fiscal question is what is the value for money if Ghana decides to forgo some of the immediate revenue it receives from main crop cocoa beans in order to encourage local processing? Would the taxes and foreign exchange earnings from the value uplift from further processing more than compensate for the immediate revenue loss to government?

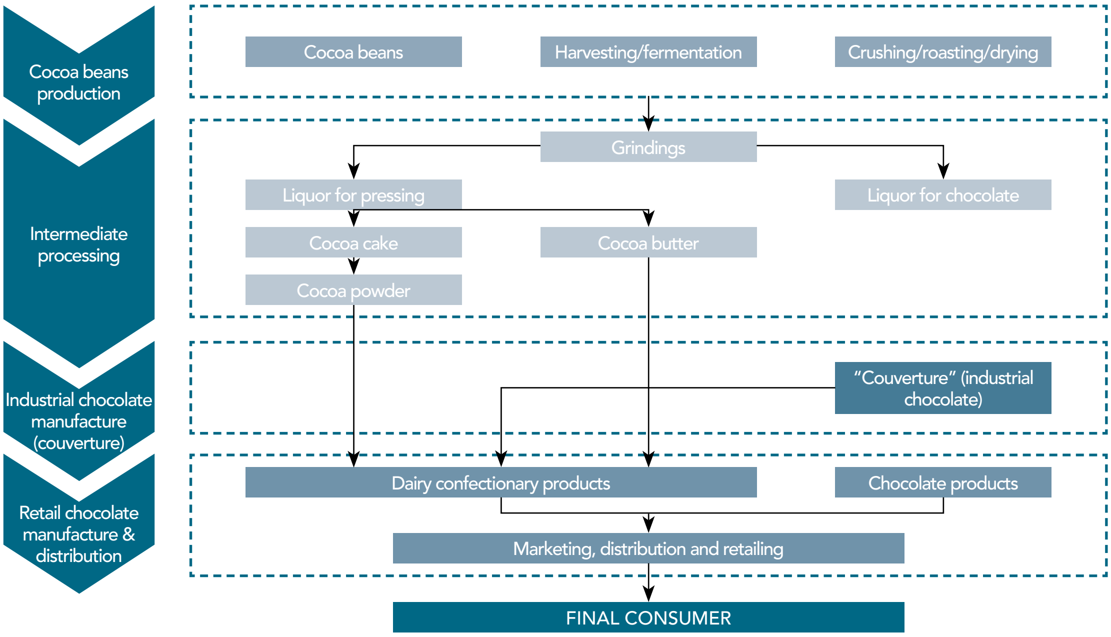
Answers to these questions are not made any easier if we take three other factors into consideration:

- As noted earlier, Ghana's unprocessed cocoa beans fetch about four to 6% premium on the international market because of its high quality. But, more than the price premium, perhaps the most significant factors are the high barriers to entry in markets for semi-processed and final products.
- Freight costs for many processed commodities such as cocoa powder and butter are generally known to be higher than those on primary unprocessed components such as cocoa beans.[11]
- Moreover, there are high tariff walls with regards to the export of processed products. For example, the European Union levies no duties on the import of raw cocoa beans, but levies a 7.7% and 15% ad valorem duty on cocoa powder and cocoa cake, respectively.

The premium attached to the raw cocoa beans, the high barriers to entry, and the ad valorem duty on processed products together suggest that perhaps there may be substantial benefits to exporting raw rather than processed cocoa beans. We are confronted with the following question: If further processing is to be done, how far along the cocoa global value chain should Ghana go to maximise the net benefits from value addition?

11 Bass, HH. "Structural Problems of West Africa Cocoa Exports and Options for Improvement", African Development Perspectives Yearbook, 11 (245-263), 2005.

Figure 7: The cocoa value chain



Source: Cocoa, Agro-Processing Opportunity in Africa, ACET Manuscript, 2012.

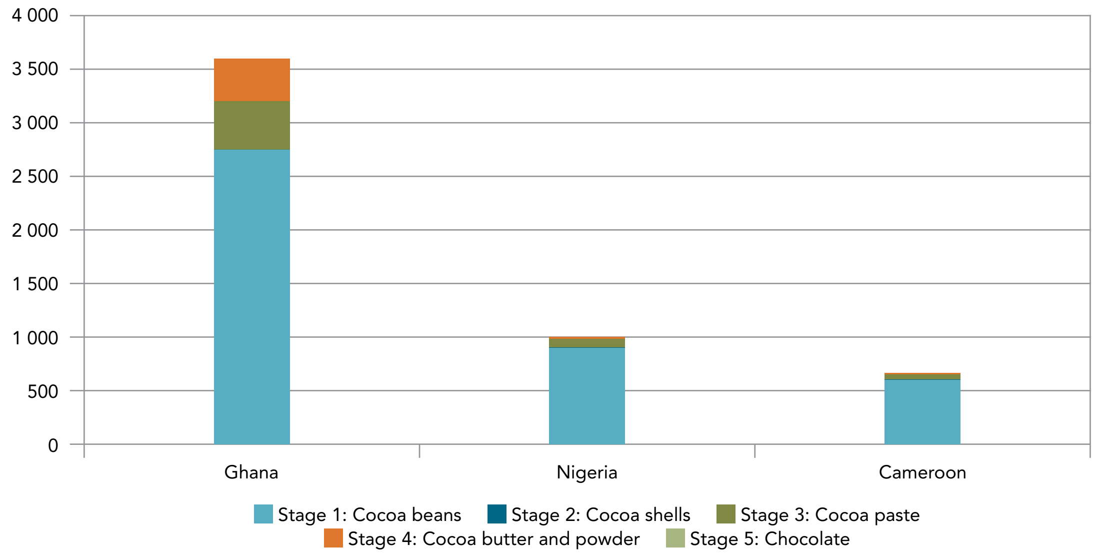
3.4 Cocoa value chain and some comparisons

Figure 7 above illustrates the value chain from the production of the beans, to intermediate processing; industrial chocolate manufacturing; and finally to retail manufacturing and distribution. The choice of how far to go along the processing value chain is both a strategic industrial policy challenge and an export policy challenge that Ghana needs to address. The Cocoa Sector Development Strategy published in 1999 affirms Ghana's long-standing plan to pursue some further processing. Indeed, in its pursuit to expand domestic processing, COCOBOD sought joint ventures on an equity basis.

Figure 8 compares the value added content of three cocoa producing countries: Ghana, Nigeria and Cameroon. In 2011, for Ghana, the largest producer among the three, raw bean exports represented about 76% of the total cocoa exports of US$3.5 billion, for Nigeria 83% of the nearly US$1 billion exports and 87% of Cameroon's US$0.7 billion exports (UNECA, 2013). The stages represent steps up the value chain, ranging from raw cocoa beans to the final products in Stage 5.

Figure 8: Value added content of cocoa exports: Ghana, Nigeria, Cameroon

(2011 US$ thousands)					
	Stage 1: Cocoa beans	Stage 2: Cocoa shells	Stage 3: Cocoa paste	Stage 4: Cocoa butter and powder	Stage 5: Chocolate Confectionary
Ghana	2750	0	450	400	
Nigeria	900	2	83	15	
Cameroon	600	2	50	10	



Processing is restricted to the traditional conversion of beans into first stage intermediate products (Stage 3) and marginally into Stage 4. Stage 5 involves industrial chocolate manufacturing and retail chocolate manufacturing.

Figure 9 shows the value added for selected developing countries in 2011. While Malaysia, Brazil and Mexico have advanced further down the value chain into Stages 4 and 5, the West African countries, Cameroon, Cote d'Ivoire, Ghana and Nigeria, remain predominantly raw beans and cocoa shells exporters with fairly minimal progress into Stages 4 and 5.[12]

12 According to Lindsey Partos, when Barry Callebaut opened its third largest processing facility in Mexico, the rationale was to move closer to the emerging and attractive Mexican chocolate confectionery market. At a time when chocolate consumption in the US and Europe were on the decline due to the recession, chocolate confectionery in Mexico was predicted to be growing at about 6% per year. ("Barry Callebaut opens Mexican chocolate plant", www.confectionaerynews.com/content accessed July 2, 2013).

Figure 9: Value added content of cocoa exports of selected developing countries, 2011

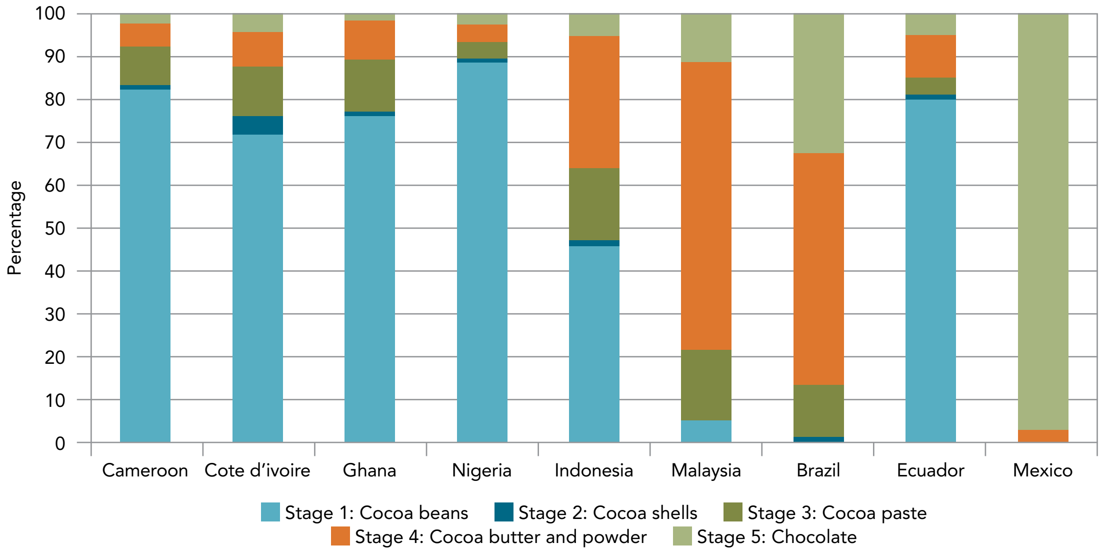
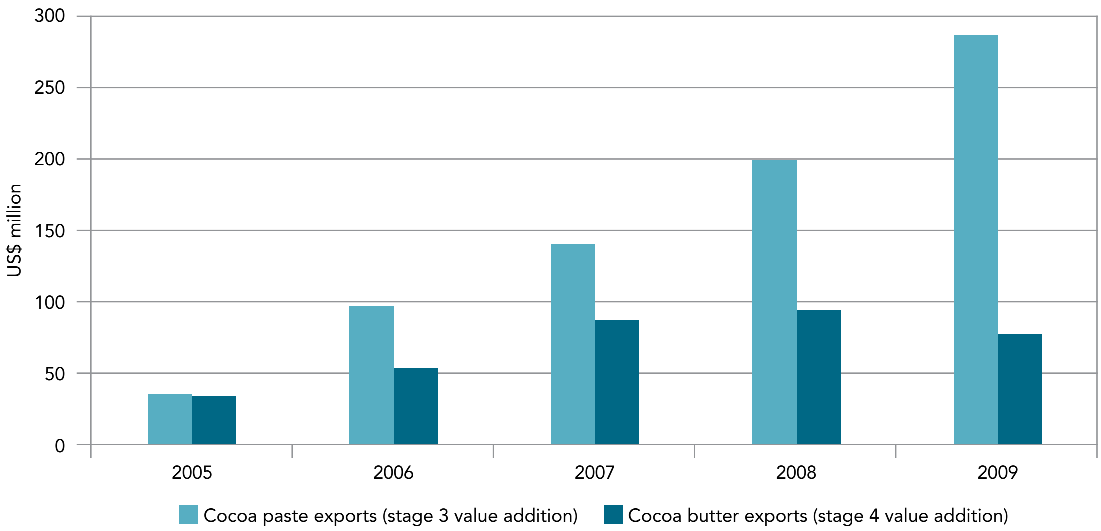


Figure 10 shows the trends in Ghana's processing along the value chain between 2005 and 2009. Ghana's value chain is confined to the intermediate processing with the grinding of nibs into cocoa paste (Stage 3) which increased by 340% compared to cocoa butter exports that increased by 190% during the same period.

Figure 10: Ghana exports of cocoa paste and cocoa powder (US$ million)



Not having defined clearly and satisfactorily a national cocoa processing agenda, it is easy to see why Ghana is still muddling through the challenges of how to make the most from cocoa processing and how to organise the processing industry, including their scale of operation and regulations.

3.5 The local processors

Of the 17 registered local processors, 41% are wholly Ghanaian owned, 41% are joint ventures between foreign and Ghanaian companies and 17% are wholly foreign owned. However, of the eight companies that were operational at the end of 2012, the top three in terms of processing capacity and production, namely Barrry Callebaut, Cargill and ADM, are wholly foreign owned.

Table 1: Local processors, ownership, capacity and employment

Company	Ownership profile	Date of establishment of factory	Installed capacity as at April, 2013	Number of employees
CPC LTD-Tema	Ghanaian (Public)	1965	64 500	281
WAMCO LTD-Takoradi	Joint venture (Ghana and Germany)	1947	47 000	268
BARRY CALLEBAUT LTD-Tema	Wholly foreign owned (Swiss)	2000	67 000	99
AFROTROPIC- Accra	Joint Venture (Ghana and Italy)	2007	15 000	112
NICHE COCOA INDUSTRY -Tema	Wholly Ghanaian owned	2007	18 000	165
CARGILL-Tema	Wholly foreign owned (Belgian and France)	2008	65 000	173
ADM LTD- Kumasi	Wholly foreign owned (Dutch)	2008	42 000	82
PLOT - Takoradil	Wholly Ghanaian owned	Oct-09	32 000	113
B.D ASSOC. - Tema		installation of machinery in progress	–	N/A
CALF COCOA		1999 (yet to commence operations)	15 000	N/A
REAL PRODUCTS -T'di		installation of machinery in progress	–	N/A
Total		–	**3 65 500**	**1 293**

Source: Data from COCOBOD (2013), IGC (2011), Data from GFZB Annual Reports.

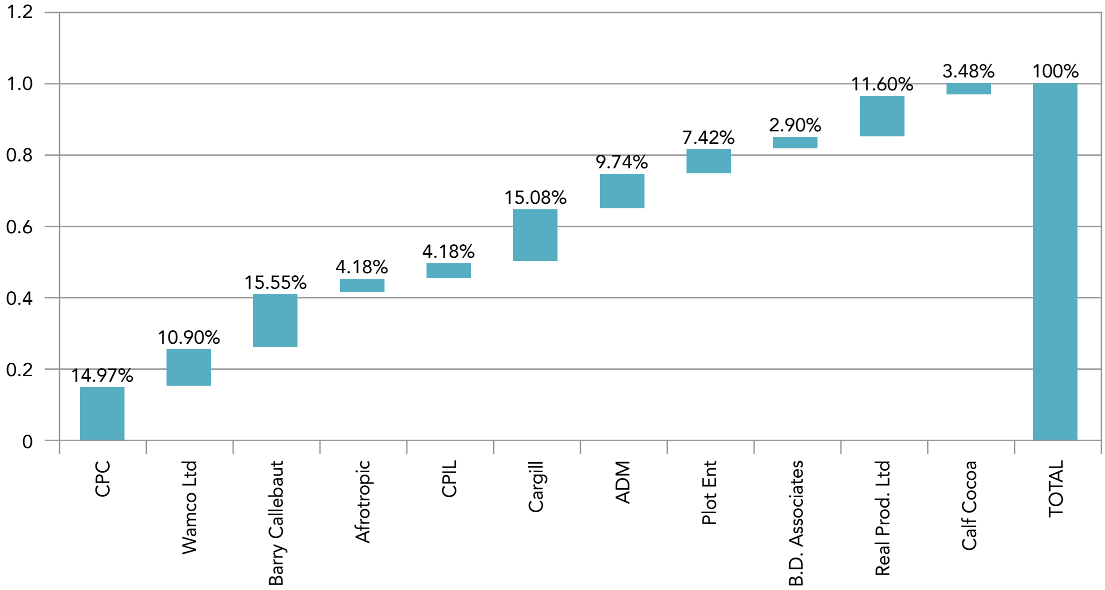
The industry's contribution to national employment arguably has been limited and this raises concerns about the job creation prospects of further processing. It also strengthens the counter-arguments for the incentives provided to local processing companies. Accounting for the low employment is the technological innovation and automation by the companies. By 2013, the total number of employees engaged by cocoa processing companies were just 1 293.[13] The top cocoa processing company with the highest processing capacity employed one of the least number of employees, only 99. The use of expatriates is high and some point to the liberalising provisions of The Free Zones Act (Act 504). For example, in 2008, of the 82 employees of one of the top three cocoa processing companies, there were only ten nationals.

However, as a proportion of all free zone companies, the cocoa processing sector has made significant contribution to income taxes; social security contributions; and training of nationals. For example, in 2008, seven companies contributed almost 20% of the total income taxes paid by all free zones companies, a little over 10% of the total social security contributions from free zone companies, and almost 40% of the total amount spent by free zone companies on training for Ghanaian nationals.

13 2013 Data from COCOBOD.

Figure 11 shows the distribution of processing among processing firms during 2010/2011, based on the supply of beans. While there is no dominant processor, processing is led by the publicly-owned CPC followed by the three foreign-owned companies, Barry Callebaut, Cargill and ADM, then by the joint venture company WAMCO. COCOBOD pointed to the ability to pay on delivery as the sole basis for the allocation of beans.

Figure 11: Cocoa processing in Ghana: 2010/2011



Source: COCOBOD, 2013.

Table 2 gives an indication of the total capacity utilisation of processing companies from 40.1% in 2010/2011 to 52.6% in 2011/2012. The imbalance of processing capacity and access to raw beans is a major source of concern among processors who have installed capacity with the implicit understanding that they will have access to raw beans. By all indications, COCOBOD appears to have no such formal understanding. Supply expectations alone cannot explain the excess capacity problem. The combination of economies of scale and the companies' own strategic behaviour as part of their competition may be additional contributory factors.

Table 2: Capacity utilisation of local processors

	2010/2011	2011/2012
Estimated installed capacity (MT)	353,500	431,000
Processed beans (MT)	141,900	230,000
Unutilised capacity (MT)	211,600	201,000
Capacity Utilisation (percent)	40.1	52.6

Source: COCOBOD, 2013.

4. The policy framework and institutional environment of cocoa processing

According to industry observers, the limited progress in value addition may have as much to do with the external tariffs and dominance of a few large firms in the global value chain as it has to do with the legacy of policy inconsistency, inappropriate reforms and weak institutional coordination.

4.1 Policy framework

Cocoa processing has been a long-standing objective of the national agenda, to develop the industry, to enhance earnings and to create jobs. The Ghana Cocoa Board Act, 1984 (PNDCL 81) that currently governs the industry, has as one of its twelve key objectives: to establish or encourage the establishment of industrial processing factories for the processing of cocoa and cocoa waste into marketable cocoa products.[14]

Cocoa processing is also one of the eleven key focus areas highlighted in the 1999 Cocoa Development Strategy.[15]

More recently, Ghana's broader ambitions for processing are further detailed in the Industrial Policy, launched in 2011. One of the four key objectives of the Industrial Policy is to promote agro-based industrial development.[16]

Other notable Acts are (a) the Ghana Investment Promotion Centre Act which seeks to promote investment in key priority areas, including cocoa processing and (b) the Ghana Free Zones Act which seeks to attract foreign direct investment into free zones with tax holidays and concessions. The new National Export Strategy for the non-traditional sector 2012–2016 includes as one of its top priorities for the development of the non-traditional sector, a sector strategy for the processing of cocoa beans into cocoa products.

4.2 Institutions

At least six key institutions are involved in the broad environment for the management and implementation of cocoa bean processing. These include: Cocoa Board (COCOBOD), Ministry of Trade and Industry (MOTI), Ministry of Finance (MoF), Ghana Exports Promotion Authority (GEPA), Ghana Investment Promotion Council (GIPC), and Ghana Free Zones Board (GFZB).

COCOBOD is a parastatal body that operates under the Ministry of Finance, and is the top national institution charged with managing and regulating the cocoa sector. Unlike other cash crops which fall under the remit of the Ministry of Food and Agriculture, cocoa affairs fall directly under the Ministry of Finance. This is perhaps to underscore the strategic importance of cocoa revenues to national development. The cocoa beans sector is heavily regulated. As we saw in Figure 1, COCOBOD plays a key role across the Ghanaian supply chain, providing subsidised inputs and guaranteeing purchase prices to farmers, and directly managing all exports through its wholly owned subsidiary, the Cocoa Marketing Company (CMC).

Although COCOBOD's mandated functions include the processing of beans, its influence in the cocoa value chain declines substantially after the marketing of the beans, carried out by Licensed Buying Companies (LBC) on behalf of COCOBOB. Value addition activities are

14 Ghana COCOA BOARD ACT 1984 (PNDC 81).

15 Ghana Cocoa Board, Ghana Cocoa Sector Strategy, Ministry of Finance, April 1999.

16 Ghana Industrial Policy.

regulated by the MOTI. Recognising that less than 25% of the cocoa beans are locally processed, MOTI set the target of achieving at least 40% processing, a target that has recently being increased to 60%. The Ghana Export Promotion Authority is an autonomous body under the aegis of MOTI, established as the "central institution" that works towards the promotion and development of non-traditional exports. At the top of its priority list of products for export development is cocoa products, including cocoa paste, cocoa butter and confectionery. The GFZB is the government agency responsible for establishing free zones for the promotion of economic development in Ghana while the GIPC promotes all other investments.

4.3 The incentives and revenue effects

The incentives to encourage local processing are provided on a more general basis and apply to a number of subsectors prioritised for attracting investment, among which cocoa is one. These incentives are outlined in the Free Zone Act, 504 of 1995 and the GIPC Act 478 of 1994. Broadly speaking, the main incentives provided cover taxes, capital investment requirements, transfer of funds and employment laws. The package of incentives as they apply to local cocoa processing and what they mean for government revenue and local employment generation are summarised in Table 3 below. To a large degree, local processors are exempt from the payment of many of the tax components from which the expected benefits are derived. These range from the payments of corporate taxes for the first ten years and at a concessionary rate thereafter. The concessionary rate of 8% is well below the current corporate tax rate of 25%.

Table 3: Analysis of incentives and benefits provided to processors

The Free Zones Act, 1995 (Act 504)	Analysis of incentive clauses and what they mean for GoG[17] revenue and employment effects
Exemption from the payment of income tax on profits for the first ten years from the date of commencement of operation. After ten years income tax rate shall not exceed 8%	Zero to reduced income tax on profits effectively reduces immediate GoG tax revenues from processing
Foreign employees exempt from paying income tax on earnings in Ghana	In 2002, there was an amendment so that foreign employees pay income tax on income earnings; the amendment allows GoG revenue collection
Exemption from the payment of withholding taxes or dividends arising from free zone investments	Zero withholding taxes on dividends from investments thus reduces GoG tax revenue
Foreign investor may take and hold 100% of shares and a domestic investor may hold a maximum of 100% shares	Zero shareholder thresholds/no restrictions on foreign or local participation; effectively no local empowerment to participation
Dividends or net profits attributable to the investment; loan servicing payments for foreign loans obtained; remittance of all proceeds (net of all taxes and other obligations paid) in the event of sale or liquidation of the enterprise	Unconditional transfer of funds in free convertible currency can negatively impact balance of payments
Free to negotiate and establish wage scales, minimum working hours	Exemption from local employment laws and curtails local job creation
Exemptions from import and export duties and direct and indirect taxes and duties	Import/export duty exemption has implications on import-substituting local firms and on GoG revenue
No minimum capital requirements for enterprises set up solely for export	Zero to reduced capital investment requirements

Source: Analysis of Free Zone Act 504, 1995 and GIPC Act 478, 1994.

17 GoG means Government of Ghana.

COCOBOD and the Ministry of Finance would not openly admit the conundrum of what the free zones provisions mean for immediate revenue needs. But this trade-off of immediate revenue appears to be the crux of the dilemma for further local processing of the main crop. In addition, since the large processing firms are wholly foreign owned and are free to operate foreign currency accounts abroad, there is little reason to expect that Ghana gains fully from the foreign exchange earnings. A discount on the main crop arguably represents a subsidy by way of foregone revenues which benefit the large foreign firms. The potential loss of immediate revenue through discount sales therefore can be substantial.

Box 2: Dialogue questions

1. How can Ghana balance its immediate revenue gains from the sale of cocoa beans exports on one hand, with its desire to maximise value and to create jobs with further processing on the other?
2. How far along the value chain should Ghana go if it decides to pursue further processing?
3. How should Ghana develop robust policies to encourage domestic cocoa processing for exports without unduly sacrificing COCOBOD's finances and the government's fiscal benefits?

4.4 Fragmentation and the coordination problem

Because all the institutions operate under their own mandate, there is a sense that the policy and legal framework and the institutional structure for cocoa processing could benefit from better coordination. Domestic processors point to a rather polarised institutional structure, especially in relation to MOTI's desire to promote investments in agro-processing and the desire to maximise revenues from raw beans sale. On one side COCOBOD is controlling the marketing of both the main and light crop and prescribing producer prices, clearly with an eye on its financial results and sector spending. The Ministry of Finance provides the funding and collects and manages the revenue from export duties, taxes, and licensing. Spending on the cocoa sector is directly linked to the availability of funds through implicit taxes on cocoa exports. On the opposite side is MOTI with overall management and formulation of national trade and industrial policies, and its allied institutions (GIPC, GEPA and GFZB) charged with implementation of policies that include cocoa processing investment promotion and monitoring and evaluation of activities in the sector.

It appears that the targets for cocoa processing are set in isolation, with little coordination between the agencies on the supply and demand sides of the local cocoa beans market. A recent assessment by the World Bank (World Bank, 2012) suggests that it is likely that COCOBOD first determines its export capacity with an eye on its revenue and foreign exchange earnings. The cocoa that is not exported is sold in the local market for further processing. There is clearly inconsistency in the policy, if this is indeed the case. The obvious challenge is how to resolve the tradeoffs that arise from the aggressive incentives provided to encourage local processing under the Free Zones Act, 504 of 1995 and the revenues and job creation benefits from further processing.

5. Options for discussion

Against this background the following options are worthy of discussion.

Option 1: Export raw beans (no processing)

Should Ghana focus on the export of raw cocoa beans, devoting its research and development into closing its yield gap and improving the quality of its bean crop and maximise the premium that Ghana's cocoa attract on the world market?

i. Rationale

- Ghana has been able to solidify its reputation as a reliable supplier of top quality cocoa.
- Ghana's raw beans sell at a premium, although this may be diminishing because of growing competition from Nigeria and Cote d'Ivoire.
- Maximises immediate direct revenue contribution to government.
- Government revenue through cocoa export duty is more predictable than corporate income taxes from processors.

ii. Counter-arguments

- Raw beans export means minimum job creation beyond direct farming, harvesting, transportation and warehousing.
- Loss of opportunity to maximise value addition that come with processing along the global value chain.
- Increases fiscal vulnerability associated with commodity price volatility.

Option 2: Export raw beans but do intermediate processing

Should Ghana export part of the raw cocoa beans and process part (both light crop and main) into intermediate products (cocoa paste, butter, powder and cake) because they are easily storable and tradable? Export the semi-finished products to the consuming countries where they are re-processed into final products?

i. Rationale

- Value addition is a long-term national goal. According to COCOBOD, current government policy is to process 60% of national output, up from the earlier target of 40%. In the 2011/2012 crop year, this percentage amounted to all the factories achieving a throughput of 528,000 tonnes.
- On a weighted average price basis, intermediate processed outputs earn a relatively stable premium of approximately 200% over raw cocoa beans.
- There is a potential for job creation.
- There is a potential to expand the manufacturing base through light manufacturing.
- Maximise the installed capacity of existing firms. As of the 2011/2012 season, there were about 12 companies registered as cocoa processing firms. Eight firms were in operation and four have installed capacity but were not in operation. The total installed capacity in 2011/2012 was 431,000 tonnes, but only 230,000 tonnes were processed. Many processing firms justify their installed capacity on the grounds that the scale of processing matters for efficiency.
- Potential additions to tax revenue through payroll and corporate taxes in the long run.

ii. Counter-arguments

- In the late 1990s, the two cocoa processing companies employed 884 persons. In 2011 the 11 processing factories combined employed 1 293 persons. The job creation effects have been minimal, falling from 442 per factory in the 1990s to about 117 per factory, because of the highly automated process. The intermediate stage in the global value chain is capital intensive. Available data suggest that employment by local processing factories has been minimal. The total number of employees has ranged from as low as 82 for PLOT Takoradi to 281 for CPC Ltd, Tema.
- Automation of production means low level local employment and therefore low contribution to personal income tax and social security.
- Since most processing firms are located in free zones, they are exempt from corporate taxes for the first ten years. The tax rate after ten years of 8% currently falls well below the tax rate of 25%.
- Companies also enjoy tax exempt status for imports and therefore there is potential loss of revenues.
- Processed products face high tariff walls in European markets.
- On average higher processing costs per ton weakens Ghana's competitiveness compared to European factories.

Option 3: Export raw beans but exhaust the entire value chain of further processing to retail markets

Finally, should Ghana export part of the raw cocoa beans, do some intermediate processing, and go beyond the semi-finished products to the final products as a long-term strategy?

i. Rationale

- Arguments for Option 2 apply.
- Expand processing beyond intermediate products.
- Potentially maximises the highest value added and profitability.
- With notable success in attracting foreign direct investment into its processing sector, Ghana can begin to influence the global value chain in its capacity as the second largest and renowned quality raw beans producer.

ii. Counter-arguments

- Counter arguments of Option 2 apply, plus more.
- The risk of high capital barriers to entry.
- Within the global context, chocolate manufacturing is dominated by a few US and European corporations. The competitiveness of large operators, vertically integrated, creates huge barriers to entry. Ghana would be competing at a great disadvantage with multinational giant processors.
- The higher up the global value chain of exports, the higher the tariff walls.
- The higher up the value chain of final products, the more vital is the nearness to the market of final consumers because of quality standards and storability.
- Despite all its innovative productivity enhancing measures and incentives to attract foreign direct investment, the cost of doing business in Ghana still remains prohibitive.

6. Conclusion

Where does this leave Ghana's policy and strategy to developing its cocoa sector?

a. Should Ghana focus on its comparative advantage of good soil and climate and harness its spending to increase productivity, disease and quality control and maximise its premium and strengthen its role as a dominant bean producer?

b. How far can Ghana influence the global value chain in order to maximise the gains from further processing?

c. As a medium term strategy, should Ghana define its niche in intermediate processing rather than pursuing processing to the final consumer stage, while gradually enhancing its ability to pursue processing to final consumers in the long run? This way Ghana can develop the leverage in the global value chain as well as the industry expertise and technological capacity in the long run.

d. Should Ghana redesign its industrial policy and Free Zones concept to ensure the revenue gains to government are not sacrificed?

e. Should Ghana develop a bean supply-purchase agreement with local firms that tie the supply of beans (or an ad valorem price discount) to the relative contribution of various firms to government revenue, repatriated foreign exchange earnings and job creation?

From soft commodities to hard commodities, value addition or making the most of African commodities remains a key policy challenge of Africa's development strategy. The preceding outline of the rational and counter arguments of the options highlights a number of the challenges at both country level and the external considerations, particularly tariff walls and global competitiveness. There are no clear cut options. These extreme options of no processing or all processing are not likely to yield the optimum sustainable policy direction. Most promising are the in-between options (Options 2 and 3) that seek the right balance between raw beans export and local processing. Clearly there is a role for public policy which ranges from production to harvesting, to internal and external marketing, and how to influence the global value chain in order to advance local processing. Domestic policy coordination also matters. The current Ghana Free Zones provisions to attract investors on balance weaken the fiscal arguments for further processing.

The policy question about appropriate discount of main crop purchase by local processors can be addressed, using an optimisation method that seeks to choose the optimal main crop bean discount rate (subsidy on the main-crop cocoa beans) that maximises the sum of COCOBOD revenue from cocoa bean sales and the tax revenue collected by the tax authorities from the cocoa processing firms. This is beyond the scope of the current case study. Future analytical work will examine a number of scenarios to explore the introduction of a discount rate, at various magnitudes, and how it affects the sum of revenue from cocoa bean sales and the tax revenue collected from the cocoa processing firms.

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