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CURRENCY EQUIVALENTS

(Exchange Rate Effective as of June 7, 2012)

Currency Unit	=	Ghana Cedi
GH¢1	=	US\$0.54
US\$1	=	GH¢1.84

FISCAL YEAR

January 1 to December 31

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS AND ACRONYMS

ADM	Archer Daniels Midland
AGA	AngloGold Ashanti
AOE	Additional Oil Entitlement
ASM	Artisanal and small-scale gold miners
ASSI	Association of Small Scale Industries
BAC	Business Advisory Centre
BDS	Business Development Services
BoG	Bank of Ghana
CET	Common External Tariff
CIBA	Council for Indigenous Business Associations
CIF	Cost, insurance and freight
CIT	Corporate Income Tax
CLP	Cocoa Livelihoods Program
CMC	Cocoa Marketing Company
COCOBOD	Ghana Cocoa Board
CODAPEC	Cocoa Disease and Pest Control
COTVET	Council for Technical and Vocational Education and Training
CPC	Cocoa Processing Company
CRA	Credit Reference Agency
CRIG	Cocoa Research Institute of Ghana
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CSSVD	Cocoa Swollen Shoot Virus Disease
DAs	District Assemblies
ECOWAS	Economic Community Of West African States
EI	Extractive Industry
EITI	Extractive Industry Transparency Initiative
ERP	Economic Recovery Program
ETLS	ECOWAS Trade Liberalization Scheme
ETR	Effective Tax Rate
EU	European Union
FAA	Financial Administration Act
FAO	Food and Agriculture Organization

FAR	Financial Administration Regulations
FBO	Farmer Based Organization
FCC	Federation of Cocoa Commerce
FDB	Food and Drugs Board
FOB	Free on board
FPSO	Gross Domestic Product
FTA	Free Trade Area
GAMC	Ghana Association of Microfinance Companies
GAP	Good agricultural practices
GCSCA	Ghana Cooperative Susu Collectors Association
GDP	Gross domestic product
GHAMFIN	Ghana Microfinance Institutions Network
GHEITI	Ghana Extractive Industry Transparency Initiative
GIFMIS	Ghana Integrated Financial Management and Information System
GIZ	German Development Cooperation
GNPC	Ghana National Petroleum Corporation
GoG	Government of Ghana
GRA	Ghana Revenue Authority
GRATIS	Ghana Regional Appropriate Technology Industrial Service
GSB	Ghana Standards Board
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
GUTA	Ghana Union of trade Associations
HEs	Household Enterprises
ICCO	International Cocoa Organization
IDA	International Development Association
IEs	Informal Enterprises
IFI	International financial institution
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agricultural Agriculture
ILO	International Labor Organization
IMF	International Monetary Fund
IOM	International Organization for Migration
ISRT	Inter-State Road Transit
LBA	Licensed buying agent
LBC	Licensed buying company
LED	Local Economic Development
LIBOR	London inter-bank offered rate
LTPU	Large Tax Payers Unit
MDA	Ministry, Department, Agency
MDAs	Mineral Development Agreements
MESW	Ministry of Employment and Social Welfare
MFIs	Microfinance Institutions
MLGRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning

MOTI	Ministry of Trade and Industry
MSEs	Micro and Small Enterprises
MSSP	Mining Sector Support Project
MTEF	Medium Term Expenditure Framework
NAFDAC	National Agency for Food and Drug Administration Control
NBSSI	National Board for Small-Scale Industries
NCIE	National Committee on the Informal Economy
NDPC	National Development Planning Commission
NGO	Non Governmental Organization
NHIA	National Health Insurance Agency
NHIS	National Health Insurance Scheme
NPECLC	National Program for the Elimination of the Worst Forms of Child Labor
NREG	Natural Resource and Environmental Governance
NUTAG	Nigerian Union of Traders Association, Ghana
NVTI	National Vocational Training Institute
OASL	Office for the Administration of Stools and Lands
ODA	Official Development Assistance
PAYE	Pay As You Earn
PBA	Produce Buying Agency
PBB	Program-Based Budgeting
PBC	Produce Buying Company
PFA	Project and Financial Analysis
PFM	Public Financial Management
PID	Public Investment Division
PIM	Public Investment Management
PIP	Public Investment Plan
PITL	Petroleum Income Tax Law
PMCC	Precious Mineral Marketing Company
PPP	Public Private Partnership
PPRC	Producer Price Review Committee
QCC	Quality Control Company
REP	Rural Enterprises Programme
SDF	Skills Development Fund
SDR	Special Drawing Right
SISPS	SSNIT Informal Sector Fund
SON	Standards Organization of Nigeria
SPU	Seed Production Unit
STCP	Sustainable Tree Crops Program
TUC	Trades Union Congress
UK	United Kingdom
UNDP	United Nations Development Programme
VRA	Volta River Authority
WAEMU	West African Economic and Monetary Union
WATH	West African Trade Hub
WCF	World Cocoa Foundation
WTI	West Texas Intermediate

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TABLE OF CONTENTS

FOREWORD	1
1. FORECASTING OIL REVENUE	3
A. INTRODUCTION	3
B. FORECAST INPUTS	4
<i>Production Volumes</i>	4
<i>Petroleum Costs</i>	5
<i>Crude Oil Prices</i>	5
<i>Ghana's Upstream Petroleum Fiscal Terms</i>	8
C. FORECAST CONSTRUCTION	10
<i>Spreadsheet Modeling Methods</i>	10
<i>Forecast Sensitivities and Drivers</i>	11
<i>Jubilee Start-Up Issues</i>	12
D. FORECAST USAGE	13
<i>Benchmark Revenue and Budgeting</i>	13
<i>Medium and Long Term Fiscal Frameworks</i>	14
<i>Tax Policy</i>	14
<i>Tax Administration</i>	15
<i>Petroleum Sector Policy</i>	15
<i>GNPC Business Planning</i>	15
E. POLICY AND IMPLEMENTATION ISSUES.....	15
F. CONCLUSION	17
2. IMPROVING MINING TAX ADMINISTRATION.....	18
A. EXECUTIVE SUMMARY	18
B. INTRODUCTION AND CONTEXT.....	19
C. THE FISCAL CONTRIBUTION OF GHANA'S MINING INDUSTRY	20
D. ELECTRICITY AND THE GHANAIAN MINING SECTOR	27
E. OTHER BENEFITS FROM THE MINING INDUSTRY	29
F. MAIN POLICY RECOMMENDATIONS	30
3. STRENGTHENING PUBLIC INVESTMENT MANAGEMENT	32
A. EXECUTIVE SUMMARY	32
B. INTRODUCTION	32
C. INSTITUTIONAL ARRANGEMENTS FOR PIM	34
<i>Investment Guidance and Preliminary Screening of Projects</i>	34
<i>Formal Project Appraisal</i>	35
<i>Independent Appraisal Review</i>	37
<i>Project Selection and Budgeting</i>	37
<i>Project Implementation</i>	38
<i>Project Changes</i>	38
<i>Facility Operation</i>	39
<i>Project Evaluation</i>	40
D. POLICY IMPLICATIONS.....	40
4. SUSTAINING DEVELOPMENT PROGRESS IN THE COCOA SECTOR.....	44
A. EXECUTIVE SUMMARY	44
B. BACKGROUND AND OBJECTIVE OF THIS NOTE.....	46
C. KEY FEATURES OF THE COCOA VALUE CHAIN.....	52
D. RISKS AND OPPORTUNITIES FOR SUSTAINABLE COCOA SECTOR.....	57
<i>Price Determination and Efficiency Drivers</i>	58
<i>Effectiveness and Efficiency of Industry Programs</i>	64
<i>An Assessment of the CODAPEC and Hi-Tech Programs</i>	66
<i>Recent Evolutions in Cocoa Marketing</i>	72

<i>Fair Trade and Organic Cocoa</i>	74
<i>Cocoa Processing</i>	75
<i>Cocoa Sector Taxation, Stabilization and Residual Funds</i>	78
<i>Summary of the Diagnostic</i>	80
D. CONCLUSIONS AND RECOMMENDATIONS	81
5. REMOVING BARRIERS TO TRADE WITH NIGERIA	86
A. INTRODUCTION	86
B. TRADE POLICIES AND THE REGIONAL FRAMEWORK WITHIN WEST AFRICA	87
C. IMPLEMENTATION OF EXISTING COMMITMENTS CONTINUES TO LAG BEHIND.....	88
D. A CLOSER LOOK AT TRADE PROCEDURE PROBLEMS THAT GHANAIAN COMPANIES FACE .	89
E. DELAYS AND PAYMENTS, REGARDLESS OF ADEQUATE PAPERWORK.....	90
F. TRANSIT THROUGH TOGO AND BENIN CAUSING ADDITIONAL COSTS	92
G. SOME POLICY INITIATIVES EXIST, BUT MORE IS NEEDED.....	92
H. POLICY RECOMMENDATIONS	93
6. COORDINATING INFORMAL SECTOR POLICIES	96
A. INTRODUCTION	96
<i>Definition</i>	96
<i>Strategy Objectives</i>	96
<i>Studies and Workshops leading up to Strategy Paper</i>	96
B. STRATEGY: WHAT, HOW AND WHO.....	97
<i>Improving Policy and Business Environment</i>	97
<i>Managing Risk and Vulnerability</i>	98
<i>Addressing Access to Finance and Business Development Services</i>	98
<i>Raising Productivity and Market Access</i>	100
<i>Vulnerability and Social Protection</i>	100
C. ACTION PLAN: COORDINATION AND MONITORING	101
<i>NCIE and MESW: Coordination</i>	101
<i>Monitoring and Evaluation Framework</i>	101
BIBLIOGRAPHY	103

TABLES:

Table 1: Phases and Factors Determining Oil Production Performance	4
Table 2: GNPC Equity in Jubilee Field.....	10
Table 3: Fiscal Take of Mineral Rich Low and Low-Middle Income Countries	23
Table 4: Actual and Projected Fiscal Revenues from the Mining Sector, 2009 (US\$m)	26
Table 5: Actual and Projected Fiscal Revenues from the Mining Sector, 2010 (US\$m)	26
Table 6: Resource Allocation to Finance Medium-Term Plans (US\$ million).....	34
Table 7: Cocoa Yields (Kg/Ha).....	48
Table 8: Summary of Public Sector Institutions in the Cocoa Sector	57
Table 9: Breakdown of PPRC Projected Export Price; 2010/11	58
Table 10: Fertilizer Purchases; 2006/07 – 2009/10.....	68
Table 11: Nutrient Analysis of Liquid Fertilizer.....	71

FIGURES:

Figure 1: Crude Oil Price History	6
Figure 2: Oil Price Differentials	7
Figure 3: The Extractive Industries Value Chain	18
Figure 4: Increase in gold price and mining fiscal revenues, over 2004 levels (%).....	21
Figure 5: Fiscal Revenues from the Ghanaian Mining Sector 2004-2010 (US\$m)	21
Figure 6: The Public Investment Management Framework	34
Figure 7: Cocoa Production, 1947/48 – 2009/10.....	47
Figure 8: Cocoa Productivity, 1961-2008	48
Figure 9: Cocoa Prices; January 1975 – December 2011	49
Figure 10: Exports of Cocoa Products; 1996 – 2010	50
Figure 11: Trends in Cocoa Prices; 2006/07 – 2011/12	51
Figure 12: Agro-ecological Zones of Cocoa Production in Ghana and Cote d’Ivoire	53
Figure 13: Typology of Cocoa Sector Expenditures	59
Figure 14: Producer Prices as a Share of Export Prices; 1996/97 – 2009/10	60
Figure 15: Cocoa Sector Revenues; 1996/97 – 2010/11	61
Figure 16: Breakdown of Industry and Marketing Costs; 2007/08 – 2009/10	63
Figure 17: Trends in Cocoa Sector Expenditure; 2000/01 – 2009/10	64
Figure 18: Climate Change and Land Suitability for Cocoa Production.....	66
Figure 19: CODAPEC, and Hi-Tech Programs; 2000/01 – 2009/10	67
Figure 20: Direct Marketing Costs per mt; 2001/02 – 2009/10	73
Figure 21: Bean Production by Type; 2000/01 – 2009/10	78
Figure 22: Cocoa Export Tax Receipts; 1996/97 – 2009/10	79
Figure 23: Revenues and Producer Payments; 1996/97 – 2009/10	81

BOXES:

Box 1: Botswana Public Investment Planning and Financing.....	41
Box 2: South Africa Capital Expenditure Guidelines	42
Box 3: Preparation of Policy Brief.....	52
Box 4: Cocoa Smuggling	61
Box 5: Climate Change and Cocoa Production	66
Box 6: The Cost Efficiency of Dry versus Liquid Fertilizer	71
Box 7: Cooperatives and Farmer Associations in the Cocoa Sector	75

ANNEXES

Annex 1: Documents and Reports Used in Forecasting.....	110
Annex 2: Petroleum Reserve Determination	111
Annex 3: Crude Oil Quality Measures	112
Annex 4: Crude Oil Quality Comparison	113
Annex 5: Income Tax Flow Chart	114
Annex 6: AOE Calculation Example	115
Annex 7: Cash Flow Model Diagram.....	116
Annex 8: Logic Sequence for Oil Revenue Model	117
Annex 9: Key Definitions.....	119
Annex 10: Investor Shares in Jubilee	121
Annex 11: Gap Analysis of the PIM in Ghana.....	122
Annex 12: Statistical Appendix.....	124
Annex 13: Synopsis of Background, Problems and Solutions	125
Annex 14: Action Plan for Informal Enterprises.....	131

FOREWORD

In December 2010, Ghana started to produce oil, and, in 2011, Ghana's oil export receipts amounted to US\$2.7 billion, out of which US\$444 million was reversed to the Government. From 80,000 in 2011, oil production should reach 120,000 barrels per day in the near future given already installed capacity, and gas be brought onshore for electricity generation. From 2015, new petroleum fields will most likely be commercially operated.

In the same year 2010, the Ghana Statistical Services adopted a new methodology for national accounts, notably to assess the size of the non-agricultural informal sector. It also incorporated additional data sources allowing a more accurate coverage of Ghana's economic activity, which, altogether, led to a significant revision of the Gross Domestic Product (GDP). Compared with previous estimates, GDP was revised upward by 60 percent for the year 2006. Accordingly, the per capita Gross National Income was also revised upwards, and it became apparent that Ghana had accessed to the status of lower middle income country.¹

With oil and access to middle income status, a selected number of key policy issues have become prominent in Ghana.

The arrival of oil, alone, is indeed bringing a number of policy challenges. One of them is the forecasting of oil revenue, given its volatile nature, with important implications for budget and balance of payments management. Beyond volatility, forecasting oil revenue also requires a clear understanding of petroleum production operations for proper tax auditing.

Another one is the potential pressure on the real exchange rate, with significant implications for trade activities, tradable sectors (cocoa notably), the pace of urbanization and the related development of the non-agricultural informal sector (World Bank 2009a). In this respect, a number of policy issues arise. One of them is the extent to which regional trade - with Nigeria in particular as the largest West African Economy, could be encouraged to offset oil-induced reallocation of production factors to non-tradable sectors. Removing barriers to trade between Ghana and Nigeria could be exemplary for the whole sub-region, where potential gains of trade are considered high (World Bank, 2012). Another one is the pursuance of productivity gains in the cocoa sector, through an adequate provision of public goods and incentives for farmers and private operators, to again offset oil-induced pressures on price competitiveness. A third one is the capacity to manage a rapidly growing urban informal sector, through improved policy coordination among the various actors (Ministries, Municipalities, Associations, banks, etc.), with a view to improve security, infrastructural services, skills and access to finance, insurance and social protection services for informal enterprises.

As Ghana revised upwards its national accounts and GDP, and became a lower-middle income country – with thus lower prospects for concessional financing in the medium term, it also became clear that tax and non tax revenue collection needs to be raised to meet Government financial needs. Beyond the progressive widening of the tax net to the informal sector, in return for greater services provided, another important venue to mobilize resource is a better mining tax administration. Indeed, the mining sector is, and will continue to be, an important driver of the economy of Ghana (Boakye et al. 2012) and the adoption of a modern Petroleum Revenue Management Act in 2011 highlights in comparison the various shortcomings of the fiscal administration of the mining sector.

¹ In 2010, Ghana's GNI per capita, as measured by the World Bank, was US\$1,240, against a cut-off point of US\$1,175 to be considered lower middle income country. In 2011, Ghana's GNI per capita was US\$1,410.

As likely to rely less on Official Development Assistance resources to finance and manage its public investment plans in the near future,² the need to strengthen rapidly Ghana's public investment management framework is also becoming more pressing. This includes selection, appraisal, budgeting, operation, evaluation, and adequate transparency mechanisms to ensure the highest possible social returns on public investment projects.

In 2011 and 2012, the World Bank produced and officially delivered to Authorities a number of policy notes to inform decision making on the above subject matters. It included a note on oil revenue forecasting, a note on mining tax administration, a note on public investment management, a note on cocoa sector management a note on trade with Nigeria, and a note on the informal sector. All these notes were extensively discussed with the Government, and most of them were also discussed in public forums. This report compiles for reference these various notes.

² In 2011, the Government of Ghana borrowed US\$3.0 billion at non concessional terms, from the China Development Bank.

1. FORECASTING OIL REVENUE

A. INTRODUCTION

1. Following the December 2010 start-up of the Jubilee Field, Ghana has begun receiving royalty and tax revenues from oil production. At peak production, Jubilee could generate over US\$1 billion in annual revenues for Ghana, a figure that would constitute 3 percent of 2011 non-oil GDP and 18 percent of total government revenue.

2. Recognizing the critical role oil revenues will play in Ghana's economic development, government is increasingly focused on generating short-term and long-term forecasts of oil revenues as inputs to its planning and policy-making. Oil revenue forecasts are needed for budgeting, long-term and medium-term fiscal planning, tax policy, and a broad set of petroleum and energy sector policy decisions. The immediate focus is on predicting the revenues that will flow from Jubilee itself; however, the announcements of significant additional discoveries at Mahogany Deep, Enyenra, Tweneboa, Teak, Sankofa, Dzata, and Paradise suggest that long-term oil revenues could be derived from multiple sources.

3. Forecasting government oil revenue is subject to a number of complexities. Oil prices are subject to extreme volatility. Estimates of production volumes and costs are based on engineering and geological interpretations that carry varying degrees of uncertainty. Each license is governed by a separate petroleum agreement³ defining a unique set of fiscal conditions for exploration, development and production; and within each petroleum agreement, a number of different royalty and tax elements are defined.

4. Further complications come from income tax details such as the methodology for computing deductions for operating costs, amortization of capital, and interest, the extent to which prior year losses can be carried forward as deductions against current year income, and the degree to which deductions are ring-fenced by license. In addition, there can be substantial interaction between income taxes and the calculation of royalties and other fiscal elements under the petroleum agreement.

5. Yet another set of complications comes from the specific mechanisms by which the different elements of government revenue are paid or received. Governments can receive oil production revenues both through direct cash payments (as is normally the case with income taxes) and through sales of physical oil corresponding to government's royalty and participating interest. Furthermore, the different components of government revenue are often received by different agencies such as the tax authority, national oil company, ministry, or regulator. Income tax payments are received not as a lump sum for each project but separately from each investor in an investment consortium and in a manner dependent on each taxpayer's unique circumstances.

6. To address these forecasting challenges, Ghana has formed an oil revenue forecasting task force comprised of representatives from the agencies responsible for measurement, collection, monitoring, and management of oil revenues. Within the Task Force and within the various agencies, capacity to build and use forecasts is being developed, often with the participation and support of development partners. On September 29-30, 2010, the World

³ The term "petroleum agreement" is used throughout this paper to refer to a contract between Ghana National Petroleum Corporation (GNPC) and an investor group defining the rights and obligations of the investors to carry out exploration, development and production activities on a particular license area and defining the shares of oil and gas production attributable to government and the investors.

Bank sponsored a workshop on revenue forecasting that was attended by 45 representatives from government, donors, and civil society organizations. This note provides more detailed guidance on the oil revenue forecasting process and formalizes the technical and policy advice given in the workshop.

B. FORECAST INPUTS

Production Volumes

7. Clearly, a forecast of oil and gas production volumes is fundamental to any revenue forecast. When a petroleum discovery is made and throughout the subsequent appraisal, development, and production phases, the field operator will generate a series of estimates of future production. Because these estimates are based on engineering and geological interpretations, they are subject to uncertainty. At the outset, production estimates are based only on seismic data, well tests, well logs, core samples and other data acquired during the exploration program; and the uncertainty associated with these estimates is large. However, as more wells are drilled and as actual production and reservoir data is accumulated, production estimates are updated and the range of uncertainty is significantly reduced.

8. When a petroleum discovery has been delineated to the point where commercial quantities of oil and gas can be confirmed, the operator will prepare a field development plan and submit it to government for approval. Because of the high degree of engineering rigor with which it is prepared, the field development plan is the natural starting point for making credible forecasts of long-term production and revenue. It describes the work programs the operator plans to undertake to develop and produce the field. It details the number and location of wells to be drilled; the processing, storage and transportation facilities to be constructed; the operating procedures needed to assure efficient production and to protect worker safety and the environment; and the plans for abandonment and site remediation at the end of the project.⁴ From these project elements, a production profile is derived exhibiting four successive phases:

Table 1: Phases and Factors Determining Oil Production Performance

Phase	Factors Determining Production Performance
Ramp-up	Timing of drilling and completion of wells and production facilities
Plateau	Capacity of production facilities
Production	Optimization of production rate to maximize total recovery over field life Ability of gas and/or water injection to maintain reservoir pressure
Decline	Depletion of reservoir pressure and/or influx of water
Economic Limit	Production terminated because production revenue no longer covers costs

9. Once a field moves into development and as production experience accumulates, the operator will regularly update the forecast of future production volumes. Under the petroleum agreements, the operator is required to send GNPC an annual Long Range Plan and Forecast containing projections of production, capital expenditure, operating cost, headcount and marketing arrangements (see Annex 1). An annual budget is also required as well as monthly and quarterly updates of actual production. GNPC will need to agree with the operator on a timetable for receiving the information that it fits within government's annual budgeting cycle.

⁴ The requirements of a field development plan are described in Section 8.11 of the Model Petroleum Agreement.

10. Each field development will also be the subject of a periodic reserve study estimating the total recovery expected over the field lifetime according to exacting, industry-standard methods (see Annex 2). The centerpiece of a reserve study is the estimate of proved reserves, the quantities of oil and gas that will be produced with reasonable certainty from known reservoirs under approved development programs. However, a reserve study also normally presents alternative cases such as probable and possible reserves corresponding to lower degrees of certainty. As discussed later, government will need to establish a policy defining which reserve scenarios will be used as the basis for revenue forecasting. In any case, the operator should be required to provide complete reserve studies and all production scenarios to government.

Petroleum Costs

11. The field development plan, operating reports, and reserve studies received from the operator also contain information on operating costs and capital expenditure, referred to collectively as “petroleum costs”. This information is critical to revenue forecasting for a number of reasons:

- a) Operating costs and capital allowances are deductible for income tax purposes.
- b) Additional oil entitlements (discussed later) accrue to government once an investor’s rate of return hits certain thresholds. Operating and capital costs are taken into account in this calculation.
- c) GNPC’s participating interest requires it to pay its proportionate share of some costs and these reduce government’s net revenue.

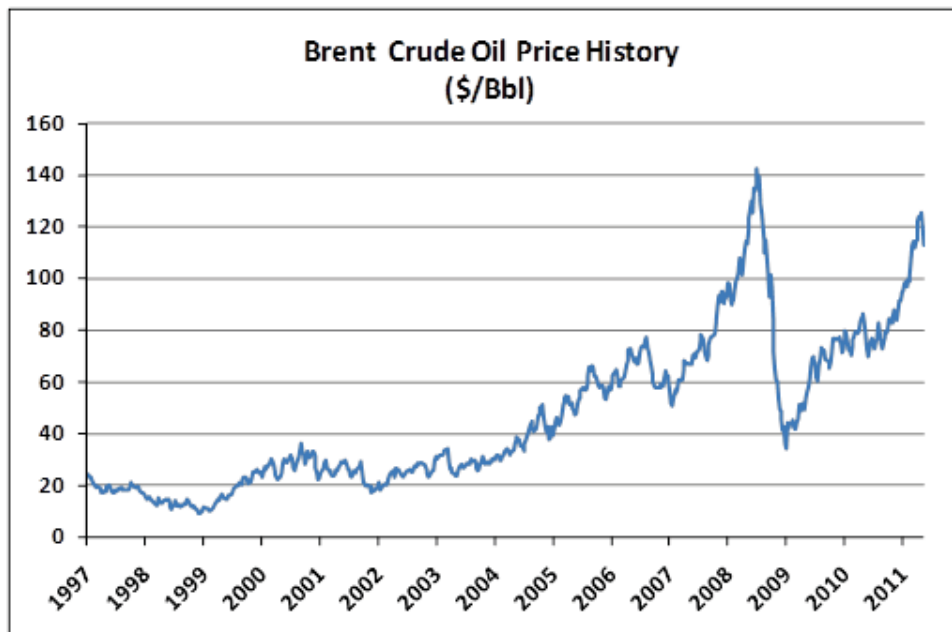
Crude Oil Prices

12. Revenue forecasts are obviously highly dependent on oil price assumptions, yet forecasting something as volatile as oil prices is inherently prone to a high degree of error. Nevertheless, a number of approaches have gained acceptance.

13. To simplify forecasting and price setting for a specific crude oil, it is customary to decompose its price into a) the price of a global marker crude and b) the differential between the price of the subject crude and the price of the marker crude. Marker crudes, sometimes called benchmark crudes, serve as reference points for world oil prices. They are crude oils that are sold in sufficient quantities to provide liquidity and price transparency and are representative in quality to several crude oils produced in a particular region. The most important global marker crudes are Brent, a North Sea crude oil used as a reference point for European and African markets, and West Texas Intermediate (WTI) which serves as a reference point for North American markets.⁵

⁵ News articles commenting on oil prices are always referring to either Brent or WTI.

Figure 1: Crude Oil Price History



14. Selection of a Brent price assumption to underpin a revenue forecast requires careful thought and often depends on the purpose and horizon of the forecast being developed. For short-term forecasting, the most common approach is to assume oil prices remain flat at current levels. A variant of this approach is to use an average price calculated over the recent month, quarter, or year. The benefit of this approach is its simplicity. Another common approach is to take the price of exchange-traded oil futures as an estimate of future oil prices, although futures prices are sometimes thought to be subject to a high level of financial speculation not strongly linked to actual physical supply and demand. A third approach is to adopt a forecast issued from a respected source such as the IMF, IEA, US Department of Energy, OPEC Secretariat, consulting companies or banks. However, history shows that even these institutions have poor track records in forecasting oil prices.

15. In creating annual budgets, the tendency among both private investors and governments is to use a conservative price forecast, one that gives a reasonably high degree of comfort that actual revenues will achieve budget levels. For investors, this can be set at a level that offers it reasonable continuity in the execution of its basic business plan. For governments, the price could be set at a benchmark or threshold price for payments to or from a revenue stabilization fund.

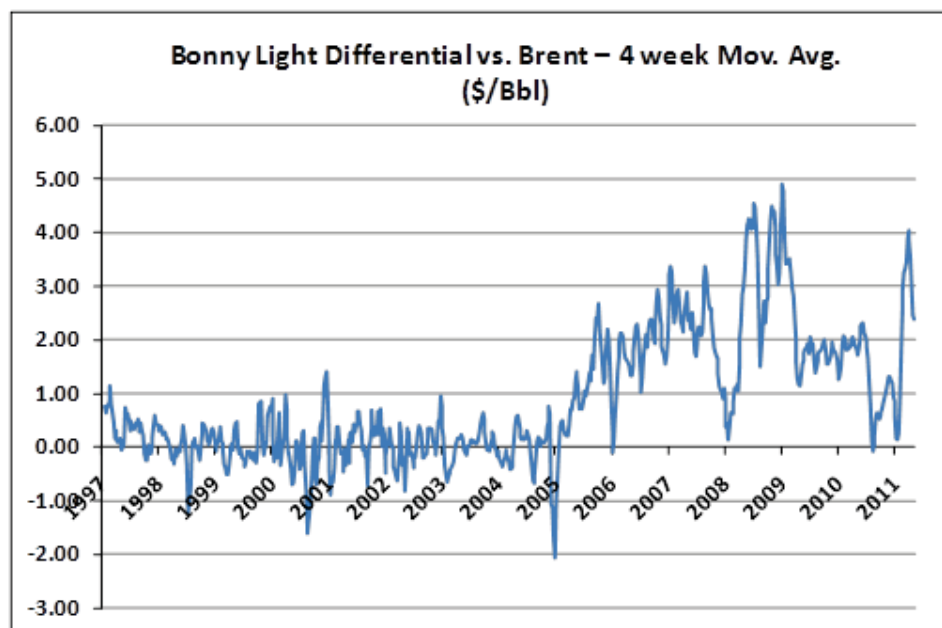
16. For long-term forecasts used in strategic planning and policy-making, recommended practice is always to establish base case, high case, and low case price scenarios and prepare separate revenue forecasts based on each scenario. Since oil, like many other commodities, often follows a boom-bust commodity cycle, a conventional approach to developing price scenarios is to take the average, high and low over the most recent commodity cycle.

17. A more rigorous technique for dealing with price volatility is to use a stochastic price model as input to a simulation model to produce a probability distribution of forecast revenues. This approach can be particularly valuable for evaluating the sustainability of the fiscal rules associated with a revenue management system or for estimating the size of the stabilization fund buffers needed to minimize the risk of the fund running out of money.

However, due to the complexity of these techniques, it is wise to seek specialist assistance until a high level of technical expertise in building and interpreting revenue forecasts has been developed.

18. Price differentials for specific crudes are primarily a function of differences in oil quality and location. The most important quality measures are API gravity (an inverse measure of density) and sulfur content (see Annex 3). Lighter crude oils (i.e., those with higher API gravity) generally receive higher prices because they yield a greater fraction of high value products (gasoline, diesel, etc.) when refined. Also, “sweet” crude oils – those containing less than 0.5 percent sulfur – generally command higher prices than “sour” crudes because they can be processed easily without expensive treatment facilities. Jubilee oil, like many West African crudes, is light and sweet. Traders often use Nigerian Bonny Light as a market reference point for West African light, sweet crude. Annex 4 contains oil quality data comparing Jubilee to Brent, Bonny Light and other relevant crude oils.

Figure 2: Oil Price Differentials



19. Daily and weekly price assessments for over 100 crude oils are reported in the Oilgram Price Report, a subscription service available from Platts, a division of McGraw Hill. Platts Oilgram has become the definitive source for measuring prices of individual crude oils, and Platts assessments are routinely used in the pricing formulas under oil sales contracts.

20. For a new crude oil stream like Jubilee, the normal approach to estimating the Brent differential is to identify one or more established high volume crude oils that are similar in quality and location to the target crude. Analysis of historical Platts data for the analogous crudes can provide a reasonable estimate of the value of the new crude. In the case of Jubilee, a number of West African crudes could serve as analogies including Nemba from Angola and Escravos, Qua Iboe, and Bonny Light from Nigeria. Generally, an analysis of these crude oils will suggest that Jubilee crude should command a slight price premium to Brent, although the differentials, like Brent itself, can be highly volatile. Over time, Jubilee crude oil will establish its own independent trading history which will allow a direct measurement and estimation of its price differential vis-à-vis Brent.

21. The price of a particular crude oil is also strongly influenced by the marketing arrangements put in place by sellers. Investors and royalty owners can choose to market their production entitlements separately or jointly with others. Each seller can market directly to refining customers or can sell through marketing agents. Sales can be made on a term or spot basis,⁶ and term contracts often contain pricing formulas related to Platts assessments of Brent or other crudes. A lifting agreement is often put in place to allocate cargo loading dates between the various production entitlement holders, and the price realized by each seller will be determined by market pricing conditions on the specific lifting dates allocated to that seller. In the case of Jubilee, oil sales are likely to be made on an FOB basis wherein the customer assumes the cost of shipment to the destination refinery. This could introduce a transportation differential into the net price received. Thus the terms and conditions of all marketing arrangements should be considered when forecasting the net realized price Jubilee crude will receive.

Ghana's Upstream Petroleum Fiscal Terms

22. The royalties and taxes applicable to upstream oil and gas production in Ghana are defined in the Petroleum (Exploration and Production) Law of 1984, the Petroleum Income Tax Law of 1987 (PITL), and the individual petroleum agreements. This legal framework defines a fiscal regime with four principal elements: royalties, income taxes, additional oil entitlement (AOE), and state participation. These will be examined briefly in turn.

23. **Royalties:** Ghana's model petroleum agreement sets royalties at 12.5 percent for crude oil and 5 percent for natural gas, although these percentages have been negotiated separately for each petroleum agreement. In the agreements covering the West Cape Three Points and Deepwater Tano blocks – the two blocks containing the Jubilee field – royalties for deepwater oil production were negotiated at 5 percent. Under the terms of the petroleum agreements, Ghana can elect to receive royalties as a percentage of either gross physical production (in-kind royalty) or gross revenue (ad valorem royalty). For Jubilee, government has elected to receive in-kind royalties which means its actual revenue realizations will come in the form of sales of the specific cargoes assigned to it under the lifting agreement or marketing agreement.⁷

24. **Income taxes.** The PITL sets income taxes on petroleum production at 35 percent of chargeable income. Chargeable income is defined as gross sales revenue less deduction of royalties, operating costs, capital allowances, interest expenses, and losses carried forward from prior years. Capital allowances are computed by depreciating all exploration and development costs on a five-year straight-line basis beginning the year the expenditure is incurred or the year of project commencement, whichever is later. The PITL contains a set of rules limiting interest deductions to reasonable and customary levels. Annex 5 presents a flowchart for income tax calculation.

25. In forecasting income taxes, it is important to understand that income taxes are received not on a total project level, but separately from each investor in the joint venture.⁸

⁶ Spot sales are transactions covering a single cargo at prices negotiated directly between buyer and seller at the time the cargo is available for sale. Term sales refer to contracts (usually one-year or more in duration) covering multiple cargoes to be delivered at regularly scheduled intervals, often incorporating a pricing formula based on published benchmark prices.

⁷ Countries electing to take in-kind royalties must establish strict controls and processes to ensure that maximum value is realized from the sale of its oil entitlements.

⁸ International exploration and production ventures are almost always structured as unincorporated joint ventures. Under this form of organization, the individual participants own the in-kind production in defined

In the case of Jubilee, this means that income taxes relating to the field will be paid separately by each of the investors: Tullow, Kosmos, Anadarko, EO, and Sabre.⁹ Each investor will calculate its own chargeable income, taking into account its share of gross revenue, royalty, operating costs, and capital allowances, and including interest deductions and loss carry-forwards relevant to its own particular capital structure and financial history. Because Ghana currently has no ring-fencing of deductions, investors with interests in more than one project will combine income and deductions from each project in determining their consolidated chargeable income. Taxpayers remit quarterly estimated taxes within 30 days of the end of each calendar quarter and file annual returns within four months of year-end. In calculating estimated taxes, each taxpayer is likely to use its own assumptions regarding production and prices, thereby further complicating tax administration.

26. ***Additional Oil Entitlement.*** Ghana’s petroleum fiscal regime includes a progressive resource rent tax, known as Additional Oil Entitlement (AOE), designed to assure that Ghana captures a progressively larger share of the profit from successful projects. The AOE calculation operates by applying an increasing marginal tax rate as the investor’s inflation-adjusted rate of return exceeds a set of increasing thresholds. The specific thresholds and corresponding marginal tax rates are defined in the petroleum agreements and vary from contract to contract. The periodic net cash flow used to calculate the investor’s rate of return is defined as net revenues less operating costs, capital costs, and income taxes.^{10,11} Depending on the specific petroleum agreement, AOE calculations can be on an annual, quarterly, or monthly basis. An example of an annual AOE calculation is presented in Annex 6. As with royalties, the State can elect to take AOE in the form of physical oil or cash payments.

27. ***State Participation.*** The petroleum agreements grant GNPC rights to acquire participating interests in any commercial discovery. For each discovery, GNPC receives an “initial interest” which is a free carried interest through development (i.e., GNPC is not responsible for its share of exploration and development costs). In addition, GNPC may elect to receive an “additional interest” under which it pays its share of development costs but is still carried for its share of exploration costs. Both the initial interest and the additional interest entitle GNPC to its proportionate share of petroleum after the payment of royalty and oblige GNPC to pay its share of operating costs. The initial interest and additional interest vary from agreement to agreement. The table below presents GNPC’s participating interests in the agreements relevant to the Jubilee Field.

28. In the case where GNPC is unable to pay its share of development costs corresponding to its additional interest, the petroleum agreements often specify that the other investors will finance GNPC’s share and recover the principal amount plus interest via deductions from GNPC’s net oil production entitlement.

proportions while retaining a degree of control and strategic independence not typically afforded by incorporated entities.

⁹ The nature of GNPC’s future status as a taxpayer is beyond the scope of this paper.

¹⁰ For the purposes of AOE calculation, investors participating in multiple production projects calculate a hypothetical income tax allocating their total income taxes across projects on the basis of the chargeable income generated from each project.

¹¹ Because the precise amount of AOE for a year cannot be determined with certainty until after the end of that year, on-going assessments of AOE are calculated based on good faith estimates and adjusted ex-post to actual values.

Table 2: GNPC Equity in Jubilee Field

	Deepwater Tano Block	West Cape Three Points Block	Jubilee Unit¹²
Initial Interest	10%	10%	10%
Additional Interest	5%	2.5%	3.75%
GNPC Share of:			
Net Oil Production (after royalties)	15%	12.5%	13.75%
Operating Costs	15%	12.5%	13.75%
Exploration Costs	0%	0%	0%
Development Costs	5%	2.5%	3.75%

29. Other taxes: License holders are also subject to an annual surface rental fee and a 10 percent withholding tax on payments to sub-contractors; however, these secondary revenue streams are not addressed in the present note. The petroleum agreements exempt upstream petroleum operations from export taxes on petroleum sales and from duties on imported materials and equipment.

C. FORECAST CONSTRUCTION

Spreadsheet Modeling Methods

30. Whereas assembling the inputs to an oil revenue forecast can be complex, the forecast calculations themselves are not difficult and can be readily implemented in a standard spreadsheet model. The modeling approach is simply to work methodically through the various revenues, costs, and taxes, distributing cash flows between the government, GNPC, and the investor according to the applicable fiscal terms. While variations in detail and format may exist, a logical sequence for the spreadsheet calculations is outlined in Annexes 7 and 8. Models can vary in time frame depending on the eventual use of the forecast. Long-term models are usually constructed on an annual basis, and short-term forecasts are normally constructed on a quarterly or monthly basis. To ensure consistency, it is good practice to establish a set of spreadsheet modeling standards covering formatting, logic flow, separation of data and assumptions, etc. Models should report standardized measures of investor outcomes such as internal rate of return, net present value, and effective tax rate.

31. Each production and development project must be modeled separately using the specific terms of the relevant petroleum agreement. However, since the existing petroleum agreements in Ghana all utilize the same basic fiscal framework, a standard template model of the fiscal system can be replicated and the specific parameters applicable to each agreement can be used to create the individual field models. Key revenue line items coming from the individual field models should be consolidated in a separate summary model. Models for unitized fields – fields such as Jubilee that straddle the boundary of two licenses – must apportion revenue and cash flow between the two licenses and calculate royalties and AOE in accordance with the petroleum agreement governing each license.

32. As stated earlier, income taxes are received not on a total project level, but separately from each individual investor. For this reason, once sufficient technical capacity has been developed, forecast accuracy can be improved by developing separate income tax models for each investor, consolidating interests in multiple projects, if applicable. This step, while

¹² Jubilee is being developed and produced as a unitized production area on the basis of a 50/50 split between the Deepwater Tano and West Cape Three Points licenses.

potentially laborious, allows the forecast to take account of tax deductions that are not allocated pro-rata in the production licenses. For example, interest expense and loss carry-forwards depend on the unique capital structure and corporate history of each investor. Due to the complexity of these individual taxpayer calculations, the Ghana Revenue Authority (GRA) will necessarily play a leading role.

33. Revenue forecasting models must also incorporate historical data on the performance of each project. Assessment of AOE depends on the Investor's rate of return over the lifetime of the project. Capital allowances for a particular year are a function of capital expenditures made in the preceding four years. Income taxes must take account of any losses carried forward. And any unpaid balances on GNPC's development carry may affect revenue division in future years. GNPC, as a party to the petroleum agreements and as de facto regulator, and GRA, in its role as tax assessor, will initially be in the best positions to supply this needed historical data to revenue forecasters.

Forecast Sensitivities and Drivers

34. Government oil revenue is subject to four important sources of volatility: oil prices, production, costs, and fiscal milestones. Revenue forecasts should include sensitivity analysis addressing these factors.

35. Obviously, the most critical sensitivity factor in any oil revenue forecast is oil price. Due to the extreme volatility of oil prices, any single-point forecast of revenues is likely to be substantially off the mark. Therefore, normal practice is to calculate forecast results over a range of oil prices corresponding to the most recent commodity cycle. Although the possible variations are unlimited, a representative approach consistent with price history since 2007 would be to examine a range of prices from US\$60 to US\$140 per barrel in increments of US\$10 or US\$20 per barrel.¹³ The resulting government revenue at each price can be readily displayed in a simple graph.

36. Unforeseen variations in oil production are common and can clearly have a powerful impact on oil revenues. Here, the normal approach is to assess the impact of a possible production short-fall *vis-à-vis* baseline expectations. Depending on circumstances, a downside production case could reflect delays in production start-up from a well or project or failure or excessive downtime at a production facility. For Jubilee, the key short-term production uncertainty is the time it will take to ramp up production to full capacity. These kinds of simple production sensitivity cases can normally be modeled under the assumption that costs don't vary between the base and downside cases. However, evaluating the impact of a completely different reserve case, development plan, or investment program requires specialized engineering input from the operator.

37. Variations in capital and operating costs also affect oil revenues for the reasons described earlier. Forecast results are particularly sensitive to the capital costs of yet-to-be developed fields and the level of uncertainty with respect to these costs is usually quite high. For this reason, it is common practice to calculate alternative forecasts showing the effect of significant development cost overruns for undeveloped fields versus baseline expectations. On the other hand, on-going operating costs for existing producing fields are not subject to a high degree of uncertainty and are not usually important drivers of forecast results.

¹³ If stochastic price models are available, the range of prices evaluated can be selected with reference to a particular confidence interval (e.g., 75%, 90%)

38. Ghana's oil revenues will also be strongly influenced by the time it takes for each project to reach key milestones under the fiscal system. Capital allowances for the big up-front exploration and development expenses will begin to expire in year five of a project's life, and this will normally lead to an increase in income tax collections. AOE receipts, for a successful project, could begin as early as year two or three, whereas in a marginal project, AOE might begin much later or not at all. The occurrence of these fiscal milestones can lead to spikes in revenue, particularly if they coincide with big changes in price or production. Forecasters should be conscious of the potential revenue volatility coming from these timing issues.

Jubilee Start-Up Issues

39. There are a number of special revenue forecasting considerations associated with the start-up of the Jubilee project. Some of these factors simplify forecasting in the short term. For example, Jubilee Phase 1 is the only near-term source of production so plateau production rate of 115,000 to 120,000 barrels per day is the accepted target. No natural gas sales will occur in the short term due to absence of infrastructure. Royalty calculations are simplified because 5 percent was the negotiated royalty rate under both the Deepwater Tano and West Cape Three Points petroleum agreements. AOE is unlikely to be applicable in the first two years of production.¹⁴ On the other hand, there are other start-up factors that tend to complicate short-term forecasting and most of these tend to reduce revenue realizations below what would otherwise be "expected".

40. Because much of government's oil revenue will come from sales of physical oil, cash receipts will come from payments for the each of the 800,000 to 1,000,000 barrel cargoes allotted to GNPC.¹⁵ For long-term forecasts, the "lumpiness" of this revenue stream can be assumed to balance out over time; however, at the start it may be important to estimate the volumes and dates of the specific cargoes that government will load. Investors may come ahead of government in the initial cargo lifting schedule, and government may have unloaded entitlement volumes in the FPSO tanks at year-end. Payment for oil sales will generally lag cargo liftings by 30-60 days. These factors can produce a substantial difference between cash receipts and revenue entitlements; and an estimation error of a single cargo can produce a US\$100 million difference in short-term revenues.

41. Income taxes, the other major source of government revenue, may also be suppressed at the beginning of the project as investors recover any losses carried forward from the years prior to start-up.¹⁶ Deductions for interest expenses are likely to be similarly front-end loaded. Also, since income tax payments are paid three months after the end of each quarter, any tax attributable to the fourth quarter of 2011 – the first quarter where full production rate is expected to be achieved – will not be received until 2012.

42. Finally, GNPC will experience calls on its cash flow during the start-up phase that will limit its ability to distribute all of the revenue coming from its participating interests. Investors will be entitled to a portion of GNPC's revenue to repay any development cost they paid on behalf of GNPC. Also, like the other equity participants in Jubilee, GNPC will be

¹⁴ The author estimates that AOE collections could begin as early as 2012 if recent prices of \$120 per barrel persist.

¹⁵ GNPC will act as marketing agent for government's royalty and AOE volumes which will be sold together with GNPC's participating interest volumes.

¹⁶ Investors could show significant tax losses in 2010 if that year is designated as being the "year of commencement" as defined in the PITL. In that case, capital allowances would begin in 2010 even though no sales revenue was recorded until 2011.

receiving regular cash calls corresponding to its share of operating costs. In addition, GNPC may need to retain cash to fund its own G&A expenses and working capital.

43. The factors discussed in this section argue strongly that adjustments need to be applied to any short-term revenue forecast derived from simply applying the fiscal terms to an assumed production and price outlook, and that most of these adjustments will be negative.

D. FORECAST USAGE

Benchmark Revenue and Budgeting

44. Ghana's recently enacted Petroleum Revenue Management Act (Act 815) obliges the Minister of Finance to prepare an annual forecast of Benchmark Revenue, the expected revenues from petroleum operations for the following financial year. The Annual Budget Funding Amount, the amount of petroleum revenue allocated for spending in the current financial year budget, is limited by the Act to 75 percent of Benchmark Revenue. The exact percentage of Benchmark Revenue directed to the Annual Budget Funding Amount is approved annually by Parliament and is to be based on Ghana's medium-term development strategy and macroeconomic outlook.

45. The formula for calculating Benchmark Revenue, as set out in the First Schedule of the Act, contains a number of elements that will be challenging to implement, particularly in the short term. The unit price to be used in the calculations is a seven-year moving average of the prices in the four preceding years, the current year, and the following two years. While this formulation is laudable in terms of reducing the effect of short-term price volatility on annual budgeting, no method is prescribed for estimating the two future year prices. Despite the drawbacks pointed out earlier, Brent futures prices – adjusted to reflect the price of Ghanaian crude using methods described in this note – can provide an objective and consistent estimate of future year prices for purposes of calculating the moving average.

46. With respect to production volumes, the moving average concept – intended as a way of dealing with volatility – is even more problematic. The Act defines the expected quantity of oil to be used in calculating Benchmark Revenue as a three-year moving average of government's oil take over the preceding year, current year, and following year. This formulation suggests that the oil take used in the moving average will be consolidated aggregate volume. Yet, as shown elsewhere in this note, government's take will differ from contract to contract and will change significantly over time as the various contract and production milestones are reached. Even on an individual field basis, a moving average will systematically underestimate volumes for fields that are ramping up production and overestimate volumes for fields in decline. All of this suggests that the detailed procedures for implementing the moving average calculation need to be carefully developed.

47. Finally, there is a potential internal inconsistency within the Act regarding the treatment of income taxes. The formula for Benchmark Revenue in the First Schedule of the Act does not include income taxes. This omission in turn affects the Annual Budget Funding Amount, the revenue that can be withdrawn from the Petroleum Holding Fund for current year spending. Yet Article 6 of the Act includes income taxes as one of the gross receipts of the Petroleum Holding Fund from which the Annual Budget Funding Amount is to be withdrawn. This inconsistency will have to be resolved.

48. The strength of the Benchmark Revenue concept is the discipline it enforces in preparing consistent annual forecasts of oil revenue. The implementation challenges presented above can be tackled while still preserving the underlying principles of the Act.

Medium and Long Term Fiscal Frameworks

49. Obviously for countries with significant oil production, a forecast of oil revenues is fundamental to any long-term or medium-term budget planning exercise. Spending priorities and tax policy need to be influenced by the outlook for oil revenue. Seeing revenue changes well in advance – particularly negative events such as the onset of field decline – gives government time to adjust policies gradually rather than through shocks to the system.

50. The revenue forecasting methods developed in this note, if applied consistently, provide the logical framework for developing long-term fiscal frameworks. Consistency is best achieved through a defined forecasting process establishing the frequency, timing and information flows that will be adopted and the responsibilities within the various agencies for carrying out elements of the process. Forecasts should also be realistic, particularly about the timing of production start-up from new projects. Above all, medium-term and long-term planning should always consider the sensitivity of oil revenue to a range of possible price and production outcomes.

Tax Policy

51. As a petroleum producing country moves from exploration through early development, production, and eventually to field maturity and depletion, it is normal practice to update the fiscal terms applicable to new licenses from time to time to reflect the new conditions. The basic policy objective is to maintain the balance between maximizing government take and preserving investment incentives while taking into account prevailing economic conditions, future exploration and development potential, and risk.

52. The normal approach to designing changes in fiscal policy is to develop full-cycle gross production and cost forecasts for a number of prototype fields that are believed to be representative of future exploration results. The existing and proposed fiscal terms are then applied to the prototype fields and the resulting economics for both government and the investor are developed.

53. While much has been written on the subject of petroleum fiscal systems, the normal criteria applied in assessing the quality of a system are the following:

- a) Progressivity: the system should accord government a progressively higher take of successful projects.
- b) Flexibility: the system should still produce a reasonable division of revenues under a variety of price and economic conditions.
- c) Neutrality: investments that are economic to undertake on a pre-tax basis should remain economic post-tax.
- d) Competitiveness: the system should offer investors a rate of return that on a risk-adjusted basis is competitive with opportunities in other countries.

54. Ghana's current petroleum fiscal system is well designed and broadly meets these criteria. As discoveries have been made and the level of risk has been reduced, contract terms have been progressively tightened. The design of the income tax regime ensures that tax receipts from petroleum producers will be an important source of revenue. Nevertheless,

it will be good practice to adjust the fiscal terms for new contracts from time to time to assure they meet government's objectives.

Tax Administration

55. Analyzing differences between actual revenues and forecast revenues can be a valuable tool in tax administration by pointing out any inconsistencies in the application of the fiscal terms. In this sense forecasting can be viewed as a complement to and not a substitute for a detailed audit function.

Petroleum Sector Policy

56. The Ministry of Energy (MoE) is responsible under the Petroleum Law for setting strategic policy for the energy sector. In carrying out this role, MoE will face a series of specific policy decisions where forecasts of future revenue and production will be vital inputs. These include establishing the procedures and timing for future licensing, approving field development plans, planning for pipelines and downstream infrastructure, establishing the portion of production, if any, that will be directed to domestic markets, and setting pricing policy for oil and natural gas.

GNPC Business Planning

57. GNPC's future cash flow will be determined jointly by its relationships with investors and its relationship with government. With respect to investors, GNPC will be a partner in each consortium and will be subject to the joint operating agreement governing each project. It will receive income from the sale of its oil entitlement but will also have to meet cash calls from the operator for on-going expenses. Planning for these cash calls will require GNPC to maintain an up-to-date forecast of each field. On the other hand, GNPC's relationship with government is defined to a large extent under the Petroleum Revenue Management Act. The Act defines GNPC's obligations to distribute its oil revenue to government as a function of its net cash flow from carried and participating interests. Forecasting these distributions will again require a long-term cash flow model of each project.

E. POLICY AND IMPLEMENTATION ISSUES

58. The quality and usefulness of oil revenue forecasts in Ghana will depend to a large extent on implementation policies adopted by government. Some of the key policy decisions are discussed briefly below.

59. ***Asset recognition and reserve basis.*** It is essential to establish a clear policy defining which projects are included in official revenue forecasts. To be conservative and to maintain objectivity, international practice normally favors including only those projects that have approved development plans. Government will also need to set a policy determining which reserve scenarios will be used as the basis for forecasting. The most conservative approach is to use proved reserves since, by industry convention, actual production has a 90 percent chance of achieving this level or better. However, conservative reserve estimates, particularly if combined with conservative assumptions on price and costs, can lead to drastic underestimation of revenue and undermine the credibility of the forecast. For this reason, a central estimate or "best guess" production scenario is often preferable. This is often represented by the sum of proved and probable reserves or alternatively, the sum of proved reserves plus 50 percent of probable reserves. Risk can be taken into account – albeit imperfectly and arbitrarily – through an adjustment (e.g., 10 percent reduction) in the revenue

calculated using the central estimate assumptions. Under no circumstances should production from undiscovered or yet-to-find resources be included in revenue forecasts.

60. **Responsible agency.** It is advisable to make a single institution within government responsible for official revenue forecasts. Normally this is the Ministry of Finance because of the strong links between forecasting and budgeting, tax assessment, and macroeconomic planning. The responsible institution should also be the keeper of the “master fiscal model” for each project containing the most up-to-date historical information and the most carefully checked calculations and assumptions. It will be natural for other institutions to develop special purpose forecasting models applicable to their own specific missions. However, these models should not be official in nature and wherever possible, the input for these models and the core calculation method should be the same as the master model.

61. **Inter-agency coordination.** Because the primary data inputs into revenue forecasting are held by different government institutions, revenue forecasting requires a high degree of cooperation and coordination between institutions. Due to the reporting requirements under the petroleum agreements, GNPC will be the recipient of much of the primary data from operators regarding petroleum projects including historical and forecast data on production, reserves and costs. Some of the primary data that comes to GNPC in its historical role as de facto sector regulator could eventually also be provided to the Petroleum Commission or the Ministry of Energy. GRA will be the primary holder of tax data, particularly the tax assessments and payments from investors. Routines will have to be established to assure that the information gets passed in a timely manner from GNPC and GRA to the forecasting teams. To provide a forum for the necessary exchange of information, Ghana has formed an oil revenue forecasting task force made up of representatives from agencies responsible for the various aspects of forecasting. Such task forces can be an effective means of exchanging the necessary information and developing the required expertise, particularly at the outset when familiarity with some of the forecasting techniques may be low. A task force can also serve as a vehicle to assure that a consistent approach to forecasting is used across government. To be most effective, a task force should include people with petroleum engineering backgrounds.

62. **Formalized procedures.** It is good practice to develop a detailed forecasting manual defining, inter alia, the designation of the specific agencies responsible for providing primary inputs, the format and deadline for provision of those inputs, the methods for determining forecast assumptions, the calculation conventions and formatting to be used in the spreadsheet modeling, and the designation of the persons or entities responsible for performing the forecast calculations, checking the forecasts and approving the results. In setting process deadlines, the procedures will need to take into account the schedules imposed under the annual budgeting cycle. In addition, forecasting procedures should make allowance for periodic review or audit of forecast models to ensure accuracy.

63. **Transparency.**¹⁷ The credibility of an official revenue forecast is greatly enhanced if the underlying assumptions and methodology are published and the forecasting method is seen to be consistent and realistic. On the other hand, a forecasting process characterized by ad hoc adjustment or policy-driven interference does not command credibility. Involvement of outside agencies and civil society organizations can improve the transparency of the process. Government can further increase public confidence in its forecasts by regularly

¹⁷ The ideas in this paragraph were drawn from Kyobe and Danninger (2005).

organizing “expert briefings” in which officials responsible for forecasting publicly discuss in qualitative terms the assumptions, drivers and sensitivities behind the forecast numbers.

F. CONCLUSION

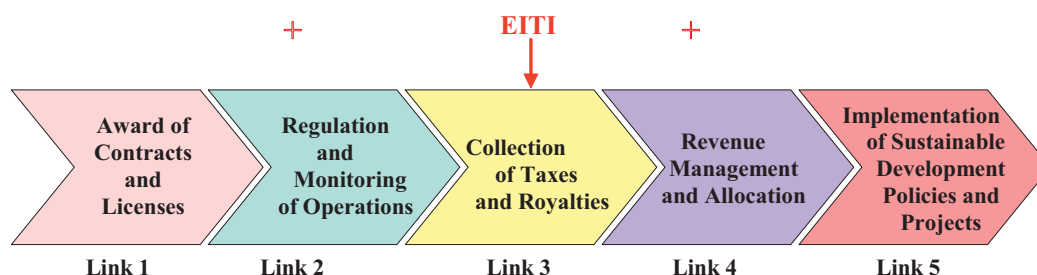
64. Oil revenue forecasting is not intrinsically difficult but attention to details is important. For Ghana, the most challenging implementation details will be the ones related to the start-up of oil production at Jubilee. Price volatility is an ever-present challenge to forecasters but there are accepted approaches for taking this into account. However, the key to a successful on-going revenue forecasting process is to develop defined responsibilities and routines for information sharing, consistent and realistic methods for forecast calculation, and clear communication and dissemination of assumptions and results.

2. IMPROVING MINING TAX ADMINISTRATION

A. EXECUTIVE SUMMARY

65. The objective of this note is to provide Ghanaian policy makers with some key analysis and advice on how to enhance fiscal and non-fiscal benefits from the mining sector. It is worth noting up front that the list of policy recommendations highlighted in this note is by no means exhaustive. For example, the note covers mainly link 2 and 3 of the Extractive Industry (EI) Value-Chain – the fiscal regime, monitoring of operations, and revenue collection – but not the award of titles or revenue management or budgeting of revenues (Link 1 and 4). Similarly, while transparency and good governance are of outmost importance to better management of the sector, these are not dealt with in depth here, but merely pointed out with references. Electricity costs are analyzed as, given the importance of energy for mining operations, they can significantly offset the tax take if subsidized. Other socio-economic benefits were also explored as they can enhance and complement the tax take, while from the company perspective they can often be seen as a substitute for taxes. Should policy makers decide to conduct a more comprehensive cost-benefit analysis of the sector, this advice would provide a starting point.

Figure 3: The Extractive Industries Value Chain



66. As such, this note examines three aspects of mining sector and its costs and benefits to Ghana: (i) fiscal revenues; (ii) electricity and subsidies; and (iii) other benefits. Regarding fiscal revenues, the note explores two potential reasons for a relatively low fiscal take in 2009 and 2010, namely weaknesses in the fiscal regime and tax-administration issues. It does this by creating a simple “minimax” model to compare actual revenues with mini and maxi scenarios for production, costs, and gold prices. The issue of electricity and the mining sector is then analyzed, focused on usage and rates and potential subsidies. Finally, current and potential benefits in terms of employment, domestic suppliers, and community development are noted, along with policy recommendations of how to maximize the sector’s contribution to socio-economic development. Below are a summary of the main findings.

67. While there was a very large increase in the total amounts of fiscal revenues in 2009 and 2010—compared to 2008, revenues were 150 percent higher in 2009 and 280 percent higher in 2010—given the very high prices for gold, the overwhelmingly dominant mineral, a significant increase was to be expected. One main reason seems to be the very generous capital allowance (amortization) rules. In fact, had no capital allowance been used by any mine to reduce taxable profits – which will be close to the situation in 2013 or possibly even in 2012 for existing operations – the increase in fiscal revenues would have been double. While two companies have special Mineral Development Agreements (MDAs) with the Government, allowing for stability provisions and separate royalty rates, this does not seem

to have impacted the overall fiscal take from the sector significantly.¹⁸ Additionally, clarification regarding capital gains tax is also needed.¹⁹

68. There is evidence of capacity limitations to administer existing taxes. For example, there are no mining sector experts in the Ghana Revenue Authority, the tax authorities were never able to properly implement the previous sliding scale royalty system, there is poor institutional coordination, and there is no benchmarking of expected operating costs. Without more specific company by company data on the use of capital allowances, however, it is not possible to determine whether tax collection problems are significant in Ghana with respect to the formal mining sector.

69. A secondary issue that is also examined is whether the mining industry is receiving significant subsidies in the power sector, electricity in particular, which should be deducted from tax revenues to determine the overall fiscal take of the sector. Like other large customers, mining firms are mostly bulk customers and negotiate agreements with the electricity providers. However, they all tend to pay roughly the same amounts per unit of electricity and, moreover, are currently paying rates in line with the cost of supply of thermal power plants, not the much cheaper hydro power. In 2010, the average price paid was about 13 cents/KWh, a quite high tariff by international standards and one that does not appear to be subsidized. Rates for 2011 are still under negotiation but expected to be between 14 and 15 cents per KWh.

70. Finally, the note also explores the other contributions of the mining industry to socio-economic development in Ghana. It notes that because of the relatively short mine-life and limited infrastructure developments around gold mines, there is an urgency to ensure that socio-economic benefits from the current investments are maximized. Evidence suggests that the benefits of the operations extend well beyond the mine gate, with, for example, with a multiplier effect of up to 5-7. Nevertheless, there still seems to be considerable scope for increasing the amount of domestically produced goods and services purchased by the mines.

B. INTRODUCTION AND CONTEXT

71. Ghana was the world's 9th largest gold producer in 2009 with an output of 2.9 million ounces. While this is impressive, there are only nine operating gold mines, of which just two (Goldfields Tarkwa and Newmont Ahafo) are truly large scale (>500,000 ounces/year). Thirteen percent of production came from artisanal and small-scale operations.²⁰ There is also minor production of manganese, bauxite, and diamonds. 97.5 percent of government revenues from the mining sector however were from gold.

72. Although the mining industry is one of the leading industrial sectors in Ghana, with 23 percent of direct taxes in 2010, the socio-economic benefits that the formal mining sector provides to the country and people of Ghana have often been questioned. Some stakeholders contribute this to poor governance, lack of transparency, and the need for incentives to reform along the extractive industries (EI) value-chain (Ayee et al. (2011). The environmental

¹⁸ These companies are paying royalty rates that are the same or higher (3.6 and 3.0 %) than the old fiscal regime, but lower than the new royalty rate for gold of 5%. Impact is therefore expected to be seen going forward.

¹⁹ For example, in 2011, there was a major transaction that will result in capital gains of US\$ 667 million.

²⁰ Purchased through the Precious Mineral Marketing Company (PMCC).

degradation²¹ of mining has also been raised as a cost to Ghana, in particular by the fast growing artisanal and illegal miners or *galamseys*, today estimated at between 500,000-1,000,000 people. Moreover, there has been the perception that the industry receives subsidized power, which in effect would further reduce its fiscal contribution. IMF (2009) reports that tax revenue from mining companies in 2008 amounted to 3.7 percent of total Government revenue, excluding grants, and 0.8 percent of GDP, in spite of very high gold prices, averaging US\$852 per ounce.

73. This note examines three aspects of mining sector and its costs and benefits to Ghana: (i) fiscal revenues; (ii) electricity and subsidies; and (iii) other benefits. Regarding fiscal revenues, the note explores two potential reasons for a relatively low fiscal take in 2009 and 2010, namely weaknesses in the fiscal regime and tax-administration issues. It does this by creating a simple “mini-max” model to compare actual revenues with mini and maxi scenarios for production, costs, and gold prices. The issue of electricity and the mining sector is then analyzed, focused on usage and rates and potential subsidies. Finally, current and potential benefits in terms of employment, domestic suppliers, and community development are noted, along with policy recommendations of how to maximize the sector’s contribution to socio-economic development. Main policy recommendations are summarized in section F.

C. THE FISCAL CONTRIBUTION OF GHANA’S MINING INDUSTRY

74. Looking at increases in fiscal revenues and gold prices in 2009 and 2010, the main point made by IMF and others regarding comparatively low fiscal revenues – compared to a high spike in gold prices – does no longer seem to hold true (see Figure 4). In fact, while 2010 gold prices increased by 40 percent over 2008, the actual amounts of fiscal revenues collected from the formal mining sector increased enormously, about 290 percent. The sector provided 23.7 percent of all direct taxes collected in 2010, and about 8 percent of all taxes. These amounts do not take into account taxes paid by industries selling goods and services to the mining industry (including power) or the taxes associated with the economic multiplier impacts of the sector.

75. As can be seen in Table 4, over 90 percent of taxes come from four items—royalties, corporate income tax (CIT), pay as you earn personal income tax (PAYE), and the withholding tax on dividends and foreign outsourcing. The increase in the last two years has been mostly due to, first, very large increases in CIT, and, second, higher royalties due to the higher gold prices.

²¹ Authors refer to other sources on environmental degradation by the mining sector, such as the National EIA and SEA Project under the EU financed Mining Sector Support Project (MSSP), and the multi-donor DPO Natural Resource and Environmental Governance Program (NREG).

Figure 4: Increase in gold price and mining fiscal revenues, over 2004 levels (%)

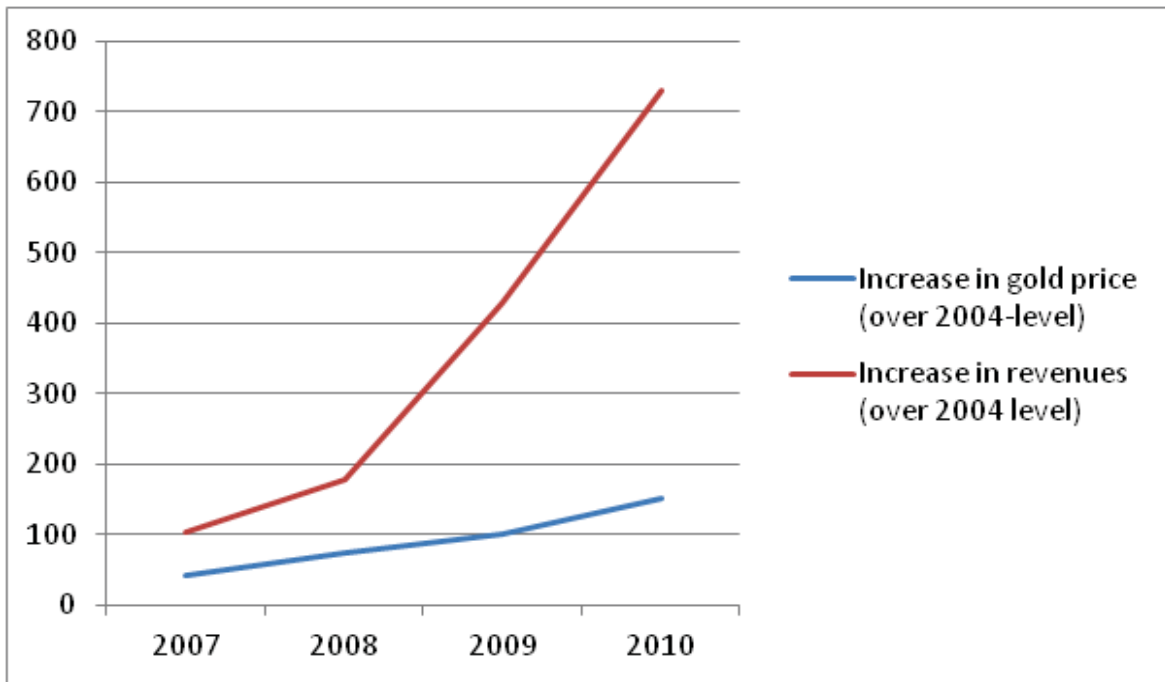
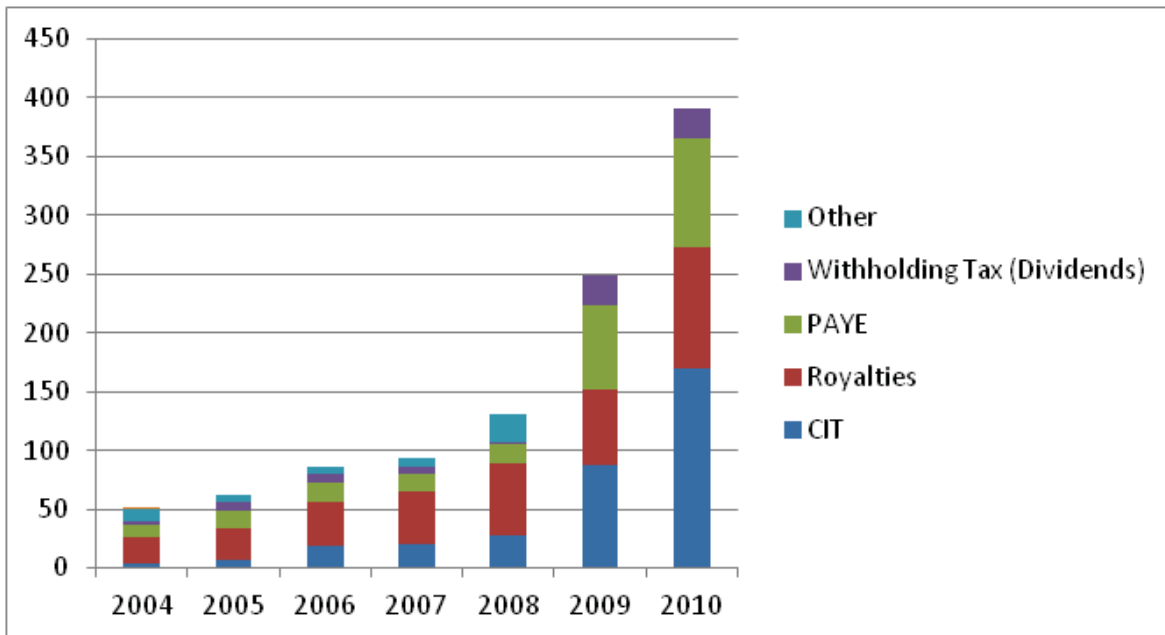


Figure 5: Fiscal Revenues from the Ghanaian Mining Sector 2004-2010 (US\$m)



Source: Ministry of Finance and Economic Planning, Ghana Chamber of Mines, Ghana EITI Aggregation of Mining Sector Payments and Receipts (2004-2008); Minerals Commission, 2009-10

76. Have the increases in fiscal revenues from the mining sector been consistent with those predicted by models of the fiscal regime? The answer to this question is not straight forward for four main reasons. First, operating costs, which have been increasing rapidly along with prices in the mining sector, must be factored in. Second, many mining companies have recent investments so can deduct a large part of profits—in some cases all—for tax purposes using their capital allowances. Tax administration challenges also need to be taken

into account, including the physical valuation of quantities and the intricacies of calculating the profit base. Third, artisanal mining, about 13 percent of the total in 2009, is barely taxed at all due to the severe administrative problems of doing so, including the smuggling of gold to other countries. Fourth, it is probable that there are some tax leakages due to such factors as transfer pricing related to operating costs, shifting larger burdens of a global company's overhead to its most profitable mines, and the financing structure used by the company.²²

77. The mining fiscal regime is described in great detail in Otto (2009). The most important characteristics with respect to the fiscal regime were until March, 2010: (i) sliding scale royalty of 3 percent to 6 percent based on profitability;²³ (ii) corporate income tax rate of 25 percent (22 percent if registered at the Ghana Stock Exchange); (iii) personal income tax deducted at source; (iv) withholding tax of 8 percent on loan interest and dividends, 15 percent on foreign service, and 5 percent on local services; (v) accelerated depreciation at 80 percent in the first year and 50 percent of balance thereafter, including an additional 5 percent is allowed in the second year (this in fact means that the mining company is allowed a tax deduction equal to 105 percent of the cost of capital assets); (vi) losses in earlier years can also be carried forward and off-set against current profits; (vii) ring fencing of projects; and (viii) the Government of Ghana (GoG) receives a 10 percent free carried interest equity in the mining operations, the return on which depends on dividend distribution and, in effect, has brought in very little in resources as companies have not issued much by the way of dividends.²⁴

78. The only significant change to the regime reported by Otto was that in 2010, the GoG changed the royalty rate on gold, the heavily dominant commodity, to a fixed 5 percent from the sliding 3 to 6 percent.²⁵ This change, which only came into effect in March 2011, was largely prompted by the inability to accurately calculate profit rates and to determine where on the sliding scale companies should be and, in fact, almost all were at the bottom end despite high mineral prices.²⁶

79. Two of the largest companies, Newmont and AngloGold Ashanti, however are not affected by the 2010 change because of stability agreements.²⁷ They have fixed royalty rates of 3 percent.²⁸ While questions have arisen on the possibility of other types of incentives provided to mining companies, particularly to the companies with investment agreements, the agreement with Newmont (Ministry of Finance and Economic Planning, 2003) does not reveal anything unusual other than, perhaps, no ground rents and the treatment of capital gains, discussed further below.

²² On the last point, taxable profits can be reduced by claiming interest expenses on loans to a mining project. Unless the tax authorities exercise close control companies can maximize this tax break by using high debt-equity financing structures and by using shareholder loans that carry higher than market interest rates.

²³ Rate calculated based on operating ratio in the Minerals and Mining Act 703 (2006); if less than or equal to 30%, the rate was 3%; if between 30 and 70%, royalty rate was 3% plus 0.075 for every 1% of operating ratio exceeding 30%.

²⁴ There is no clear guidance on the fiscal implications of the 10% equity holding, and no requirement to declare a dividend. As a consequence, very few companies (3 mining companies 2005-2007) declared a dividend with government participation (Otto, 2009). Special agreements also allows for variations. Dividends are paid to the non-tax unit of MoFEP, and the EITI report signaled discrepancies between the amount paid and the amount received.

²⁵ Act 794, Amendment to the Minerals and Mining Act (17 March, 2010)

²⁶ For a more extensive discussion on the trade-off between cost-based royalties and flat-rate taxes, see Otto et al. (2006).

²⁷ Act 703, Article 48

²⁸ Note that AngloGold Ashanti pays an income tax rate of 30 percent, higher than the standard 25 percent of other corporations in Ghana.

80. In Table 1, the fiscal revenues of Ghana are compared with other low income and low middle-income countries. If exports are used as a proxy for the relative size of the sector compared to the whole economy, Ghana's mining sector performs slightly less well than the others but not far off the average. Given that Ghana's mining sector mostly consists of gold mines, which have little infrastructure benefits, it could be argued that a higher than average fiscal take should be expected. Of course, this is only a proxy indicator and the relative amounts that should be collected depend to a large extent on the maturity of ongoing operations.

Table 3: Fiscal Take of Mineral Rich Low and Low-Middle Income Countries²⁹

Country	Mineral exports as % of total exports of goods	Mineral fiscal revenues as % of total fiscal revenues	Ratio of 'Mineral Fiscal revenues' to 'Mineral Exports'
Ghana (2009)	45.5	6.0	.13
Mauritania (2009)	55.0	13.6	.25
Zambia (2007)	66.2	8.9	.13
Namibia (2007)	60.3	7.7	.13
Tanzania (2010)	44.0 ³⁰	3.3	.08
Guinea (2008)	85.6	19.3	.22
Liberia (2007)	51.9	8.3	.16
Mongolia (2007)	53.3	8.7	.16
Average	57.7	9.5	.16

Source: IMF, others.

81. In Otto (2009) he calculates the effective tax rate (ETR) for a medium-sized gold mine in 30 jurisdictions and finds a range of 40 to 70 percent. In Ghana the ETR is 59 percent if there are no dividends from the free carried interest and 67 percent if there are full 10 percent dividends. While this portrays the Ghanaian mining fiscal regime as fairly stringent, in the base case the calculations were made with gold prices of US\$361/oz and operating costs of US\$210/oz. In the sensitivity analysis prices rose in \$100 intervals (Otto, 2009: 49) and the ETR fell from 59 percent to 38 percent when the gold price reached its maximum of \$900/oz. However, as operating costs were not adjusted simultaneously, it is not clear how well in reality the Ghanaian fiscal regime would or would not capture the upside. Given the low and fixed CIT rate, however, it does seem possible that the comparison with other countries could be quite different if other fiscal systems are better at capturing the upside than Ghana's tax regime.

82. In fact, Otto (2009: 16) reports that in the annual Fraser Institute³¹ ranking of mining fiscal systems, Ghana ranked 36th of 68 mining jurisdictions. More interestingly, none of the

²⁹ Only low and low-middle income countries where more than 25% of exports of goods from 2007-2009 were from the mining sector are included

³⁰ As services (especially tourism) are very important in Tanzania, mineral exports as a percentage of total goods and services was 28% in 2010.

372 companies that participated in the survey believed the Ghanaian fiscal system was either a strong deterrent or incentive to invest in the country. In addition, Otto (2009: 21) reports that in an assessment by a prestigious mining consultancy company, Behre Dolbear, Ghana ranked 7th best out of 25 jurisdictions with respect to mining investment.

83. A study undertaken in Zambia by Price Waterhouse Cooper (2010) compares the effective mining tax rate in 2009 with significant and no capital allowances (similar to the mini-max situation used in this study) for seven countries, one of which is Ghana. In the minimum tax scenario Ghana is the third lowest tax country and in the maximum tax scenario, it is the second lowest tax country. However, the study is analyzing hypothetical copper mines not gold operations, the mainstay of the Ghanaian mining sector.

84. ***Difficulties in terms of mineral tax administration.*** Taxes and fees from the mining sector in Ghana are collected by the Minerals Commission, the Internal Revenue Service/Ghana Revenue Authority (including customs), the District Assemblies, and the Office for the Administration of Stools and Lands (OASL). The difficulties in collecting taxes and fees from mining companies result from a lack of coordination, weak capacities, and unclear responsibilities. These issues have also been identified by the Ghana Extractive Industry Transparency Initiative (EITI) multi-stakeholder group and reports.³² As a result, the GoG relies on self-assessments by the mining companies³³ without the capacity and knowledge to verify the information or even know where to look for missing information. This provides opportunities for over-reporting costs without much chance of being detected. This was particularly a problem when trying to estimate the operating ratio³⁴ in order to determine the royalty rate on the sliding scale.

85. To address these issues, the Minister of Lands and Natural Resources has formed a Mineral Revenue Task Force with the objective to share information between agencies involved in collecting revenues from mining companies, including the Minerals Commission, Ministry of Finance, Economy, and Planning (MoFEP), Customs, and the Large Tax Payers Unit (LTPU) in the Ghana Revenue Authority (GRA). The Task Force has developed a number of models (macro-economic and mine fiscal models) to facilitate their work and detect missing information.

86. A number of weaknesses in the efforts of the Task Force have been identified. First, there seems to be a lack of clear institutional status, for example in linking the Task Force's fiscal models³⁵ with other revenue forecasting done by MoFEP and the Central Bank on one hand, and with actual revenues reported through the Ghana Extractive Industry Transparency Initiative (GHEITI) on the other. Moreover, capacity in the LTPU, the body in charge of determining and collecting the most important mining taxes remains limited; it currently has no expert on mining tax issues. This suggests that the findings and work of the Task Force need to be mainstreamed through training and a clear institutional mandate.³⁶

³¹ Annual survey of metal mining and exploration companies to assess how mineral endowments and public policy factors such as taxation and regulation affect exploration investment.

³² GHEITI Aggregation/Reconciliation of Mining Sector Payments and Receipts: 2004-2008 (October 2010)

³³ Companies are allowed to forecast profits for the year and pay some deposit based on their own assessment. Companies are required to submit their yearly returns four months after the end of the accounting year. (GHEITI Aggregation/Reconciliation of Mining Sector Payments and Receipts: 2004-2008)

³⁴ Measure calculated using the value of sales and costs (indicator of current year profitability)

³⁵ This fiscal model assesses the operating costs, production and the profitability of individual mines.

³⁶ This is currently addressed through the Natural Resource and Environmental Governance Program (NREG).

87. Furthermore, in regards to the models developed by the Task Force, the main macroeconomic one assumes constant costs and corporate income tax, and in its current form cannot easily capture the changes in prices, costs, and profits – all of which are far higher than those used in the forecasts made in 2008 for the rest of the decade. While individual very detailed mine models are being developed, only three of these have been completed to date.

88. **Revenue calculation model:** To determine if Ghana collected the revenues that were expected according to the fiscal regime – which is also the mandate of the work of the Mineral Task Force – the authors of this note developed a simple alternative model. To simplify the model, the following assumptions were made:

- Calculations of expected tax revenues are made for the four main sources (CIT, PAYE, royalties, and withholding tax), with a constant percentage equal to the historical average added on for the remaining items.
- It aggregates the numbers from each gold mine and assumes an average production cost similar to the industry as a whole.³⁷ The rest of the mining sector (bauxite, manganese, diamonds) is assumed to pay the same share of fiscal revenues it did in 2009 and 2010, which was 2.5 percent.
- The fiscal revenues that would be generated in a ‘minimax’ situation are first calculated: In the *minimum fiscal revenue scenario*, capital allowances negate all CIT (i.e. companies using maximum capital allowances). In 2009 and 2010 the royalty rate is 3 percent, the minimum amount given the sliding scale royalty. Note that in March 2010, the royalty rate was raised to a flat 5 percent except for companies with fiscal stability agreements (Newmont and AGA, who pay 3 percent and produce about 25 percent of total production), but this rate did not go into effect until March 2011, one year after being promulgated, which is the current Ghanaian law. In the *maximum fiscal revenue scenario*, there are no capital allowances left, so all sales revenues above the cost price (including royalties) are profits and hence are subject to a 25 percent CIT. In addition, the 2009 and 2010 royalty rate is assumed to be the maximum 6 percent for all companies except Newmont and AGA, resulting in an average royalty of 5.25 percent.
- The above discussion only refers to fiscal revenues paid directly by mining companies. In addition, their suppliers will pay taxes as will the suppliers to the suppliers (for more information see section III of this note).

89. The results from using the models for 2009 and 2010 are as follows:

³⁷ Artisanal and small-scale (ASM) gold miners pay very little taxes in Ghana, so they are not included in these calculations. In 2009, 13 percent of recorded production was in the ASM sector. The same figure was used for 2010.

Table 4: Actual and Projected Fiscal Revenues from the Mining Sector, 2009 (US\$m)³⁸

	Minimum	Maximum	Actual
<i>Gold Royalties</i>	<i>74</i>	<i>130</i>	<i>63</i>
Gold CIT	0	254	84
Gold Other	98	98	98
Other Minerals	2	10	4
Total fiscal revenues	174	492	249

Source: Authors' calculations

Table 5: Actual and Projected Fiscal Revenues from the Mining Sector, 2010 (US\$m)³⁹

	Minimum	Maximum	Actual
Gold Royalties	95	166	100
Gold CIT	0	374	167
Gold Other	119	119	119
Other Minerals	2	14	5
Total fiscal revenues	216	673	391

Source: Authors' calculations

90. As can be seen in column 4 of Tables 4 and 5, the actual amount of revenues collected fell between the “minimax” numbers, but were much closer to the minimum figure, particularly in 2009. This suggests that there are either tax administration difficulties or that amortization against profits was very large, albeit declining quickly in 2010. Assuming that the rest of the model is roughly correct, the reductions in taxable profits through amortization that would give the actual amounts collected were calculated. It was calculated that if the only reason revenue collections were not at the maximum figures was due to amortization, taxable profits must have been reduced by 73 and 56 percent in 2009 and 2010, respectively.

91. The amortization amounts that give rise to these results are quite large, US\$ 780 million in 2009 and US\$880 million in 2010. This is a significant amount given that most operations have been operating for several years, although it should be emphasized that many of the older mines have also been making important investments in recent years. Without detailed analysis of the accounts of each mining operation, it is not possible to say if these were reasonable amounts in Ghana in these years or if tax collection problems are an important reason why Ghana did not come closer to the maximum amounts projected in this model. In addition, there could be problems on the cost side of the equation, although the average operating costs were conservatively chosen to be relatively high in order to reduce this source of friction.

³⁸The average gold price for 2009 was \$969/oz, the average operating cost was set at \$530/oz, and taxable gold production (excluding ASM output) was 2.55m ounces.

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92. In addition, the numbers calculated above were based on average costs and amortization across the mining sector, but of course, different mines have different costs and have different amounts of outstanding capital allowances. It would be particularly useful to have benchmark figures for operating costs of different types of gold mines, as discussed in the consolidated EITI report (Ministry of Finance and Economic Planning, 2010, p.61). There are only a small number of operating scenarios in Ghana—open pit versus underground, heap leaching versus sulfide flotation, for example—and it would not be very difficult to determine a reasonable range of operating costs for each possibility. Special attention could then be focused on mines that fall outside of their project cost range.

93. In sum, the large amounts of amortization that would be needed to get the tax amounts, given the other parameters of the model, are very large and suggest that investment in tax administration and more rigorous auditing could have a very high rate of return.

94. **What changes could be considered in the mining fiscal regime?** The new royalties are high by international standards, but easier to administer than the sliding scale. Some changes that could be considered that are in line with international practice are: (i) capital allowances could move to a 5 year straight line amortization—that is, a maximum of 20 percent of investment can be depreciated each year for 5 years; (ii) the CIT rate could move to 35 percent, a more typical level, although it could be combined (as advised by Otto, 2009) with the removal of the free carried interest of 10 percent⁴⁰; and (iii) the CIT could be made progressive, with for example, levels at 25 percent, 35 percent and 45 percent, depending on profitability. Of course, this would mean that the GoG is back to a similar problem it has faced in calculating what the royalty rate should be, so any move in this direction would require an accompanying major boost in auditing capacity.

95. Finally, with respect to fiscal revenues, an evolving issue is the question of capital gains. Historically, these have not been significant in Ghana. The EITI report notes that in recent years, the only payment was about US\$10 million in 2006. However, in April 2011, there was a major transaction that will result in a capital gains of US\$667 million by IAMGOLD in a sale to Goldfields. There is considerable confusion among Ghanaian officials (as well as other stakeholders) on whether and how much this will be taxed when the deal is finalized in the summer of 2011. It is essential that this matter is clarified.⁴¹

D. ELECTRICITY AND THE GHANAIA N MINING SECTOR

96. Mining uses a great amount of electric power and a supply of relatively cheap power can be an important investment incentive. In the extreme case, aluminum, companies will rarely invest in aluminum smelters in a country unless a long-term (usually at least 15 or 20 years) source of a large amount of cheap electric power is guaranteed. While gold mining operations, which dominate in Ghana, are not as power intensive as other types of mineral operations, power costs are usually in the range of 10 percent to 15 percent of total operating costs. However, if the power is from thermal sources, this amount can be higher in times of high oil prices. Similarly, if the mine is self-generating power from diesel stations, power as a percentage of total operating costs can easily surpass 20 percent.

⁴⁰ The revenues generated by the 10% free carried interest have been quite small as they depend on companies issuing dividends, but there is a large political question to removing this part of the mining code, as its main benefit seems to be that it gives the Government a stake in the country's patrimony.

⁴¹ In the Newmont investment agreement, it says that any capital gains made by Newmont or its partners, Rank Mining and Golden Ridge Mining, will be taxed at 10%.

97. The total amount of electricity used by the Ghanaian formal mining sector in 2008 was 1.46 billion KWh, which was about 17 percent of total electric power consumption in Ghana. Almost all of this power was bought from the country power grid with very little self-generated power.⁴² For the largest companies, Goldfields and Newmont, electricity costs were 8 percent and 12 percent, respectively, of total operating costs in 2010, a high electricity cost year.⁴³

98. No evidence was found to suggest that the mining industry is currently receiving subsidized power, although as discussed below one major mineral processing smelter likely is. There is some evidence that power was underpriced (compared to costs) for the entire country in the mid-2000s and the mining industry also received a lower than average cost price, although similar to most other users. It is reported that in 2010, mining firms were charged on average about US cents 13/KWh, still a quite high rate by international standards and likely more than the average cost of production and bulk delivery in Ghana. It was reported that AngloGold Ashanti's Obuasi mine, an old large underground operation, pays a slightly lower rate to compensate for its greater use of power per ounce of gold than the newer open pit operations. VRA reported that they sell their power at an average cost of about 5 cents/KWh. Especially as distribution costs to bulk users like mining companies are much less than other consumers, it seems likely that they are paying significantly more than the average cost of production of bulk power and, in essence, cross-subsidizing other consumers.⁴⁴

99. While most mining companies are considered bulk consumers and negotiate bulk rates, they all tend to pay roughly the same amounts. Negotiations for 2011 are nearing conclusion but the rate is likely to be 14 or 15 cents per KWh.⁴⁵ In recent years, electricity rates are negotiated annually, with the price of oil appearing to be the leading factor behind price changes.

100. Valco, the aluminum smelter, is the exception to the above discussion. Nevertheless, it is part of the processing industry and not a mining operation. Valco began production in 1967 and in fact was the baseload customer for the VRA's hydroelectric power for most of the next thirty years. However, when the demand for power finally caught up to supply and the cost of power rose substantially, it was necessary to maintain a much lower price for Valco in order for it to remain open, resulting in large financial losses for the VRA, which in turn were covered by the GoG. Finally, the smelter was closed down in 2003, reopened briefly in 2006 and reopened again in early 2011. It is not clear how its production is being subsidized but, given that the cheapest power in Ghana, the price paid by the distribution companies, is at least 5 cents per KWh, it is highly unlikely that the smelter can operate without a subsidy.⁴⁶

⁴² Note that the mining industry built a 90 MW thermal power plant, which it then gave to the GoG on the condition that in times of low power, mining operations get first access to this power plant.

⁴³ These percentages are based on amounts received in interviews with company representatives.

⁴⁴ The authors are currently attempting to get information on the average cost of hydroelectric power in Ghana and thermal generated power. In general, the former tends to be about 2 to 5 cents per KWh, while the latter tends to be about 10 to 15 cents per KWh.

⁴⁵ The power rates were verified in discussions with the Volta River Authority, the Chamber of Mines, Newmont and Goldfields.

⁴⁶ The VRA informed the authors that they are not providing an electric subsidy.

E. OTHER BENEFITS FROM THE MINING INDUSTRY

101. While the debate around mining fiscal revenues will no doubt continue, the Government of Ghana also needs to ensure that they maximize the non-fiscal contribution from the mining sector. Two factors make this extra important in the case of Ghana: the comparatively short mine-life and small infrastructure developments of gold mining.

102. The average mine-life of a gold mine is 15-20 years, depending on deposit grade and size and the gold price. This means that the current smaller mines are likely to close in 8-10 years. Newmont Ahafo is expected to close in 15-18 years. The previously largest producing mine, Goldfields Chirano will close in 2014. There are some new exploration and mine developments,⁴⁷ including bauxite and manganese. But unless the resource base keeps being renewed, revenues from the mining sector will start to decline within 10-12 years. This implies that the Government and developers need to start planning for mine closure and how to make benefits sustainable.

103. Furthermore, as mentioned above, although some clustering of mines occur, gold mining does not come with large scale infrastructure developments to transport the minerals, as do iron or bauxite mine developments for example. Apart from the rehabilitation and construction of minor roads and the extension of the national power grid to some mine areas (Newmont spent \$40 M in Ahafo), the infrastructure developments tend to be comparatively small. As such, the potential for public goods from large-scale railroads, ports, or roads are not available in Ghana. Should the bauxite industry grow significantly within the next 5-10 years – 2015 production is expected at almost 1 million tons – and the Valco smelter continues operations, there might be an opportunity to look more closely at how Ghana can leverage these through regional cluster development initiatives,.

104. Based on the above, Ghana urgently needs to use the presence of the mining industry to induce growth and sustainable benefits, while minimizing environmental impacts. One way of doing this is to focus on increasing procurement of local goods and services. The examples below show that the indirect and induced benefits from mining can be significant, particularly when it comes to employment, skill transfer, and the induced benefits of the extra income available in mining communities. The extent of local procurement by the mining industry is briefly outlined, followed by a few key recommendations of how to realize these opportunities.

105. Employment is also the number one concern of mining communities in Ghana (Minerals Commission, 2010). The mining industry in Ghana directly employed 12,300 people in 2009, of which 98 percent were Ghanaians (Ghana Chamber of Mines, 2009). This is estimated at less than 1 percent of the formal workforce (Kapstein, 2011). On the other hand, the mines generate employment in the direct supply chain and in the suppliers of the suppliers (indirect employment), and “induced” employment through the employment generated by increased levels of income in mining communities. For example, in the case of Newmont Ahafo, for each of the 1,700 direct employees, 2.8 jobs are created elsewhere in the direct value chain, implying a job multiplier of 3.8. The number of jobs created indirectly and by household consumption decisions are 21.4 thousand, for a total of nearly 50,000 jobs. This result similar to a study conducted by the World Bank in Zambia’s copper belt, in which the base case of total domestic employment attributed to the mine was estimated at

⁴⁷ Notably Newmont Akyem (400,000 oz/year).

approximately ten times as high as the mine employment itself, 2,448 versus 26,850 jobs (World Bank, 2011c).

106. In Ghana, the mining industry spent an approximate \$865 million on local inputs in 2009, representing about 27 percent of its total funds to procure inputs including diesel and power (Ghana Chamber of Mines, 2011). This amount could be expanded significantly in consideration of the increasing demand for mining products in West Africa, to which Ghanaian firms are already supplying. Areas identified for opportunities for increasing local procurement include (i) services (legal, mining and drilling, civil works and construction of mine villages) (ii) capital goods and construction materials (kilns, plastic piping); and (iii) consumables and replacement parts (explosives, lime, cement, activated carbon, cyanide, etc), (World Bank, 2011d). The Chamber of Mines has established a sub-committee on local procurement to work with suppliers to realize these opportunities.

107. Setting the right policies are also important. The definitions have to be clear and the companies need to report on progress. The Government of Ghana is currently in the process of revising the local procurement provision from the 2006 Mining Law (703). The policy should clearly state what is meant by “local” procurement, based on level of manufacturing taking place locally, and the local participation in ownership, management, and employment. The Government should require companies to submit procurement plans, including efforts to increasing local procurement, and report on these annually.

108. Finally, mining companies are allocating voluntary CSR funds and undertaking a number of training and capacity building initiatives in the communities where they operate. The largest categories reported in 2007 were alternative livelihood programs, education, and implementation of resettlement action plans (Minerals Commission, 2010). In 2009, at Newmont Ahafo alone, \$3.2 million was spent on worker training and an apprenticeship program. The mining foundation at Ahafo, managed by the communities, and to which Newmont contributes \$1 for each ounce of gold produced, is now worth over \$7 million.

F. MAIN POLICY RECOMMENDATIONS

109. As mentioned above, this paper deals mainly with links 2 and 3 of the Extractive Industry value-chain, that is setting of policies and regulation and the monitoring of operations. The list of recommendations below is not exhaustive. In particular, enhancing governance and promoting demand for good governance along the value-chain are also very important to ensure that benefits from mining are maximized and distributed equitable to the people of Ghana.

110. Summarizing this note, however, the following are some key policy recommendations to enhance the contribution of the mining sector to the Ghanaian economy:

Fiscal policy

- Capital allowances could move to 5 year straight line amortization; that is, a maximum of 20 percent of investment can be depreciated each year for 5 years.
- CIT rate could move to 35 percent with the removal of the free carried interest of 10 percent; CIT could also be made progressive, with for example, levels at 25 percent, 35 percent and 45 percent, depending on profitability (although this would impose administrative challenges);
- Alternatively, to ensure that the state receives dividend from its 10 percent free equity interest, thought could be given to either entitling the government

to a proportionate share of *after-tax profits* regardless of whether a dividend is declared, or to raising withholding taxes (Otto, 2009).

Strengthen tax-administration

- Mainstreaming and institutionalizing the work of the Mineral Revenue Task Force, through training of staff in LTPU on mining technical issues, benchmarking of operating costs, simplifying of the fiscal models, and clarifying the mandate of the Task Force.
- Comparisons should be made with tax revenues being collected for similar operations in other countries in order to have a better indication of the extent of potential tax leakages.
- The findings and recommendations of the GHEITI Aggregation /Reconciliation of Mining Sector Payments and Receipts (2004-2008) should be implemented.

Electricity

- Given the controversy surrounding power subsidies, the GoG should undertake a thorough and transparent of electricity tariffs for mining companies.
- The cost-benefit of power subsidies to Valco should be carefully evaluated.

Enhancing non-fiscal benefits from mining:

- Clarify definitions of local content: The policy should clearly state what is meant by “local” procurement, based on level of manufacturing taking place locally, and the local participation in ownership, management, and employment.
- Reporting on local content: The Government should require companies to submit procurement plans, including efforts to increasing local procurement, and report on these annually.
- Carry out a more comprehensive cost-benefit analysis of the sector, including fiscal- and non-fiscal benefits, and potential social and environmental costs.

3. STRENGTHENING PUBLIC INVESTMENT MANAGEMENT

A. EXECUTIVE SUMMARY

111. Ghana's increased reliance on its own resources to fund public investment in the future calls for a review of its Public Investment Management (PIM) framework to ensure that it is robust enough to effectively deliver Ghana's strategic investment plans, through sound planning, formulation, allocation and supervision (including O&M) of projects. Based on an eight-stage PIM system evaluation, a number of issues have been identified in Ghana:

- Insufficient evaluation and screening of public investment projects prior to selection;
- Absence of multi-year allocation of investment budget;
- Lack of a central assets registry (including asset conditions);
- Deficiency in monitoring of project implementation;
- Lack of focus on maintenance and replacement expenditures;
- Low rate of public investment project completion;
- Low levels of maintenance spending vis-à-vis asset acquisition; and
- Limited analytical capacity for and lack of effective institutional coordination through project design, evaluation, internal controls and project oversight in the Ministries, Departments and Agencies (MDAs) and Metropolitan Municipal District Assemblies (MMDAs)

112. While improvements can be made across all stages of the public investment management chain, the evaluation nonetheless concludes that actions to strengthen upstream appraisal and selection of projects, and the monitoring of their execution could entail immediate improvements in the quality of investment projects. Efforts currently undertaken by the Public Investment Division at MoFEP should be amplified and accelerated in support of these objectives. In particular,

- Guidelines for MDAs budget preparation should be revised to include standard provisions on institutional arrangements and procedures for capital budgeting;
- A mandatory threshold for independent review should be introduced;
- Policy guidelines should be established to ensure the full integration of the Public Investment Plan in the Medium Term Expenditure Framework and Debt Management Strategy; and
- The Public Investment Plan, including associated feasibility studies, to be integrated in GIFMIS, should be regularly and mandatorily made public, including for the Auditor General's Office and Parliamentary Committees in charge of approving loans and reviewing Auditor General's reports.

B. INTRODUCTION

113. The medium-term national development policy framework, Ghana Shared Growth and Development Agenda for 2010-13 (GSGDA), highlights the need for addressing large infrastructure gaps (for a total amount of US\$12.9 billion over the 4-year period) as a prerequisite for assuring Ghana's long-term growth and sustainable development.⁴⁸ In the recent past, a significant portion of public investments in Ghana were supported by Official Development Assistance (ODA), according to traditional donors' project preparation

⁴⁸ See International Monetary Fund and International Development Association (2011).

requirements.⁴⁹ With Ghana now a lower middle-income country, it is expected that investments will increasingly be financed by domestic funding sources, including non-concessional loans,⁵⁰ and thus managed within Ghana's Public Investment Management (PIM) framework. It is, therefore, critical to ensure that such framework is robust enough to effectively deliver strategic investment plans, through sound planning, formulation, allocation and supervision (including O&M) of public investments.

114. In Ghana, several components of the public investment process are well structured and have some elements of good practice. For example, sectoral ministries have developed their sectoral strategies in line with the GSGDA and the Ministry of Finance and Economic Planning (MoFEP) is implementing program budgeting. Nevertheless, public investment framework in Ghana has also major weaknesses. It has not been well integrated into the overall budget process; and this weakness is further compounded in investment projects funded by development partners, which are not fully integrated into the budget and prepared and implemented under a plethora of parallel systems of feasibility studies; financial, economic, social and environmental impact assessments; and accounting, procurement and monitoring arrangements.

115. Nevertheless, the evaluation and screening of projects prior to selection is insufficient, the database of current assets and new projects is inadequate, and the monitoring of project implementation is weak. This is partly due to a lack communications between National Development Planning Commission (NDPC), which is responsible for the preparation of the medium-term national development plans, and MoFEP, which is responsible for the preparation of annual budget. In project planning, the major shortcomings include absence of multi-year allocation of investment budget, absence of a central assets registry (including asset conditions) and lack of focus on maintenance and replacement expenditures. Public investment project completion has also been a persistent problem and stems from the arrears problem. Furthermore, maintenance spending does not appear to be keeping pace with asset acquisition and maintenance requirements. In addition, there is very limited analytical capacity for project design, evaluation, internal controls and project oversight in the Ministries, Departments and Agencies (MDAs) and Metropolitan Municipal District Assemblies (MMDAs).

116. The objective of this Policy Note is two-fold. First, it provides candid assessment of the existing institutional and procedural challenges in managing capital spending. Second, it attempts to present a set of 'good fit' policy implications for further PIM reforms. The diagnostics follows the evaluation framework suggested by Rajaram et al. (2010) and is based on semi-structured interviews of government officials and review of relevant publications and written responses by the MoFEP to a questionnaire on PIM.

⁴⁹ Between 2007 and 2011, ODA financed about 25 percent of total public investment, and external non concessional borrowing another 20 percent.

⁵⁰ In December 2011, the Government borrowed US\$3.0 billion from the China Development Bank at non concessional terms. In comparison, Ghana has been borrowing externally US\$480 million on average every year since 2007 at non concessional terms.

C. INSTITUTIONAL ARRANGEMENTS FOR PIM

117. Ghana has been reforming its Public Financial Management system (PFM) since 1999. In this process the Parliament enacted several laws including the Financial Administration Act (FAA, 2003), the Financial Administration Regulations (FAR, 2004), the Public Procurement Act (2003), the Audit Service Act (2000), and the Internal Audit Agency Act (2003). These PFM reform efforts produced varied results. On the one hand, the Public Procurement Act clarifies for the first time how various public procurement practices can be conducted by state institutions and established the Public Procurement Authority as an overarching regulating body in this respect. The reform also resulted in the enactment of the organic law on public finance in December 2003 and the law on internal auditing. On the other hand, reform efforts in budgeting, accounting and recording were less than successful. A notable example of difficulty in reforming budgeting practice has been in financing of the Government's policy priorities, as reflected in the misalignment between Poverty Reduction Strategies' expenditure allocations and Budget appropriations. For example, in 2009, although overall resource allocation to implement Ghana's second Growth and Poverty Reduction Strategy has exceeded the resource requirements envisaged by the National Development Planning Commission by 44 percent, the budgetary allocations re-prioritized expenditures favoring activities in the Private sector Competitiveness and Good Governance thematic areas (see table 1), at the expense of Human Resource Development.

Table 6: Resource Allocation to Finance Medium-Term Plans (US\$ million)

GPRS II Areas	Private Sector Competitiveness	Human Resource Development	Good Governance	Total
GPRS Costing	634	1,043	197	1,874
2009 Approved Budget	1,161	797	752	2,710

118. In 2010, the Government launched another generation of PFM reforms under the Ghana Integrated Financial Management Information System (GIFMIS) project. A sub-component of the reform program is the introduction of program-based budgeting and medium term expenditure framework (MTEF). Consistent with the implementation plan for the program-based budgeting sub-component, the Government has begun the piloting in two ministries (MoFEP and Ministry of Education) from the 2011 fiscal year. Although it is too early to judge the success of these recent reform efforts, it is fair to say that they have important bearing on PIM.

119. The diagnostic framework for any public investment management system has eight core features. This note will analyze each of the eight features as depicted in the diagram below pertaining to Ghana.

Figure 6: The Public Investment Management Framework



Investment Guidance and Preliminary Screening of Projects

120. According to the diagnostic framework some broad strategic guidance for public investment is important to anchor government decisions and to guide sector-level decision-

makers. In Ghana, the GSGDA for 2010-2013 has been developed for government agencies to use as guidance in preparation of their public investment proposals. In addition to GSGDA, the NDPC has issued guidance notes to sector ministries, metropolitan, municipal and district assemblies (MMDAs) for the development and costing of sector strategies which are supposed to guide annual budget preparation and initiation of public investment proposals. Based on sectoral and sub-national medium term plans, annual work plans are prepared and fed into the three-year rolling budget (MTEF).

121. Nevertheless, at the current stage, there is no established process for screening of project proposals (except for the PPP proposal review being done by the PID). The missing link to this critical function in PIM is due to the inadequate quality of strategic documents and the slow progress in implementation of the MTEF. The costing of sector strategies and their alignment to the budget remain weak. MoFEP notes that while spending agencies across board do refer to the GSGDA in their programming and planning for capital expenditures, the strategic document has not adequately addressed the issue of prioritization of budgetary decisions (Ministry of Finance and Economic Planning, 2011).

122. The divergence between strategy-planning-and budgeting is rooted in the low quality of costing of sector strategies, which in turn suggests that the link between sector development plans and budget alignment is established mostly on qualitative basis. Policy based budgeting is being piloted but is severely constrained as its basic prerequisites are missing: budget credibility and a credible macro-fiscal framework has not been established. The country receives a PEFA (2010) score of C+ overall rating for the indicator ‘multi-year perspective in fiscal planning, expenditure policy and budgeting.

123. MoFEP is only at the very initial stage of development of a public investment program (PIP) in conjunction with NDPC. Software is being developed to build and maintain a database of project proposals in the PIP.

Formal Project Appraisal

124. The diagnostic framework suggests that projects or programs that meet the first screening test should be subject to the appraisal of their viability which requires undertaking feasibility analysis. In Ghana, the appraisal follows the parallel practice depending on the source of financing: Donor-financed projects follow the donor-specific procedures and Government financed projects follow the Government’s ones. Focus of the note is on analyzing the deficiencies in the government-managed public investment.

125. Project appraisal in Ghana is highly decentralized without an established formal process. For Government financed capital investment, MDAs are vested with a full range of responsibilities of preparing, appraising and selecting their own projects in accordance with the budget guidelines. The inadequate regulatory framework combined with weak institutional capacity at both the central and MDAs levels in appraisal pose the critical challenge to ‘gate keeping’ function.

126. MoFEP has issued multiple guidelines for budget preparation, public borrowing and project selection. The Guidelines for the Preparation of the 2010-2012 Budget Proposals (dated 27 July 2009) makes a specific reference to a Capital Budget Committee to develop and implement a more rigorous approach in appraising capital expenditure projects.⁵¹

⁵¹ According to the MoFEP’s Guidelines for the Preparation of the 2010-2012 Budget Proposals (July 2009), all funding requests for infrastructure and large capital projects by MDAs would be subject to rigorous appraisal

However, the Committee has, as of March 2012, not been set up. More importantly, the reference to the Committee and proper review of funding requests for infrastructure projects have been dropped in the subsequent guidelines for the 2011-2013 and 2012-2014 Budgets. Sections 6.18 and 6.19 of the Guidelines for the 2011-13 Budget Preparation requests a detailed list of information as well as an implementation plan from MDAs for their investment projects. However, it is not clear whether MoFEP has received this information for the 2011 Budget.

127. While multiple guidelines are prepared for budget preparation and borrowing, there remains an absence of a dedicated set of uniform, centrally publicized, consistent, and transparent guidance for MDAs and MMDAs to carry out *ex ante* evaluation of financial, economic and social costs/benefits of proposed projects. In addition, there is no institutionalized format for presenting and appraising of costs and benefits of project proposals. In fact, the literature on *ex ante* estimates of costs and benefits of large infrastructure projects is full of examples with substantial cost underestimates as well as significant benefit overestimates, rendering more emphasis on the accuracy of cost benefit analyses of project (Flyvbjerg, 2009).

128. As a result, MDAs and MMDAs have *de facto* discretion to conduct any type of pre-feasibility or feasibility studies. The appraisal of specific project proposals is conducted at the MDA/MMDA level practically without participation or critical review of a central agency, i.e., MoFEP.

129. MoFEP is responsible for allocating funding for various projects and programs. MoFEP has undergone institutional restructuring and the principal responsibility for central management of PIM rests with the MoFEP's newly established Public Investment Department (PID).⁵² The PID department, led by a Director, comprises four units including:

- The Project and Financial Analysis (PFA) Unit with gate keeping and upstream investment appraisal responsibilities.
- The PPP Advisory Unit that will house technical specialists to support MDAs in development and management of prospective PPP projects that satisfy Government of Ghana investment priorities.
- The Public Entities Unit, and
- The Strategic Projects Unit.

130. However, PID is not sufficiently resourced and lacks analytical capacity to perform its central functions in PIM. At the time of the World Bank diagnostic mission in November 2011, the PFA has only seven staff in total including 2 senior staff and five junior; the Public Private Partnership (PPP) unit staffed with three consultants (financed by DFID); the Public Entities Unit with two seniors and one junior; and Strategic Projects Unit has not recruited any staff yet. Therefore the role of PID is currently confined to review PPP projects only, although its expected mandate reflects the review of the entire portfolio.

and review by the CBC. Structurally, the CBC is an inter-ministerial task team to be set up at MoFEP and is formally responsible for making recommendations for selection and financing of such projects and programs.

⁵² Apart from the newly established PID, the Budget Division of MoFEP has a key role to play in PIM. It holds 'the purse' and ensures that funds are allocated for the execution of public investment projects in the country. Budget Division also monitors the release of funds to the various MDAs and MMDAs in collaboration with the Accountant General's Department.

131. The newly developed policy on public private partnership envisions the fundamental change in appraisal. In particular, the appraisal of PPP proposal would involve multiple institutions with MoFEP playing the role of gate-keeping and providing advisory services through the newly created PID. Such proposed institutional setting may shed light on further considerations of various modalities of project appraisal of traditional public investments.

Independent Appraisal Review

132. The assessment framework suggests that it is a sound practice to subject project appraisals to an independent review. In Ghana, while the process of appraisal is delegated to MDAs and MMDAs, the independent review function remains missing, compromising the integrity of the project appraisal and exposing appraisal process to the risk of optimism bias.⁵³ If budget committees can be set up in each and every MDA (as referred to in Guidelines for the 2010-2012 Budget), the MoFEP's PID and the Capital Budget Committee may serve as an effective modality in reviewing investment project appraisals developed by spending agencies and provide further recommendations on capital spending priorities in line with the existing economic agenda.⁵⁴

Project Selection and Budgeting

133. The assessment framework recommends that the process of appraising and selecting public investment projects should be linked to the budget cycle. In Ghana, there has been no consistent approach to project selection and budgeting. Project proposals are often selected on an ad-hoc basis with the budget directorate accepting projects which may not necessarily be priority projects. The MoFEP Guidelines for the 2011-13 Budget Preparation highlight the fact that MDAs do not adequately budget for infrastructure investments and embark on projects for which there is no provision in their budget.

134. The Government has laid the ground for piloting a Program-Based Budgeting (PBB) framework. The PBB is expected to better align the sector medium term strategic programs with budgeting and thereby enhance the connection between the budgeting and PIM cycle. Major challenges in top down strategic planning and bottom up budgeting process include:

- Slow progress in the application of MTEF;
- Credibility of the bottom up budget preparation process. As part of the 'budget negotiation' strategy, spending agencies tend to retnch up their budget request in expectation that they are to be curtailed eventually (according to the PEFA 2010 report, in certain cases, budget allocation was just about half of the amount requested);
- The weakness in linking investment budget with future recurrent cost requirements despite the on-going single capital and recurrent budget process. While the recurrent costs are estimated in full feasibility studies, they serve only a formality purpose — as the information is required to be presented in the project appraisal documents. In reality, the focus of the process is more on

⁵³ Optimism bias is the demonstrated systematic tendency for people to be overly optimistic about the outcome of planned actions. This includes over-estimating the likelihood of positive events and under-estimating the likelihood of negative events.

⁵⁴ According to the July 2009 Budget Guideline for the 2010-2012 budget proposals, in addition to the planned establishment of the Capital Budget Committee as a central agency or gate-keeper at MoFEP, a budget committee is supposed to be set up at each MDA. The proposal if implemented properly would serve as a good model of combined top-down, bottom-up screening, appraising, and conducting independent review of project proposals by spending agencies.

new investment rather than recurrent costs — giving disincentives to MDAs to take recurrent cost implications of new investments into consideration. Similarly, donor financed investments do not take into consideration future maintenance costs which add another dimension of complexity to budget credibility. In the case of the roads and highways, the earmarking of road funds to maintenance in fact segregates prudent management of total costs and operations.

Project Implementation

135. The assessment framework advises prudent management of project implementation, which calls for stringent procedures and planning for both total and annual cost control. In Ghana, there are no central guidelines for project implementation in general and for cost control in particular. It is not uncommon that MDAs fail to prepare and submit to the MoFEP detailed implementation and procurement plans, simply because such documents are not considered as mandatory for budget allocation. The institutional and procedural setting makes the MDAs focus on annual cost control only, within the given resource envelop. The problem of total cost control is aggravated due to slow progress in rolling out MTEF.

136. The Public Procurement Act, 2003 establishes competitive tendering as the preferred procurement method. Nonetheless, improvements on the ground are still to be shown. Project delays and cost overrun continues with some infrastructure projects remaining incomplete after over 10 years. The MoFEP Guidelines for the 2011-2013 Budget Preparation highlights:

“Government has noted with concern the unacceptable high number of uncompleted projects scattered all over the country. These projects, for which huge sums of scarce public resources have been used to start, are at various stages of completion and in some cases for so many years. Thus in spite of the resources spent on these projects they are still of no benefit to government.”

137. The Joint Review of Public Expenditure and Financial Management 2011 identifies four areas for further reforms of the public procurement system: (i) strengthening the legislative framework, (ii) streamlining operations, (iii) enhancing institutional development capacity, and (iv) developing transparency.

138. Arrears had long been an acute problem in project implementation. But efforts were made to restore commitment controls and enhance quality of contract management. The Office of the President has instructed that all MDAs obtain MoFEP’s commencement certificates before undertaking any investment activity. The rising trend of accumulation of project arrears appears to have been reverted in 2011.

Project Changes

139. The assessment framework suggests flexibility in the funding review process to allow changes in the disbursement profile to take account of changes in project circumstances. According to the assessment framework, each funding request should be accompanied by an updated cost-benefit analysis and a reminder to project sponsors of their accountability for the delivery of the benefits. In Ghana, to ensure accountability and transparency of institutions in the management of public investments, the country has a system that ensures both internal and external oversight is exercised. The internal control is first performed by internal auditors under the guidance of the Internal Audit Agency. Secondly, internal oversight is provided through the Policy Planning, Monitoring and Evaluation Departments

(PPMEDs) in the MDAs. To ensure accountability, they are also legally obliged to subject their project implementation progress reports to both internal and external scrutiny through their respective internal audit units and the Ghana Audit Service respectively.

140. However, the timeliness and quality of reports are uneven across agencies. In addition, the Auditor General's Office lacks resources (both human and financial) to conduct performance audit, and project commencement and mid-term construction audits are not conducted. The PFA Unit within the Public Investment Division is responsible for contract management. The unit reviews the requirements for contract start and monitors the requests and payments of various contracts in ensuring that payments are made on time and amounts requested are correct. The unit is thus able to provide reliable details on individual contracts in terms of amounts contracted, paid and outstanding including arrears. The unit reviews all contract payment requests submitted by respective officers and where necessary initiates inspection on site to ascertain the level of delivery of contracts including analyzing the required period of execution of such contracts. Although there is limited staffing and expertise within the unit, apart from coordinating with other staff from the Budget Division to undertake effective monitoring of such contracts, the unit generally also coordinates with the M&E units of MDAs for a joint inspection.

141. It is normal that project plans are changed and adjusted during the construction phase due to unexpected changes in the business environment or demand forecast at the stage of project initiation and budgeting. External factors combined with internal fiscal pressures give a good reason to MoFEP, which centrally manages the capital budgeting, to ask MDAs and MMDAs to update project information. However, MoFEP does not specifically require MDAs and MMDAs to update project documents during the construction stage and project adjustment is left to the discretion of MDAs within their available budgeting.

142. The Auditor General's Office is mandated to undertake independent monitoring in general of projects and programs of Government. It is worth noting that the Auditor General for the past six years has been able to submit reports on financial audits of the consolidated fund to Parliament within the six month statutory requirement as stipulated in the FAA. However, it has not been able to undertake performance auditing of projects and programs due to inadequate capacity.

Facility Operation

143. The assessment framework recommends that once a project is completed, there should be a process to ensure that the facility is ready for operation and services can be delivered. In Ghana, there is no specific, stand-alone law on Assets Management. The overarching legal basis for assets management is contained in the FAA. This law regulates the financial management of the public sector, prescribes the responsibilities of persons entrusted with financial management in the government and seeks to ensure the effective and efficient management of revenue, expenditure, assets, liabilities and the resources of government. PART IV of the ACT - Sections 30-37 - deals with recording, management, and control of Government STORES by all government entities; and PART V deals with the accounting and auditing of the assets, inter alia.

144. The Financial Administration Regulations impose on each MDA to have an inventory of public assets acquired and maintained. This legal provision is not being complied with systematically and consistently in all MDAs. The responsibility for maintaining a composite record of public assets is vested in the Controller and Accountant General according to

Section 40 (4) of the organic finance law. This responsibility is however not well exercised as the Controller has no record of all the assets acquired and maintained by the Government.

Project Evaluation

145. According to the assessment framework, a desirable feature of a PIM system is a basic completion review and ex-post evaluation of finished projects. In Ghana, government financed capital spending is not subject to formal ex-post evaluation. The absence of institutional requirement and setting to conduct this function undermines accountability and creates missed opportunity to draw lessons for further improvements in the next project management cycle. It thereby creates the tendency for perpetuating deficiencies across various stages of project design, appraisal, selection, implementation and supervision.

D. POLICY IMPLICATIONS

146. Over the past decade, the country made important strides toward improving the quality of PFM in general and PIM in particular. The MoFEP plays a champion role in establishing a well grounded legal and regulatory framework and embarks upon fundamental institutional restructuring to address the missing functions in capital budgeting. Nevertheless, compliance with the established legal framework and guidelines for preparation of budget proposals remains weak – while a number of critical functions in PIM, such as public investment proposal screening, appraisal, monitoring and evaluation, either exist largely in formality or are completely missing. Annex 11 presents the summary of gap analysis, comparing the desirable features of a well-functioning PIM and the current status of the PIM in Ghana.

147. The likely rapid rise in level of public spending in the near future – increasingly financed by non-concessional loans dictates the needs for commensurate measures to enhance the quality of capital budgeting in order to create new productive assets for growth and to mitigate both macro and project risks. With the oil revenues coming on-stream, part of capital investment will be financed by the abundant, and yet volatile and unpredictable source of revenues. This would require further scrutiny in gate keeping function and stronger political will to invest in investing.

148. It should also be noted that PIM framework is an integral part of the broader PFM systems and PIM reforms cannot be viewed in isolation from other PFM reforms. Rolling out the program-based budgeting, smooth functioning of the GIFMIS, enhanced transparency and accountability and strengthened legal framework for PFM—all compliment to the success of PIM reforms. The establishment of the PID and issuance of the national policy on PPP with concrete directions for sound management of the use of public resources lay ground for further reforms of the PIM.

149. However, a number of follow up measures are to be considered over the short and long-term. In the short term, enhancing the quality of national strategic documents and the inter-linkages among PRSP, MTEF, the PIP, project preparation and financing requires clarification of the mandates of and effective coordination between MoFEP and NDPC in terms of planning and development program costing. Such clarification of the national planning mandate of the NDPC should go in parallel with revamping and reorganizing the economic functions of the MoFEP. On the MoFEP side, it is critical to undertake in-depth analytical work and ensure sufficient staffing in the core areas of its mandates in economic strategy and management. As the World Bank policy note on Strengthening Central Finance Functions in Ghana from 2010 indicates, the rollout of the Economic Strategy Branch will

specifically require a major qualitative change in the staffing requirements and effective coordination between the two branches (finance and economic strategy—including planning) of the MoFEP, for example in agreeing on the economic assumptions and projections that underpin preparation of the annual budget and the MTEF. Botswana (Box 1) presents a good case linking different tools for public investment planning and financing.

Box 1: Botswana Public Investment Planning and Financing

The country's multi-year rolling public investment programs (PIPs) or national development program (NDP) are prepared on a broadly consultative process involving line ministries, local governments, parliament. Line ministries are responsible for preparing sector strategic papers which in turn form the foundation of NDP. The Ministry of Finance and Development Planning determines the resource availability and recurrent and development expenditure ceilings. The process of deriving development expenditures ceilings comes from MTFF and such ceilings are used to set the limit on annual capital expenditures. Once the NDPs approved by the parliament, it is illegal to implement any public investment projects not included in the plan.

150. From its part, the MoFEP could (1) revise the guidelines for budget preparation to include the simplified and concrete provisions on institutional arrangement and procedures for capital budgeting; (2) articulate, publicize and communicate the clear mandates for the new PID with all other stakeholders including the MDAs/MMDAs, business community, the public and development partners. Currently the guidelines for capital budgeting are vague, imprecise, and often regarded by MDAs as optional. In particular, requirement for cost benefit/cost effective analysis is proposed without referring to specific methodologies and scope of projects that are subject to such rigorous exercise. Capital Budget Committee was proposed to develop and implement appropriate approach to project appraisal, but it has yet to be materialized. The guidelines can be revised in consultation with line ministries, include only practical requirement for the format and content of project proposals and appraisal methods and subsequently have to be strictly followed.

151. The most cost-effective to gain efficiency in PIM for Ghana is to introduce a mandatory threshold for appraisal as complimentary to the set of revised guidelines for project cycle management. The practice is commonly applied in more advanced PIM system (e.g., UK, Ireland, or even Vietnam). A project of scale higher than the established threshold should be subject to more rigorous appraisal and even to independent review consisting of multi-sector expertise.

152. While staffing and training are continued and medium term process, in the immediate term, the MoFEP should start needs assessment for capacity development and resource allocation across different economic and planning functions and in particular for the PID. The process can be done with TA support by donors.

153. Over the medium to long term, certain reform activities could be undertaken over the medium to long term focusing on staffing, capacity enhancing for the MoFEP (the PID, in particular), NDPC, and MDAs/MMDAs, preparing and implementing dedicated guidelines for PIM.

154. The PID in coordination with other departments of MoFEP, the NDPC, and other stakeholders should take the lead in preparing the detailed central guidelines for the entire project cycle. The guidelines on integrated PIM should be published in a dedicated set of documents, separate from annual budget preparation guidelines. The PIM guidelines need to be clear, transparent and practical (i.e., technically commensurate with the prevailing institutional capacity). Experience of advanced PIM systems can be explored. Box 2 shows the South African example.

Box 2: South Africa Capital Expenditure Guidelines

The National Treasury has published capital expenditure guidelines for line ministries and spending agencies to prepare budget submissions for capital projects and programs.

The guidelines establish different thresholds depending on the size and nature of projects being considered which in turn determine the type and depth of information required for appraisal. There are three groups of capital projects: mega projects, large projects and small projects.

Project evaluation for large and mega projects is based on the project cycle. The guidelines specify that:

‘The framework and the project cycle for the appraisal of projects supports the Government Immovable Asset Management Act (2007) through assisting departments with the information requirements in compiling an asset management plan for the acquisition and maintenance of immovable assets. The information contained in the capital request will provide insight into where in the appraisal cycle the project is located and should match a department’s requirements from the budget. Funding requests for the construction of a capital project should be based on the results of a full socio economic feasibility study in the appraisal cycle.’

The guidelines are specified across all stages of the project cycle: Identification/concept, pre-feasibility, feasibility, financing/budgeting, detailed design, implementation and monitoring and ex-post evaluation.

Source: Ministry of Finance of the Republic of South Africa.

155. In addition, efforts and resources are to be dedicated to extensive training in project appraisal, monitoring and evaluation at both the central agency level (MoFEP, NDPC) and spending agencies. It is worth noting that while the training can start any time now, it should be a continuous process for which both careful planning and resources are needed.

156. Enhancing transparency across different stages of the PIM is the cornerstone for communication with all stakeholders and an essential ingredient for raising the public awareness. The wider public – the ultimate beneficiaries of capital investments – should be given sufficient information in timely manner about the budget decisions in general and the choice of public financed projects in particular. Only with such information, they could be empowered to raise questions and demand for accountability of public institutions and individuals concerned. Transparency would specifically benefit the PID to engage effectively with spending agencies – communicating across stakeholders and exercising its mandated gate-keeping function.

157. Ghana has made steady progress in improving the open budget index (OBI) scores, from 42 in 2006 to 54 in 2010 (International Budget Partnership, 2010). Budget speeches and different guidelines for loan financing and budget preparation are readily available in the MoFEP website. However, the deepening process requires credible –not just formational but functional – planning, appraisal and selection of public investment proposals which are currently lacking. The inherent connection between availability of appropriate forms and functions in PIM and making them widely known to the public is directly related to the current debate on the reviving of the public investment program (PIP). Information is the key for beneficiaries and Civil Society Organizations to hold sectors and implementing agencies accountable.

158. In preparation of the new PIP, Ghana could benefit from lessons from its own failures in the past and those elsewhere. The MoFEP as the champion in PIM reforms could identify the clear stages and regulatory procedures linking the PIP with the overall MTEF and annual budgeting. It is worth emphasizing that the PIP process is an integrated part of but not a parallel undertaking to the overall national planning and PIM. The success of PIP hinges on some factors:

- First, there must be credible institutional arrangement and rigorous process in vetting project proposals to be included in PIP. The process is related to the revision of the guidelines for capital planning as part of overall budget

preparation in the short run and the preparation of a dedicated, uniform set of guidelines for PIM in the medium to long term (as mentioned above).

- Second, it is critical to ensure the harmonization between PIP and MTEF on the one hand and PIP and disciplinary budgeting process on the other. Otherwise, like the mistake made in the past, the PIP would be presented again as a simple shopping list without much regard to in the budgeting process.
- Third, budget discipline requires that only those projects listed in PIP are to be considered for financing.
- Fourth, the selection process and the final list of PIP (updated periodically) and the budget process linked to it have to be transparent so the wider public can scrutinize on its usefulness and application.
- Fifth, a database of projects, from the appraisal stage throughout execution and operation should be developed. An initial step of preparing a simple excel spreadsheet is an encouraging development in the newly established PID. Over time the database should be developed and integrated in GIFMIS so as to facilitate the process of budgeting, execution and monitoring.

4. SUSTAINING DEVELOPMENT PROGRESS IN THE COCOA SECTOR

A. EXECUTIVE SUMMARY

159. Ghana's cocoa sector is a success – a solid demonstration that economic reform can rekindle a moribund sector for the benefit of economic growth and poverty reduction. Ghana has regained its position as the world's second largest cocoa producer, production having recovered from a low of 17 percent of world output in the 1970s to around one-quarter currently. With higher world prices and increasing production volumes, overall revenues have increased markedly from an annual average of GH¢680 million (in 2006 GH¢) in the late 1990s to over GH¢1.3 billion a decade later. The sector is now worth over \$2 billion in bean sales plus additional value added from marketing and cocoa processing. The cocoa economy has demonstrated impressive growth of 26 percent in 2010 and 14 percent in 2011.

160. The institutional arrangements retain a substantial role for the state. Producer prices are managed and private sector participation limited to essentially the logistics function and processing. This has served to reduce intra-seasonal price risk, and the *de facto* cocoa sector taxation has financed an institutional arrangement that has achieved the remarkable feat of linking almost one million small farmers, each with around 2ha, to an increasingly complex and competitive global supply chain. Furthermore the parastatal body Ghana Cocoa Board oversees a number of programs that contribute to increasing productivity – which remains low by regional comparisons – as well as key functions that ensure quality cocoa and maintain the integrity of Ghana as a dependable global supplier. Production has increased and in 2010/11 Ghana achieved the policy goal of producing over 1 million mt of beans.

161. A combination of the absence of inherent efficiency drivers within the institutional architecture, combined with a rapidly expanding resource envelope, has allowed a degree of inefficiency to creep into the system. Although revenues to stakeholders have been increasing, when assessed on a unit basis there is reason to conclude that the value for money of expenditures has declined. This is important for two reasons: first, since smallholder cocoa farmers essentially fund these programs through direct taxation on their incomes (through the producer price), it is incumbent that the Government ensures such funds are well used. Second, as competitive pressures increase due to the oil economy, there are opportunities for efficiency gains within the system. This would allow the same levels of public goods and services to be provided and for producer payments to remain the same even though aggregate sector revenues are declining.

162. To build on the past successes, and address the emerging challenges, the report makes a series of recommendations under three headings: (i) generating sustained efficiency drivers within the system; (ii) improving the cost effectiveness of existing interventions; and (iii) strengthening private sector actors in the value chain.

163. *Generating efficiency drivers within the system* requires a number of reforms to the procedures by which the revenues and expenditures of the sector are managed:

- While the multi-stakeholder composition of the PPRC is to be welcomed there is a need for a stronger 'challenge function' in the budgeting of sector programs. Greater scrutiny would promote improved efficiency.
- The decline in world prices will place pressure on COCOBOD to pass this on through reduced producer prices. This should be avoided as far as possible

through the reduction in inefficient and ineffective programs funded from the cocoa sector taxation.

- Detailed modalities for the functioning of the stabilization fund are an immediate priority to ensure the fund functions appropriately and rules for contributing to, and withdrawing from, the fund are transparent and predictable.
- The procedure of subtracting funding ‘off the top’ from sector revenues in order to determine a ‘net FOB’ price misrepresents the true distribution of revenues and the share of producer prices. Publication of the annual expenditures for each program would greatly assist in the transparency and accountability in the use of cocoa sector taxes.

164. A number of immediate steps and medium term reforms would dramatically *improve the efficacy and cost effectiveness of the existing suite of interventions* that are crucial to the success of the sector:

- There are no circumstances under which the liquid fertilizer is economically viable, at \$23,000/mt of nutrients, compared to around \$1,000/mt for the dry compounds. Procurement of the liquid fertilizer should be cancelled.
- COCOBOD should consider restructuring the mass spraying to provide greater accountability to farmers to improve the efficacy and to reduce the illicit sales of chemicals. One option to be considered would be to increase the ability to pay for spraying services and to establish the current spray gangs as private businesses, as service providers to the industry. The former could be achieved simply by increasing the producer prices commensurate with the removal of this program expense, or through the provision of vouchers to be redeemed against the hiring of spray gangs
- Given the excess demand for fertilizer compared to available (subsidized) supplies, COCOBOD should consider mechanisms for increasing the availability of fertilizer within existing financial resources. Greater effort is also required to ensure a more equitable distribution of subsidized fertilizer across the regions, with a focus on those with more severe soil infertility where fertilizer is demonstrated to have the greater impact on yields.
- Over the medium term, Ghana’s aging tree stocks need to be replaced with higher yielding varieties and there is a case for an expansion of the current work of the SPUs, as long as quality is maintained. Moreover, given potential impacts of climate change, a major pillar of the research agenda should focus on ensuring new practices and improved varieties that can adapt to changing climatic conditions.
- Quality control is an important and cost effective feature of the institutional arrangements in Ghana. In the short term, oversight of the newly established QCC must ensure service standards are met and the integrity of the arrangements maintained viz. opportunities for rent seeking. Over the long term COCOBOD should consider separating the quality control function into (i) compliance and (ii) testing with QCC focusing on the latter, alongside alternative (suitably approved) private sector service providers.

165. Third, there are *important elements of the cocoa value chain in which the private sector play the lead role*, within a framework governed by COCOBOD. The following would further strengthen their position:

- COCOBOD should revisit the assumption of intra-seasonal cash flow recycling of LBCs to ensure the distribution of seed funding reflects operational realities. There is an urgent need to improve the efficiency in the dealings between the LBCs and public activities, including testing and quality control, and off-loading, to avoid undue delays and reduce opportunities for rent seeking.
- There is an urgent need for a detailed analysis of the costs and benefits of the discount for domestic processors. This needs the active participation of the industry. Without commensurate improvements in the overall value for money proposition of aggregate COCOBOD expenditures there should be a presumption that the discount should continue. Special attention should also be paid to improving the mechanism for allocating discounted beans should the subsidy be continued.

166. Finally, there is a need to improve sector monitoring and improved accountability. Given that the sector is funded almost entirely by small-holder farmers directly through the *de facto* cocoa tax, there is an obligation on the state to account for the use of their funds. An important conclusion from the research undertaken for this Policy Brief is the difficulty in compiling accurate statistics for the *sector* that allow an assessment of the inputs, projects, programs, outputs and outcomes. The database compiled as part of this research should be updated annually by COCOBOD and made available on-line. Furthermore, as part of the sector monitoring, COCOBOD should report at the end of each cocoa year on the performance of the programs funded by the sector and this should be a key factor in the subsequent discussions of the PPRC. Specific attention should be paid to the benefit incidence of such programs in order to gauge their distributional impacts. A stakeholder forum should be established annually where results can be reported and shared, in an effort to scale-up effective interventions and revise or close down those with limited impact. The national program of the Africa Cocoa Initiative might be an appropriate forum.

B. BACKGROUND AND OBJECTIVE OF THIS NOTE

167. **The evolution of the cocoa sector mirrors the broader development trajectory of Ghana.** In part, this is because the cocoa sector has been such an important constituent of the economy – in 1927 cocoa revenues accounted for 84 percent of export earnings. More recently, the collapse and subsequent recovery of the sector symbolized macro-economic mismanagement and subsequent adjustment and reform (Tsikata, 2001). Severe economic crisis in the late-1970s resulted in production falling to less than 200,000mt – a meager 17 percent of world output. Following the inception of the economic recovery program (ERP) in 1983, distortions were steadily removed and the incentives to farmers strengthened. In the mid-1980s the nominal rate of assistance was around -0.73; by the end of the decade it was -0.34 signaling a drop in *de facto* taxation of about half (Anderson and Velenzuela, 2008). Farmers responded by expanding production westward into new areas,⁵⁵ replanting aged tree stocks and deploying improved husbandry, with the result that yields increased from less than 250kg/ha in the early 1980s to over 400kg/ha by the end of the decade.

168. Recovery and expansion continued throughout the 1990s and into the new century. Following the initial structural adjustment (1983 – 91) a period of oscillating policy (1992 – 96) threatened reform reversal: aggregate cocoa sector taxation increased sharply and took a

⁵⁵ Over 1975 – 80, the Western region accounted for 16 percent of national cocoa production. Over 1985 – 90 this share had increased to 34 percent and now accounts for over half aggregate production.

decade to revert to 1990 levels. By 2000 production had returned to the levels of the late 1960s. Since then production has increased sharply from 340,000mt in the cocoa year⁵⁶ 2001/02 to 740,000mt by the middle of the decade. In 2010/11 production exceeded 1 million mt (although this included between 100,000 – 20,000mt of beans smuggled from Cote d'Ivoire – see below).

Figure 7: Cocoa Production, 1947/48 – 2009/10



Source: COCOBOD

169. Productivity of Ghana's cocoa farmers has increased substantially in recent years, but lags behind other countries. Figure 8 clearly illustrates the impact of both better incentives associated with the ERP and the rehabilitation of cocoa farms utilizing improved varieties (which lag behind as trees mature). Higher producer prices incentivized better husbandry techniques which can increase productivity by 20 – 30 percent (Nyanteng, 1980). Average yields jumped from 237kg/ha over the decade 1983 – 92 to 378kg/ha over 1989-98 and FAO estimates for the sector as a whole are around 400kg/ha. Yield estimates from surveys suggest that farmers deploying more intensive methods can obtain yields closer to 500kg/ha. Despite this improvement, yields compare poorly with productivity in other cocoa producing countries. Table 7 reports yield estimates from two sources. FAO data reports national productivity measures for 2010 based on aggregate production data and estimates of cultivated area. The CLP (2011) data is obtained from surveys undertaken in the 2010/11 cocoa season in four West African countries. Sample sizes ranged from 339 respondents (Nigeria) to 781 (Ghana). Estimates are not nationally representative.

⁵⁶ The cocoa year runs from October 1 through September 30 and includes the main crop season (October through March) and the light crop season (April through September).

Table 7: Cocoa Yields (Kg/Ha)

Data	Cameroon	Cote d'Ivoire	Ghana	Indonesia	Nigeria
FAO	394	578	389	790	318
CLP	339	340	312	n.a.	406

Source: FAOSTAT and CLP (2011).

Figure 8: Cocoa Productivity, 1961-2008

Source: FAOSTAT

170. Increased production volumes have coincided with rising world prices and a steady increase in the share of producer prices accruing to farmers. Consequently, the cocoa sector has been expanding rapidly – as measured by sub-sector GDP – and farm incomes have grown steadily. Over 2001 – 05 cocoa production and marketing grew by 15 percent per annum (p.a.) and cocoa accounted for 28 percent of the overall growth in agricultural GDP (World Bank, 2007a). In real terms (2006 GH¢) gross revenues to the sector doubled from an annual average of GH¢680 million p.a. over 1998/99 – 2000/01 to in excess of GH¢1.3 billion p.a. over the period 2007/08 – 2009/10. Cocoa farming is now considerably more remunerative to producers, with the effective tax rate declining with economic liberalization (Brooks, Croppenstedt and Aggrey-Fynn, 2009). In 1997/98 exactly half of gross cocoa receipts were paid out to farmers through producer payments and this increased to 69 percent in 2003/04. Since then, the share has declined. However, the real producer price per mt has continued to increase, especially once bonus payments are included, because of steadily increasing export prices.

171. Like other commodity prices, world cocoa prices increased sharply since 2008. According to ICCO⁵⁷ figures, part of the increase in price was the relative appreciation of the US dollar against other currencies (i.e. the trend in international prices expressed in SDRs⁵⁸ lies below that expressed in US\$ – see Figure 9). Nevertheless, Ghana's export prices have risen substantially from around \$1,000/mt at the start of the decade to almost \$3,000/mt in 2010/11. In nominal local currency, prices increased from around 700GH¢/mt to

⁵⁷ International Cocoa Organization.

⁵⁸ Special Drawing Rights (SDRs) are an artificial composite 'currency' utilized by the international financial institutions whose value is determined by the value of major currencies of the international financial system.

GH¢4,500/mt which, in real terms (using the GDP deflator and 2006 prices), equates to an increase from about GH¢1,700/mt to GH¢2,200/mt.

172. Medium term projections see a continued tightening of global markets and a transition from the current market surplus to deficit. Analysis by LMC International⁵⁹ predicts demand continuing to grow at around 2.5 percent annually – in line with the trend over the last 20 years – to around 5 million mt by 2020. Among the largest three producers, Ivorian and Indonesian output is projected to trend flat or decline, and Ghana’s forecast increased output is insufficient to off-set a projected market deficit of 300,000mt in 2016. These underlying conditions are likely to exert upward pressure on prices. Prices are likely to remain above the medium-term historical levels, although they may not return to the peaks of 2007/08 – factors other than underlying demand and supply contributed to these spikes.

Figure 9: Cocoa Prices; January 1975 – December 2011



173. Ghana’s cocoa sector is subject to significant state control, with interventions in the production, processing and marketing of cocoa. In contrast to many other countries dependent on primary commodity exports, Ghana did not liberalize its cocoa sector and the state retains an important role in the management of the cocoa supply chain. The Cocoa Marketing Board – COCOBOD – is responsible for managing prices and for the provision on inputs and other services to farmers. The Cocoa Marketing Company (CMC) – part of COCOBOD – has the monopoly on the sale and export of cocoa beans. There has been some modest liberalization of bean procurement with the sanctioning of private sector licensed buying companies (LBCs – see below) although prices remain tightly regulated. COCOBOD has played a major role in linking small farmers to sophisticated global markets – the bane of agricultural development across Africa (World Bank, 2007b).

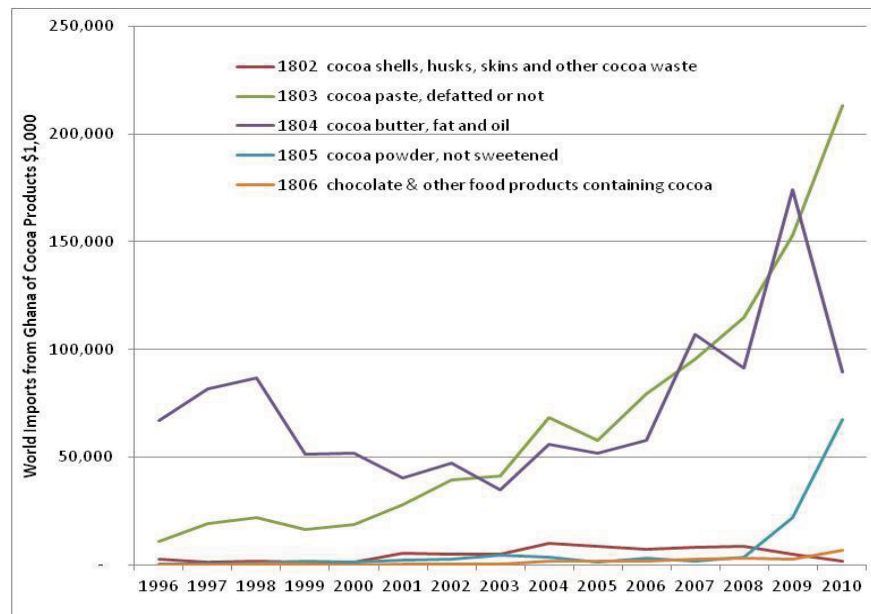
174. Ghana has also achieved some success with increasing value addition through processing. Domestic processing capacity now stands at around 400,000mt and includes investments from multinational companies as well as indigenous processing companies. Three of the worlds’ largest – Archer Daniels Midland (ADM), Cargill and Barry Callebaut – are all present in Ghana; together these account for the majority of global cocoa grindings.⁶⁰

⁵⁹ Presentation to WCF-sponsored event Cocoa Vision 2020 held in Washington DC, March 1 – 2, 2012.

⁶⁰ Cargill has its headquarters in the USA, Barry Callebaut in Switzerland and ADM in the USA.

Incentives are provided to encourage processing investments. Tax holidays, tariff exemptions on capital imports and the like are available under Ghana's (generic) investment promotion regulations. Lower-grade cocoa beans are supplied to processors at a discounted price. Exports of cocoa paste now exceed \$200m. Exports of butter fat and oil increased by 300 percent to over \$170m p.a. from 2003 – 2009. The sharp decline since then reflects the fact that additional processing is now being undertaken to powder, exports of which have increased from virtually zero to about \$70m currently (Figure 10).

Figure 10: Exports of Cocoa Products; 1996 – 2010



Source: COMTRADE Data

175. Ghana's cocoa sector stands as a successful story from a dynamic continent (Kolavalli and Vigneri, 2011).⁶¹ Even though Ghana is now a middle-income country with a significantly diversified economy and, as of 2010, an oil producer cocoa will remain an important driver of economic growth and poverty reduction. Cocoa still accounts for 9 percent of the agricultural economy. It provides the primary livelihood to an estimated 800,000 farm households.⁶² Poverty in the cocoa growing regions has fallen substantially. Although there are no direct estimates of the national poverty rate among cocoa farmers, the headcount poverty rate in rural forest zone (where cocoa production dominates) fell from 62 percent in 1991/92 to 38 percent in 1998/99 and 28 percent in 2005/06 (GSS, 2007). Increasing the incomes of cocoa farmers is crucial if poverty is to continue to decline.

⁶¹ According to President Kufour, it was the success of the sector that led to him winning the 2011 World Food Prize. <http://www.bbc.co.uk/news/world-africa-13877077>

⁶² Estimates of the number of cocoa farmers are unreliable but estimated to be between 800,000 and 1 million.

Figure 11: Trends in Cocoa Prices; 2006/07 – 2011/12



Source: Authors' calculations based on COCOBOD

176. Notwithstanding these achievements, Ghana's cocoa sector stands at a critical juncture. The challenge to the sustainability of the sector and the continued viability of critical public functions performed by COCOBOD is reflected in Figure 11. This shows the relationship between world (spot) prices, the average price realized by CMC for cocoa sales in each cocoa season, and the producer prices paid to farmers. Prior to 2010/11 world prices have exceeded the average realized export price (at least for most of the season) thereby ensuring the financial viability of Ghana's unique arrangements. Prices were sufficient to fund producer payments and the public goods and services for the benefit of farmers that are essential for production and marketing. The general trend in world prices has been upward and producers have been rewarded with bonus payments since world prices exceeded those assumed by the authorities when the producer price was set at the start of the season. (This is discussed in more detail below.) However, recent developments pose a challenge to the financial viability of these arrangements: world prices are now below producer prices. There is a need to reduce producer prices and/ or to cut back on sector expenditures. The former would reverse the development gains that has seen poverty fall among cocoa farmers. The latter risks withdrawing critical public goods and services essential for the functioning of the sector.

177. If cocoa is to continue to fulfill the important role in Ghana's continued economic development, the sector needs to address the following three inter-related challenges:

- First, world prices have fallen from their peak. Although they are expected to remain above their long-run historical trends, this decline can be expected to be detrimental to farmers unless COCOBOD maintains producer prices in absolute terms. Is there scope to do so without undermining the provision of critical functions that COCOBOD provides to the value chain?
- Second, although production volumes have been impressive, this has reflected area expansion – augmented with smuggling from Cote d'Ivoire – and on-farm productivity remains low by regional comparators. How effective are existing

interventions to bolster yields and can these essential services be provided more efficiently and/ or more effectively?

- Third, with the advent of oil Ghana faces risks of the negative impacts such as an appreciation of the real exchange rate. This would result in a loss of competitiveness for Ghana's exporters, and would affect both cocoa farmers and domestic processors. To what extent are their inefficiencies within the existing system that, if remedied, would compensate for a loss of competitiveness?

178. This Policy Note provides an analysis of the key issues in the sector and provides some initial recommendations for remedial measures. The Policy Brief was prepared in a participatory manner and reflects a broad consensus on the diagnostics and analytical conclusions. (See Box 3.) Section C describes the main elements of the cocoa value chain in Ghana. Section D provides a more detailed analysis of the effectiveness of the existing interventions in support of the sector, and identifies some potential areas for improvements. Section E provides recommendations.

Box 3: Preparation of Policy Brief

The Policy Brief reflects detailed analysis by local and international researchers and a consultative process involving a wide range of stakeholders. In response to a request from the Government, the Bank presented an outline approach to a steering committee established under COCOBOD's leadership to advise the task team. Two stakeholder workshops were convened during preparation: the first, in November 2011, provided feedback on the methodology and the analysis, including validation of data and the emerging analytical conclusions. The second workshop, held in March 2012, provided an opportunity to validate more concrete analytical conclusions and the resulting policy recommendations. Both workshops included participants from the entire value chain, including plant researchers, policy makers, hauliers, cocoa farmers' representatives, and representatives of the processing industry, LBCs and civil society organizations. The task team also presented their preliminary findings to a number of key informants including the World Cocoa Foundation (WCF) for feedback. This Policy Brief was reviewed by key Government interlocutors prior to completion and reflects their input.

C. KEY FEATURES OF THE COCOA VALUE CHAIN

179. The cocoa value chain is straightforward. Cocoa beans are produced on approximately 800,000 small farms each of which averages 2ha in size concentrated mainly in the southern part of Ghana, reflecting agro-ecological conditions (Figure 12). Farmers access upstream knowledge and technology in order to increase yields and mitigate the effects of pests and disease. Farmers harvest, ferment, and dry their beans using communal or on-farm facilities. Buying agents from the various LBCs procure beans from farmers, subject their purchases to quality testing, and subsequently evacuate the beans from the producing areas for sale to CMC. CMC retains the monopoly on selling beans onto the world market or to domestic processors for conversion into liquor, butter and cake. Exported beans enter the global chocolate industry and are blended with beans from other origins, primarily in plants in Europe.⁶³

⁶³ Approximately two-fifths of global grindings take place in Europe, although this figure is declining with increased processing in Africa, especially Ghana, and East Asia, in particular Indonesia.

180. Cocoa farmers benefit from a number of critical public interventions that support production. First, the basic research and agronomy that ensures the latest planting material and extension knowledge reflects local agro-ecological conditions. The Cocoa Research Institute of Ghana (CRIG) is responsible for all agronomic research and supervises the production of planting material by the Seed Production Units (SPUs) funded by COCOBOD. Responsibility for the provision of cocoa sector extension services is with COCOBOD.⁶⁴ Farmers also benefit from subsidized access to high-technology inputs including fertilizer, pesticides and fungicides; the latter two includes the application as well as the agro-chemicals.

⁶⁴ Under the widely derided unified extension system responsibility for extension had previously been vested in the Ministry of Food and Agriculture (MoFA), although it appears resources did not follow the transfer of responsibility.

Company (QCC) and enshrined in regulations.⁶⁵ (QCC is a new company wholly owned by COCOBOD that has the mandate and responsibility of the former Quality Control Division.) There is a comprehensive system of traceability, whereby each bag (of 64kgs) is bar-coded with details of the location and the specific LBC. Quality control continues along the supply chain, with regular checks at key points including final delivery by LBCs deliver to CMC.

182. Partial liberalization of cocoa purchases introduced in 1993 permitted LBCs to purchase beans from producers for sale to CMC. The Produce Buying Company (PBC), previously the monopoly farm-gate purchaser and part of COCOBOD, now competes with up to 30 private sector LBCs.⁶⁶ Turnover of market participants is high, with the number of active LBCs fluctuating substantially, although the same top three LBCs⁶⁷ typically account for over half of total purchases. LBCs are essentially margin-based businesses that function primarily as logistics enterprises within the supply chain: LBCs are mandated to sell beans to CMC at fixed prices. Since producer prices are also set, LBCs cannot compete on price.⁶⁸ Consequently, their objective is to maximize volumes in order to profit from the economies of scale within the logistics function. Profits are slim.

183. The majority of cocoa beans are sold onto the world market by CMC, part of COCOBOD and the state export monopoly. Beans are accepted at one of three ‘take over centers’⁶⁹ subject to final quality control procedures and payments to LBCs subsequently authorized. As well as spot sales, CMC engages in both forward sales and futures contracts in order to hedge against price risk.⁷⁰ As in most futures markets, the share of futures contracts that result in a physical trade are extremely small. According to Nardella (2007) the number of futures contracts has increased four-fold in recent decades. Beans are sold inclusive of transport costs (denoted as ‘cost, insurance and freight’ [CIF]). Two-thirds of beans exports are destined for the EU, with about one-quarter to Asia and 5 percent to North America. The major grinding companies are located close to the confectionary markets: the Netherlands has the capacity to store over 700,000mt of beans and can supply virtually all of the EU-based processors within 48 hours, mostly by ship.

184. An increasing proportion of Ghana’s cocoa beans are being processed domestically. Increasing value addition in the cocoa sector is an established objective of successive governments, originating in the establishment of the state-owned Cocoa Processing Company (CPC) in 1965. By the late 1960s there were three factories with a combined capacity of 92,500mt (World Bank, 1969). As in Cote d’Ivoire, successive Governments sought to increase domestic processing to remove lower quality light crop beans from the export

⁶⁵ Ghana Cocoa Industry Regulations NLCD No. 278 and LI No. 598,

⁶⁶ In fact, licensed buying agents (LBAs) have existed since the 1960s, with 14 registered LBAs in 1971/72 compared to just two LBAs five years previously. However, despite obtaining credit with which to procure beans, LBAs failed to meet delivery commitments and reneged on promissory notes given to farmers. The multiple buyers system was abolished in 1977 and the Produce Buying Agency (PBA) was established. In 1983 PBA was transformed into the PBC.

⁶⁷ These are PBC, Akuafio Adamfo Marketing Company and Olam Ghana, a local subsidiary of Olam International.

⁶⁸ Technically the producer price is a floor price, and LBCs are not legally constrained from offering higher prices. However, only one LBC has previously done so and LBCs compete on non-price incentives.

⁶⁹ These take-over centers are located in Tema (which handled 45 percent of beans in 2009/10), Takoradi (45 percent) and Kumasi (10 percent).

⁷⁰ A cocoa futures contract calls for delivery a lot size of 10mt of cocoa beans in the months of March, May, July, September and December. Contracts are traded on LIFFE in London and ICE in New York. The New York contract is traded in US dollars, the London contract in pounds sterling. The New York contract calls for slightly lower grade cocoa than the London.

market thereby strengthening the Ghana ‘brand’ and increasing the quality premium. It also supported industrial policy which sought to attract foreign direct investment into the country. A number of major international grinding companies are now present, along with several Ghanaian companies, and aggregate processing capacity now totals around 400,000mt, equivalent to between one-half and one-third of national bean production. The business case for grinding close to origin countries is not particularly compelling (ITC, 2001). To encourage domestic processing each processor has access to local beans at a discounted price as well as other fiscal incentives available to agri-businesses. However, available beans fall short of requirements – deliveries to factories amounted to 145,000mt in 2009/10 – with the result that factories operate at sub-optimal capacity and/ or processors are required to import beans from neighboring countries. Because of concerns over smuggling, COCOBOD only permits the import of beans by ship which increases costs compared to road transport.

185. Very little confectionary is produced in Ghana, and the value of cocoa beans in final goods produced globally is low. The chocolate market is dominated by a small number of multinational confectionary companies, six of which enjoyed a combined market share of in excess of 50 percent (OXFAM, 2009).⁷¹ Industry estimates suggest the average value of cocoa beans in a chocolate bar is around 7 percent (FAO, 2008).⁷² Notwithstanding increases in producer prices, over 1996 – 2005 only 6.4 percent of the costs of a UK chocolate bar accrued to Ghana’s cocoa farmers, among the lowest in the world⁷³ and down from an average of 22.3 percent over the (admittedly volatile) period of 1976 – 85 (ibid). Changes in EU regulations in 2000 resulted in a fall in the cocoa content of chocolate,⁷⁴ although changing consumer preferences to dark chocolate with purported health benefits is reversing this trend.

186. Each year, COCOBOD secures a multi-billion dollar financing facility on the global financial markets.^{75, 76} As an indicator of how the markets perceive the functioning of Ghana’s cocoa sector – and its institutions – it is difficult to conceive of a more objective-based endorsement. The amount of financing has increased substantially since its launch in 1992/93, rising from \$140m in 1993/94 to \$1.2 billion in 2009/10. Despite the tightening of global credit markets, volumes increased further to \$1.5 billion in 2010/11 and \$2 billion in 2011/12,⁷⁷ the latter involving a consortium of 25 regional and international banks. Finance cost is low at 45, 90 and 65 basis points above LIBOR respectively over the three seasons 2009/10 – 2011/12. Funds are used by COCOBOD as working capital for the season. Major expenditures financed include the procurement of fertilizer and other agro-chemicals for distribution to farmers for the forthcoming season, working capital advances for the LBCs, and to finance payments to farmers in advance of CMC sales. Under this arrangement the system is essentially self-financing, with limited need for COCOBOD to draw on Government allocations for its annual operational costs.

⁷¹ These are: Mars (with a market share of 14.7 percent of the world chocolate market), Nestle (12.5 percent), Hershey (8.3 percent), Cadbury Schweppes (7.3 percent) and Ferrero (6.8 percent).

⁷² This includes: producer price (3.5 percent), intermediation costs at origin (2.8 percent) and freight and shipping (1.0 percent).

⁷³ Respective data for Brazil and Malaysia is 10.8 percent and 10.3 percent. Only Cote d’Ivoire is lower, at 5.7 percent.

⁷⁴ An EU directive from 2000 allowed 5 percent vegetable fat (by weight) to be used in chocolate, thereby aligning prevailing UK standards with those of the rest of Europe. At the time, ICCO predicted a sharp decline in prices of 8 percent, while others pointed out the potential benefits including the ability to supply chocolate in warmer climates and prospects for additional product innovation.

⁷⁵ This system replaced a system of locally issued Cocoa Bills.

⁷⁶ The financing agreements are typically signed in June or July with a tenor of eleven months door-to-door.

⁷⁷ The 2011/12 financing was initially marketed for \$1.75 billion, but was oversubscribed.

187. The unique institutional arrangements of Ghana's cocoa sector have demonstrably solved a major challenge to African agriculture, namely the linking of poor smallholders to sophisticated global markets. This achievement should not be underestimated:

- The system connects between 800,000 – 1 million small-holder farmers each with about 2ha of cocoa trees to a complex global multi-billion dollar: the global confectionary market increased from \$50 billion in 2000 to \$89 billion in 2009 (ICCO, 2010) and sales of the top ten chocolate companies exceeded US\$75 billion in 2011;⁷⁸
- Major innovations in agronomic research led by CRIG have diagnosed diseases and cross-bred species from around the world to develop high-yielding varieties best suited to Ghana's agro-ecology;
- The extension system ensures farmers adopt best practices for harvesting and drying that earns Ghana a quality premium on world markets, and can effectively tackle periodic outbreaks of poor quality beans entering the supply chain that risks undermining the Ghana brand;
- Fertilizer use has increased from less than 2 percent in 2000 to 44 percent in 2008/09 while the use of insecticides and fungicides has increased from 34 percent and 23 percent to 87 percent and 59 percent respectively; the mass spraying program deploys teams consisting of over 58,000 to spray for capsids and black pod disease in affected farms;
- All of this achieved without dependence on central Government resources, because the state institution is a well regarded borrower on international financial markets with ready access to annual sector financing needs and low costs despite the recent turmoil in global capital markets.

188. These achievements reflect the continued role of the state all along the value chain. In contrast with many low-income countries, Ghana retained the state control normally discarded as part of structural adjustment programs sponsored by the international financial institutions (IFIs) in the 1980s and 1990s (Table 8). Nigeria experienced a rapid disengagement of the state in the mid-1980s, Cameroon saw a three-stage disengagement during the first half of the 1990s while Cote d'Ivoire fully liberalized in 1999, (UNCTAD, 2008). As acknowledged in World Bank (2007b), the anticipated gains from private sector participation often failed to materialize, for a multitude of reasons. The prevailing view from industry stakeholders is that the system in Ghana is delivering substantial benefits for the sector. There is little appetite for major changes to the status quo. That said, there is recognition of the need to continually adapt to changing global trends and that institutional arrangements may require some modification to do so.

⁷⁸ As reported by the ICCO.

Table 8: Summary of Public Sector Institutions in the Cocoa Sector

<i>Institution</i>	<i>Mandate</i>
Ghana Cocoa Board (COCOBOD)	The organization responsible for cocoa sector operation, policy and financing. Established as the Cocoa Marketing Board in 1947 it became COCOBOD in 1979.
Quality Control Company Ltd (QCC)	Wholly owned company of COCOBOD that evolved from a division in 2010. Responsible for quality control along the marketing chain from initial delivery points to the point of export.
Cocoa Research Institute of Ghana (CRIG)	Responsible for agronomic research on cocoa. CRIG is a recognized center of excellence in cocoa research with strong collaborations with other research institutions and the international research system.
Produce Buying Company (PBC)	Formerly the monopoly purchaser of cocoa beans from farmer, PBC is now established as an LBC and is listed on the Ghana Stock Exchange, with MoFEP the majority shareholder. Although ostensibly on a par to other LBCs, PBC benefits from its close relationship with COCOBOD. It also fulfills some social functions (e.g. buyer of last resort in areas absent of LBCs).
Cocoa Processing Company (CPC)	The original cocoa processing company established in Ghana in 1965 and became a limited liability company in 1981. It currently has a capacity for 65,000mt of beans into liquor, butter, cake and powder. Under the Golden Tree brand, CPC also produces confectionary.
Cocoa Marketing Company (CMC)	Part of COCOBOD, established in 1961. CMC is responsible for marketing all of Ghana's cocoa exports. CMC has an effective monopoly on the export of beans.

189. Can the future of these arrangements be assured over the medium term, or are there emerging trends and dynamics that, left unchecked, could undermine the impressive performance over the last two decades? The next sections review some of these recent trends and identify a number of key risks and opportunities.

D. RISKS AND OPPORTUNITIES FOR SUSTAINABLE COCOA SECTOR

190. Increasing prices and bean production has led to a steady increase in overall revenues to the sector. This has both resulted in, and necessitated, an expansion in the range of activities undertaken by COCOBOD and its associated institutions. Aggregate revenues net of producer payments increased in real terms by an average of around 10 percent p.a. over the last decade (through 2009/10). With additional revenues available, existing cocoa sector programs have been expanded and new programs developed. Moreover, the increasing bean production has placed additional demands on some functions with high variable costs such the LBC function and the handling of beans by CMC.

191. The Government and COCOBOD in particular, should be commended for a number of major achievements. As noted above, recent sector performance has been impressive. Key reforms implemented during the 1980s and 1990s have been an important factor in unleashing the productivity of cocoa farmers. Targeted programs have been associated with the increased use of improved technology, primarily agro-chemicals. Other reforms have been supportive to private sector participation in input supply and marketing opportunities. In contrast to other sectors, logistical challenges of evacuating bulk product of small farmers from a widely disbursed production area have been overcome and there is a well functioning logistics chain that avoids the common phenomenon of goods rotting by the roadside.

192. Looking forward, there are a number of risks, and opportunities, facing Ghana's cocoa sector. A parallel analysis by the World Bank (2011b) examined specific market-based risks of the sector. That report (i) identified the major risks facing the cocoa supply chain; (ii) ranked these risks in terms of their potential impact and frequency; and (iii) provided a

framework for improved risk management. This section provides a complementary analysis based on a different approach, with a focus instead on major policy and institutional issues facing the sector in the medium term.

Price Determination and Efficiency Drivers

193. Cocoa prices are set each year by the Producer Price Review Committee (PPRC). The PPRC constitutes an inter-professional body of representatives of all stakeholders in the value chain⁷⁹ and is responsible for forecasting production volumes and world prices, and thereby determining the producer price and expected revenues, and the allocation of revenues across key functions within the system. Production volumes are predicted by the Research, Monitoring and Evaluation Department of COCOBOD based on 150 sample sites across all six cocoa growing regions. World cocoa prices are forecast by CMC based on market projections from specialist institutions as well as prices on the futures markets. Projected exchange rates are obtained from the Bank of Ghana (BoG). The costs of certain targeted programs to support production are deducted, and to give the ‘net’ export or ‘net FOB’ price.⁸⁰ Producer prices are then set consistent with the political commitment to provide 70 percent of the ‘net FOB’ price to farmers. Table 9 provides a breakdown of the PPRC projections for the 2010/11 season.

Table 9: Breakdown of PPRC Projected Export Price; 2010/11

Cost Items	Percent share of ‘Net FOB’	GH¢ per mt	GH¢ per bag (64kg)
Producer price	72.16	2400.05	150.00
Stabilization fund	1.50	49.89	3.12
Buyer’s margin	8.42	280.05	17.50
Haulers’ cost	3.40	113.08	7.07
Storage and shipping (CMC)	1.16	38.58	2.41
Quality control	1.66	55.21	3.45
Crop finance	1.06	35.26	2.20
Scale inspection and phyto-sanitary	0.01	0.33	0.02
Government/ COCOBOD	9.34	310.65	19.42
Farmer’s housing scheme	0.04	1.33	0.08
Replanting/rehabilitation	0.64	21.29	1.33
Farmers’ social security	0.61	20.29	1.27
Total	100	3326.01	207.87

⁷⁹ The PPRC is chaired by the Minister of Finance and Economic Planning and includes the Chief Executive of COCOBOD, representatives of farmers, LBCs, hauliers and the processing industry. A subordinate PPRC Technical Committee is chaired by COCOBOD and includes MoFEP, farmers, LBCs, hauliers, the Bank of Ghana (BoG), the Institute of Statistical, Social and Economic Research (ISSER) of the University of Ghana.

⁸⁰ FOB – Free on Board – is the price at which exports are loaded at the origin. It differs from CIF in that the latter includes all associated costs of transporting the consignment to the destination.

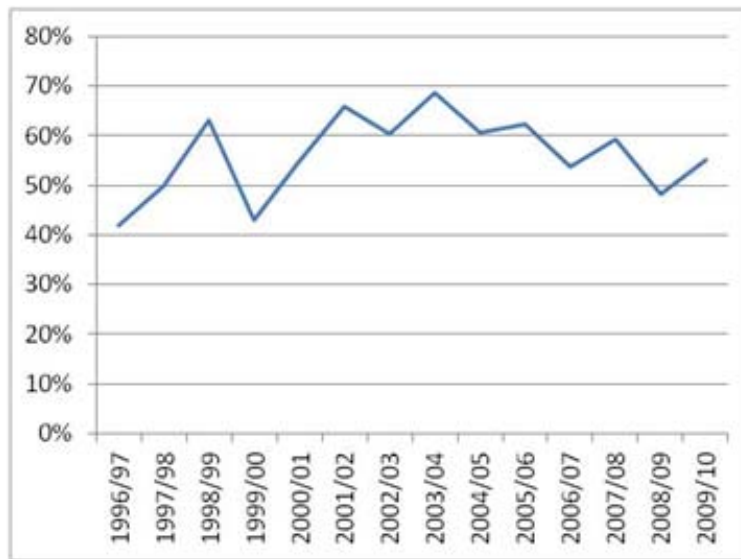
Figure 13: Typology of Cocoa Sector Expenditures

Industry costs
Disease/ Pest Control (CODAPEC) *
Swollen shoot disease control programme *
High tech *
Cocoa Roads *
Scholarship Fund *
Cost of Elimination of Child Labor *
Stabilization Fund
Farmers' Housing Scheme
Tree Replanting & Rehabilitation
Social Security for Farmers
Direct marketing costs
Crop Finance
Buyers' Margin (LBCs)
Haulage Cost (District Depots & Reg. Warehouses)
Storage & Shipping (storage & Marketing by CMC)
Jute Sack & Related Items
Anti-smuggling funds
QCC (Grading, quality control, and grants)
Scale Inspection & Phyto-Sanitary
COCOBOD administrative expenditures
Producer proceeds + bonus
Producer proceeds
Bonus
Transfers to government (cocoa export duty)
Balance after transfers to government

194. COCOBOD prepares a budget for costs incurred by the various institutions and cocoa sector programs, as well as projected costs of the LBCs, COCOBOD overheads and financing costs. The breakdown of sector expenditures is described in Figure 13, and is discussed in more detail below. *Industry costs* are ostensibly of direct benefit to producers and include programs with a strong public good characteristics and/ or constituting transfer payments to farmers. This includes the recently launched stabilization fund. *Direct marketing costs* are costs incurred post-harvest including the logistics, quality assurance and storage costs prior to export. COCOBOD overheads are the costs of administration of COCOBOD as an organization. This leaves a residual; some of which is transferred to the Ministry of Finance and Economic Planning (MoFEP).

195. The adoption of the 'net FOB' concept means that in fact producer prices are less than 70 percent of actual export prices. As indicated in Figure 13, the costs of a number of programs (those marked with “*”) are funded ‘off the top’. Once these are subtracted from anticipated revenues, a ‘net FOB’ price is established against which all other sector programs and producer payments must be funded. For 2010/11 the PPRC forecast a world price and exchange rate equivalent to an export price of GH¢4,686. On this basis the producer price was set at GH¢3,200 or 68 percent (an increase of 6 percentage points over the previous two years). In aggregate terms (averaged across all bean types and inclusive of bonus payments) producers typically receive between 45 – 60 percent of the export price (Figure 14). Some of the discrepancy is because producer prices set by the PPRC refer to Grade I beans whereas the aggregate revenues are from sales of all types. Moreover, realized average unit export prices will vary from world prices because of CMC’s hedging strategy that militates against price risk.

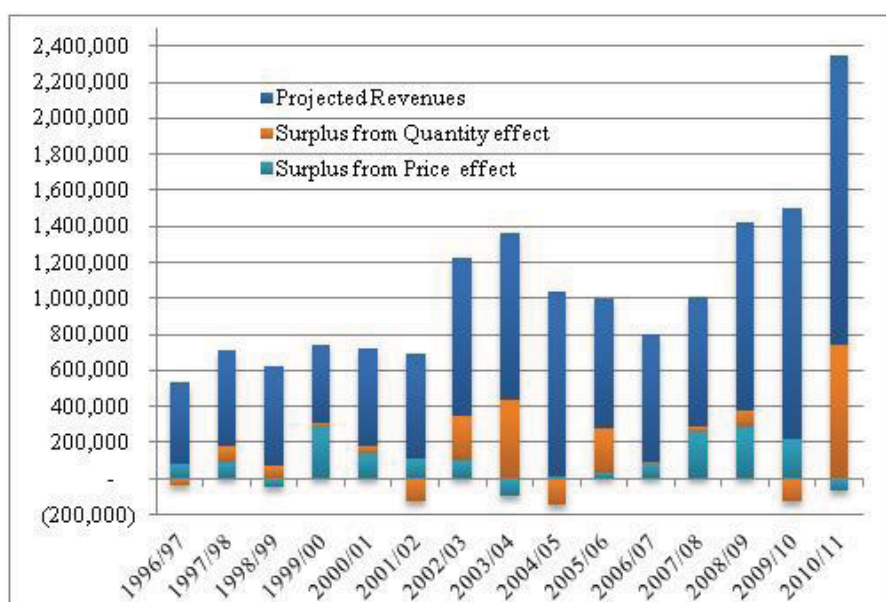
Figure 14: Producer Prices as a Share of Export Prices; 1996/97 – 2009/10



196. The PPRC procedures are based on an imperative to distribute sector revenues ‘fairly’ across key stakeholders, thereby ensuring all parties have a stake in the *status quo*. Buoyed by increasing production and rising world prices, PPRC projections have been steadily increasing. During the second half of the 1990s, sector revenues were forecast to be around GH¢500,000 per year, expressed in constant 2005/06 values.⁸¹ Subsequent projections forecast annual output to grow to GH¢1 million in 2004/05, although this proved to be too optimistic and expectations were moderated for the next three years. More recent PPRC predictions reflect commodity price rises, with forecast sector revenues of GH¢1.6 billion in 2010/11. Nevertheless, PPRC projections are typically on the conservative side. Aggregate revenues to the sector have exceeded PPRC projections in 13 of the last 15 years (through 2010/11) in some cases by as much as 71 percent. Shortfalls are because of declines in output; overall revenues in years of unanticipated price declines have been more than offset by additional production volumes. Figure 15 charts PPRC projected aggregate revenues based on *ex ante* predictions, as well as any surpluses resulting from higher than forecast world prices and/ or from additional production volumes. (Shortfalls – i.e. a negative surplus – are shown below the line.)

⁸¹ Values have been deflated using the Ghana GDP deflator.

Figure 15: Cocoa Sector Revenues; 1996/97 – 2010/11



197. Producers share in the benefits from production and price bonanzas, the former through increased sales. In the event that world prices are higher than forecast, COCOBOD provides bonus payments during, or at the end of, each cocoa season. Mid-season bonuses are provided if there is evidence of smuggling of beans to Cote d'Ivoire because of the price differential (see Box 4). Hedging against price risks means CMC foregoes a large part of any price bonus.⁸² Nevertheless, steadily rising world prices have led to bonus payments being awarded every year since the concept was introduced in 2000/01 with the exception of 2004/05. They can be substantial sums, typically amounting to between 2 – 4 percent of forecast producer payments – GH¢50 million in 2008/09. That said COCOBOD retains the majority of any price increment. Recalling that producers receive around 60 percent of anticipated prices (as per PPRC decisions) a much smaller proportion of the price increment is provided by way of bonus.⁸³

Box 4: Cocoa Smuggling

The extent of smuggling is contested: Bulir (2002) estimates that between the mid-1970s as much as 20 percent of Ghana's cocoa was smuggled out to Cote d'Ivoire while Brooks *et al* (2007) estimate illicit in-flows of 120 – 150,000mt in 2003/04. Data reported in OXFAM (2009) indicates that over the period 1993/94 – 2006/07 producer prices in dollar terms in Ghana exceeded those in neighboring Cote d'Ivoire in 8 of 14 years. Evidence is weak, however: an estimated correlation coefficient of the ratio of quantity surpluses against the ratio of Ghana producer prices is only 0.35.

⁸² CMC does not directly hedge on international futures markets. Instead, the participating banks in the syndicated loan do so on behalf of CMC as a condition of their financing and as part of a 'bundle' of financial services.

⁸³ Consider the following numerical example: suppose the PPRC forecast an anticipated price of \$100/mt. Producer prices are therefore set at \$60/mt. During the season, actual world market prices are \$140/mt. CMC hedges 50% of expected production, with forecasts being accurate. Because half of production has been pre-sold at \$100/mt, the price increase is only applicable to half of production, thereby reducing the overall average unit price below to the world price by half of the difference, in this case to \$120/mt or a price increment of \$20/mt. Were farmers to receive the same share of the increment as they do the forecast prices – i.e. 60 percent – bonus payments of \$12/mt would be made.

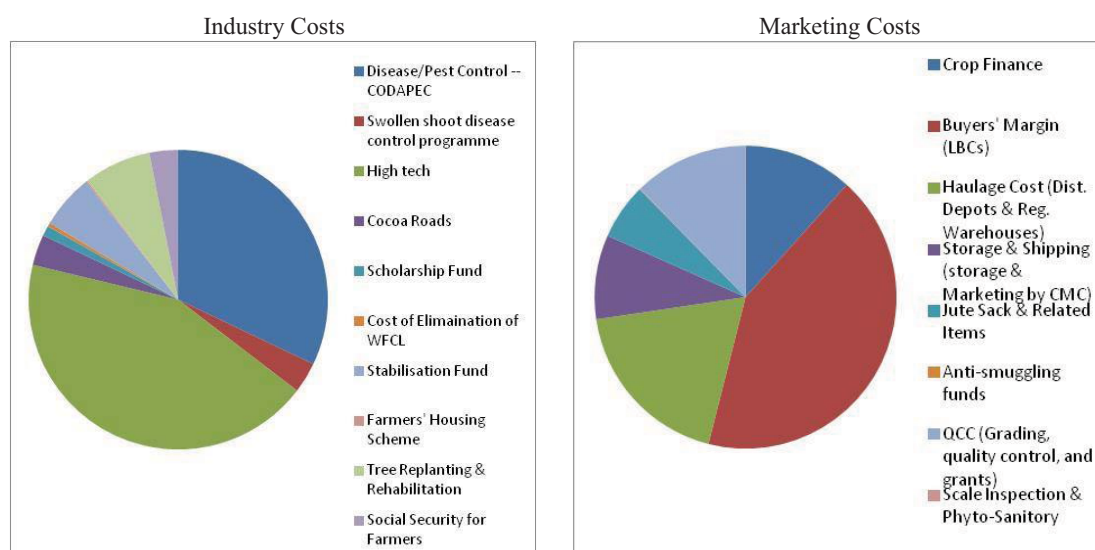
198. Additional revenues accruing to the sector are distributed by COCOBOD without reverting to the PPRC, although a revised budget for direct COCOBOD expenditures is typically submitted to MoFEP. Additional revenues from higher than forecast bean production are appropriately distributed to activities that are highly dependent on production volumes. These functions are concentrated in the direct marketing costs in Figure 13 in particular LBC costs and other activities concerned with the physical logistics (since the unit costs can be expected to be essentially constant on a per mt basis). However, a significant portion of these additional revenues is allocated to activities without a clear link to production volumes. Without the rigor of even the PPRC process and the inter-professional body, there is a risk that such additional expenditures are going on marginal activities and serves to undermine the overall value for money proposition.

199. Over the three seasons 2007/08 – 2009/10 industry costs accounted for 43 percent of expenditures on cocoa-related goods and services while marketing services account for the 35 percent. This was equivalent to GH¢226 million and GH¢183 million p.a. in real (2006) terms, respectively. Figure 16 provides a breakdown by subcomponent in line with the typology introduced in Figure 13.⁸⁴ Major components of industry costs are the two programs aimed at boosting productivity namely the Cocoa Hi-Tech and the Cocoa Disease and Pest Control (CODAPEC) program: on average over GH¢200 million is spent on these two initiatives each year. The major element of the marketing costs is the costs of supply chain logistics. This includes the LBC's margin and the other haulage costs of warehousing and intermediate collection points. Crop finance is the cost of the syndicated loan that COCOBOD secures and other financing charges (including the costs of hedging activities).

200. These figures represent a marked increase over time. Over the three seasons 2000/01 – 2002/01 expenditure on industry costs averaged GH¢46 million p.a. (in constant 2006 terms) and accounted for 19 percent of expenditures while spending on direct marketing costs averaged GH¢129 million (52 percent). In real terms marketing costs have increased by a factor of 1.4 over the period whereas industry costs have grown almost five-fold. COCOBOD administrative spending has fallen as a proportion of overall expenditures but has increased by over half over the period in real terms. Annual spending is now around GH¢114 million – a share of about one-quarter.

⁸⁴ Deviations are not necessarily as severe an indicator of poor public financial management as they might be in line ministry budgets because of the dependence on own-revenues. However the data does suggest that certain line items are awarded additional expenditures simply because of an increase in available resources, without a clear and prioritized basis for additional financing.

Figure 16: Breakdown of Industry and Marketing Costs; 2007/08 – 2009/10

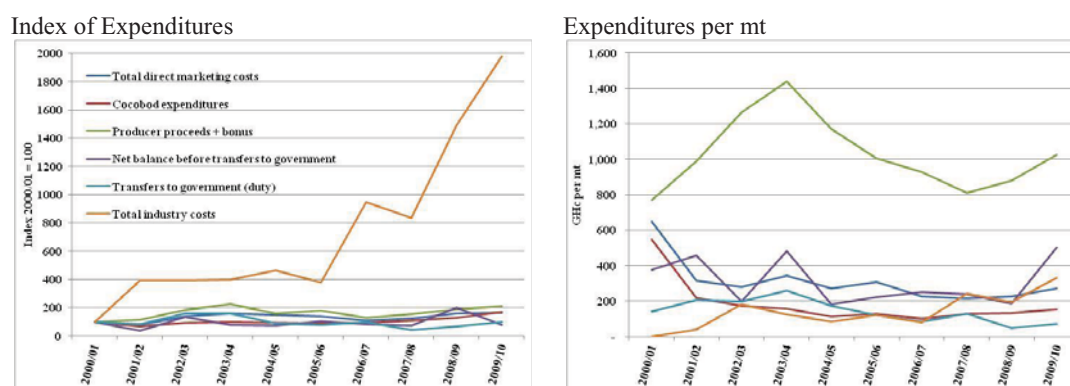


Source: Author calculations based on COCOBOD data. Note: Annual averages except for those programs in place for less than three years. See Statistical Appendix for details.

201. Overall trends indicate a broadly constant distribution across programs and a roughly constant level of expenditure per mt of bean production although this masks a significant rise in the absolute level of spending. The left-hand side of Figure 17 plots an index of the six main components of sector expenditures over the period 2000/01 – 2009/01. The majority of line items increase over the period – producer payments and COCOBOD administrative spending both double – while others, notable transfers to Government, fall in real terms. The notable exception is spending on industry costs, which have increased almost 200-times over the period. The right-hand side of Figure 17 charts the same data (also in real terms) expressed on a per mt basis. As expected, certain expenditures per mt fall because of economies of scale. However, some expenditures which should be considered predominantly fixed cost in nature are increasing – notably COCOBOD administrative spending. COCOBOD recurrent expenditures doubled in real terms from 2006/07 – 09/10 and now accounts for around one-tenth of expenditures (excluding producer payments). In contrast, it is reported that the new cocoa and coffee council in Cote d'Ivoire accounts for less than one percent of the overall revenues. Conversely, transfers to Government are trending downwards.

202. These trends are indicative of a rapid expansion of programs during a period of rising prices and increasing volumes. That absence of clear reductions in costs per mt of those programs which could be considered largely independent of production levels is indicative of a budget allocation process that shares available funds as the resource envelope is expanding. This is a cause for concern: the lack of strict budgetary discipline is weakening value for money proposition. At the same time, it suggests that the challenges confronting the sector can be met: it is precisely these programs that could be reviewed and efficiencies sought. The next section provides an indicative cost-benefit analysis of a number of the significant programs.

Figure 17: Trends in Cocoa Sector Expenditure; 2000/01 – 2009/10



Source: Authors calculations based on COCOBOD data.

Effectiveness and Efficiency of Industry Programs

203. The logic of the ‘net FOB’ approach implies that a benefit incidence analysis of industry programs should reveal that all cocoa farmers benefit either because such programs are public goods – characterized by non-excludability and/ or significant externalities – or, in the case of transfers and public services, all farmers should have access.

204. A number of interventions do indeed demonstrate such characteristics, while others are harder to justify. For instance, the scholarship program for children of COCOBOD staff constitutes a transfer from cocoa farmers to formal sector workers – likely to be deeply regressive. Similarly, while the objective of the Farmer’s Housing Scheme and the Social Security for Farmers is commendable, the specific operational modalities of these two programs will need to ensure fair and equitable access in order to avoid regressive outcomes. These contrast with the following interventions which would seem to be important in supporting sector outcomes:

- *Investing in quality.* Interventions to maintain quality began with the Cocoa Industry Ordinance of 1934 and is reflected today in the regulations of the Federation of Cocoa Commerce (FCC) and broader Good Agricultural Practices (GAP) pertaining to pesticide residue and the like. The QCC tests and certifies beans as well as sheds, warehouses, trucks and ships to minimize infestation. As well as testing and enforcement, QCC provides education and training to farmers and LBC agents on improved storage and handling. Assuming the market continues to value Ghana’s unique taste and attributes,⁸⁵ investing in quality would seem to be worthwhile. The overall costs of QCC are around 2 percent of cocoa revenues. Not only does it earn a superior premium on world markets, but persistent high quality brand is critical for forward sales, so important for sector financing.
- *Eliminating child labor.* The National Program for the Elimination of the Worst Forms of Child Labor in Cocoa (NPECLC) was launched in 2001 in response to the Harkin-Engel protocol that poses a serious market access risk to Ghana’s cocoa sector. It seeks to address concerns over the use of child labor on what are essentially family farms that contravene ILO Convention 182. A baseline study (MMYE, 2007) documented risks to children that

⁸⁵ For instance, Cadbury, now part of the Kraft, places particular value in Ghanaian cocoa beans.

included exposure to harmful chemicals. In addition to the program supported by COCOBOD, there are a number of initiatives from industry players, civil society organizations (CSOs) and non-governmental organizations (NGOs).

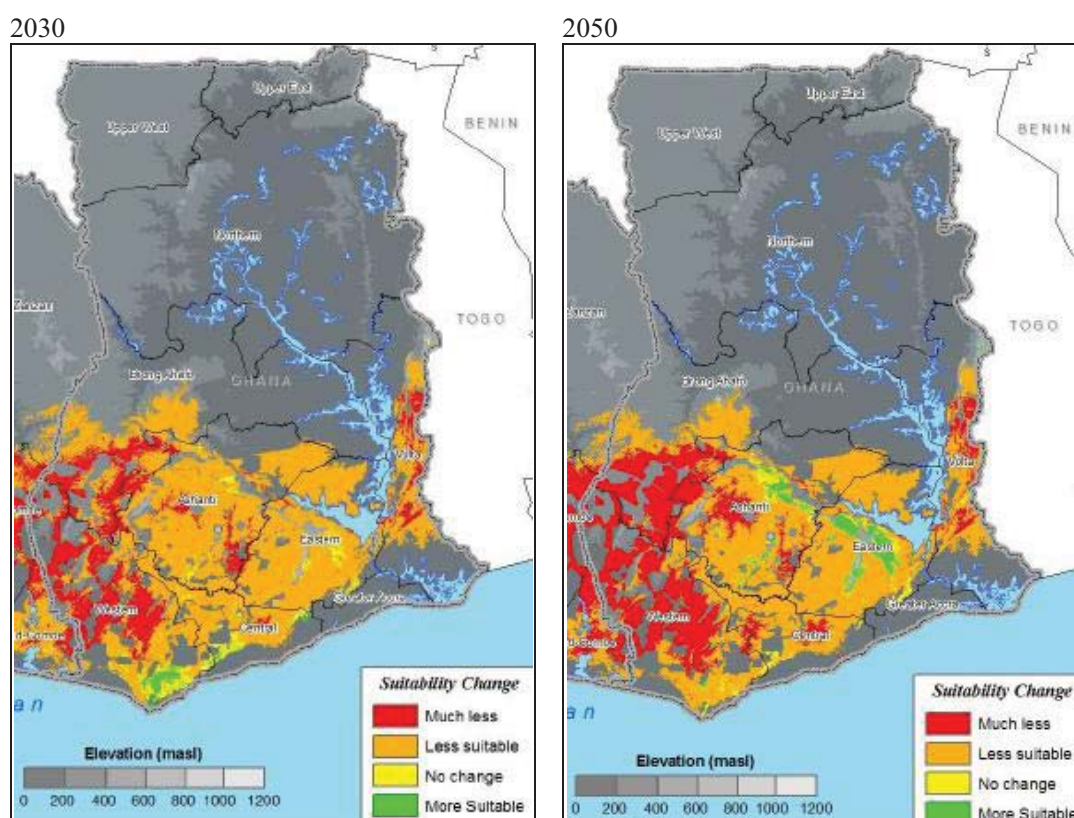
- *Cocoa roads.* COCOBOD provides resources to the Ministry of Roads and Highways for an annual program of road improvements in cocoa-growing regions. On the one hand, it could be argued that cocoa farmers are paying disproportionately more than other groups since road infrastructure is financed by the fuel levy and general taxation. However, it is likely that this is the only tax liability of cocoa farmers, who otherwise operate in the informal sector. Road infrastructure in cocoa districts tends to be worse than average.
- *Tree planting.* It is estimated that about one-quarter of cocoa tree stocks exceed their 30 year maximum productive life and is a major factor in the productivity lag compared to other countries. The planting and rehabilitation program launched in advance of the 2010/11 season aims to replace old and parasite-infected trees with new, high yielding varieties. The first phase will focus on the Eastern, Brong Ahafo, Central and Volta regions before being extended to the Western region. Diseased trees are forcibly removed by COCOBOD, with farmers receiving a compensatory payment and sufficient seedlings of improved varieties from the SPU which manages a number of nurseries throughout the cocoa growing regions.⁸⁶
- *Cocoa research.* Agricultural research is a core public good function, and CRIG has developed a world-class reputation and a long list of notable achievements.⁸⁷ It is among the largest producer-funded research organization in Africa. Current research programs of its 35 professionals and 175 technical staff include improved higher-yielding varieties, disease resistance and improved farming techniques (shading etc). A major focus in the medium term is the impacts of climate change and the need for necessary adaptive technologies. Climate change predictions for Ghana are variable, although recent research has suggested major changes in the agro-ecology that could affect production unless adaptive measures are taken (Box 5). CRIG also tests and certifies agrochemicals including the efficacy of fertilizer and pesticides/fungicides – a key role in ensuring science-based approaches to extension advice and consumer protection.
- *Cocoa Hi-tech and CODAPEC.* These two programs are by far the most significant interventions to address productivity issues (see Figure 16). CODAPEC started in 2001 to control capsid and cocoa black pod disease and provides subsidized spraying treatments to beneficiary farmers. The Hi-Tech program was launched in 2003 and provides subsidized fertilizer to farmers. In both cases, agro-chemicals and procured centrally by COCOBOD and distributed by the respective programs. LBCs are able to obtain subsidized fertilizer for distribution to their farmers (see below). A recent addition to the suite of programs is the Cocoa Swollen Shoot Virus Disease (CSSVD) program. Since their inception, COCOBOD has spent an estimated GH¢1.65 billion on these programs (through 2010/11). Given their magnitude, it is

⁸⁶ Compensation payments include an initial treatment grant of GH¢553 and a replanting grant of GH¢1,290 per ha of trees removed. Any household having trees remove would suffer the loss of income during the maturation period which would not be fully ameliorated by these payments.

⁸⁷ For example: CRIG was the first to identify CSSVD in the 1950s, its researchers understood the links between cocoa shade, nutrition and yield that allowed productivity to exceed 3 mt/ha, and breeders successfully cross the *Amelonado* and *Amazon* species in 1964.

important to assess the efficacy and cost effectiveness of these programs to ensure they present value for money interventions. This follows in the next section.

Figure 18: Climate Change and Land Suitability for Cocoa Production



Source: CIAT (2011).

Box 5: Climate Change and Cocoa Production

Climate change modeling predicts alternative scenarios of ‘global wet’ and ‘global dry’, reflecting scientific uncertainty of the exact consequences of global warming. Similarly, localized modeling for West Africa produces ‘Ghana wet’ and ‘Ghana dry’ scenarios. Economic projections show considerable variation across the scenarios, with differential impacts across the agro-ecological zones. Longer terms impacts (2020 – 2050) are broadly positive under ‘global dry’ and ‘global wet’ with reported increases in cocoa sector GDP of up to 100 percent compared to the base case. Conversely, impacts are unambiguously negative under ‘Ghana wet’. The ‘Ghana dry’ scenario is harmful in the short run, but turns positive over the longer term. It should be stressed that this analysis is a partial equilibrium analysis driven essentially by the impact of climate change on productivity. It does not factor in potential changes in world prices, a likely consequence given the proximity of the world’s two largest cocoa producers and the similarity of climate change impacts (World Bank, 2010).

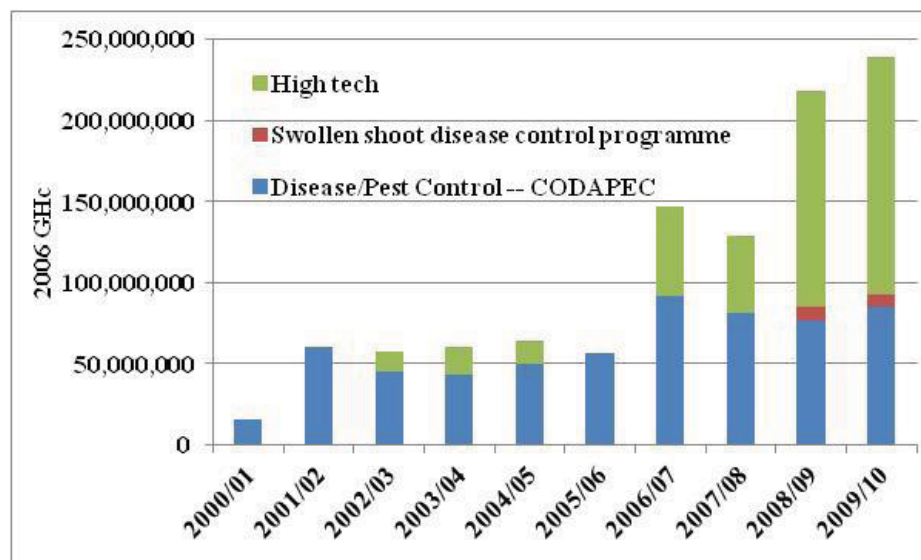
Analysis by CIAT (2011) based on the same underlying climate change models predicts a substantial reduction in the area suitable for cocoa production by 2030, with even more severe reductions by 2050 (Figure 18). The Western region – the focus of current production – will be particularly impacted.

An Assessment of the CODAPEC and Hi-Tech Programs

205. Two of the major interventions are CODAPEC and the Hi-Tech Program which cost GH¢163 million and GH¢280 million respectively in 2009/10 and account for approximately

13 and 22 percent of total sector expenditures.⁸⁸ To put this into perspective: aggregate expenditure by the Ministry of Food and Agriculture (MoFA) was almost identical to the combined spending of CODAPEC, Hi-Tech and CSSVD programs yet the crops and livestock sector – for which MoFA is responsible – is almost ten-times the size in terms of GDP.⁸⁹ The scale of these programs has risen rapidly in recent years (Figure 19).

Figure 19: CODAPEC, and Hi-Tech Programs; 2000/01 – 2009/10



Source: Authors calculations based on COCOBOD data.

206. These programs are perceived as having an important impact in contributing to increased productivity and studies have asserted strong causality (Obeng *et al*, 2010). Before the launch of CODAPEC reported losses due to black pod ranged from 60 – 100 percent while losses to capsid were between 26 – 35 percent. According to IITA survey data, the use of agro-chemicals has increased significantly with 87 percent of farmers using insecticide and 59 percent applying fungicide compared with respective figures of 34 percent and 23 percent in 2000/01. Similarly, less than 2 percent of producers applied fertilizer in 2000/01 whereas this has now increased to 40 percent (Abenyega and Gockowski, 2002). Pesticides are applied in 72 Districts, targeted at black pod only, capsid only or both black pod and capsid. Spray gangs are mobilized, deploying over 35,000 pneumatic and 25,318 motorized sprayers purchased under the program. Fungicides and insecticides of various formulations are procured directly by COCOBOD, costing \$1.9 million and \$40.7 million respectively in 2009/10.

207. The Hi-Tech program is essentially a fertilizer subsidy aimed at increasing the proportion of farmers using fertilizer and the quantity used. There is widespread nutrient mining from cocoa production: it is estimated that 100mt of cocoa bean shipments effectively exports 4mt of soil nutrients. While more farmers are now using fertilizer, application rates remain low, at 77kg/ha currently (2008) compared to the agronomic optimum recommended

⁸⁸ Excluding payments to farmers, transfers to MoFEP and retained balances.

⁸⁹ According to COCOBOD data, expenditures on the three programs in (cocoa season) 2010/11 were GH¢255 million, which is almost identical to the allocation to MoFA from all sources in the FY2010 Budget Statement of GH¢256 million. According to the updated GDP estimates (also published in the FY2010 Budget Statement), the crops and livestock sector (excluding cocoa production and marketing) amounted to GH¢10,282 million whereas cocoa sector GDP was GH¢1,099 million.

by CRIG of 371kg/ha.⁹⁰ Three fertilizer compounds have been approved for use: *Asaase Wura* and *Cocoa Feed*, both of which are dry fertilizers, and *Sidalco*, a liquid fertilizer. Previous published studies demonstrate the benefits on yields of dry fertilizer (Ahenkorah *et al*, 1987; Appiah *et al*, 2001; Gockowski and Sonwa, 2011) although no similar studies could be located for liquid fertilizer. There should be no difference in effect between dry or liquid-based compounds as long as the same quantities of plant nutrients are applied. The rate of subsidy has varied from between 65 – 85 percent over the past four seasons, and the total cost of the purchases is now in excess of \$150 million per year (Table 10).

Table 10: Fertilizer Purchases; 2006/07 – 2009/10

	Formulation (N-P-K)	2006/07		2007/08		2008/09		2009/10	
		mt	\$1,000	mt	\$1,000	mt	\$1,000	mt	\$1,000
<i>Asaaa Wura</i>	0-18-22 plus 9Ca+7S+6Mg	43,802	19,080	36,370	49,346	55,000	58,410	67,500	63,396
<i>Cocoa Feed</i>	0-30-20	26,281	11,611	24,430	35,423	50,000	58,550	62,500	50,938
<i>Sidalco</i>	10-10-10 plus trace elements	238	4,261	229	5,294	1,234	28,700	2,462	57,400

208. The application of insecticides, fungicides and fertilizers has a demonstrable although variable impact on yields. Two surveys were conducted by IITA to understand on-farm production methods and the economics of on-farm production.⁹¹ The data provides measures of the various programs' efficacy, overall economic justification and the implications for returns at the farm level. The following provides a summary of this analysis:

- *The actual number of treatments is significantly below the recommended number.* CODAPEC mass-spraying program is supposed to provide three treatments per season for black-pod and two treatments for capsid. However, the survey data reveals that farmers on average receive on average 1.6 treatments. Only 23 percent of farmers reported at least 3 treatments, and farmers report more than two sprayings in only 5 of 16 survey districts, although 83 percent of respondents received at least one treatment. Although the logistical feat of achieving such coverage is impressive, the insufficient treatment is seriously undermining the efficacy of the program;
- *In areas other than the Western region, yield responses to mass-spraying is minimal for farmers receiving less than two treatments;*⁹² however three or more treatments did increase yields (although this occurred in less than one-quarter of farmers). For the Western region, there is no apparent correlation between number of treatments and yields. The estimated coefficient of number of treatments on productivity is not statistically significant. It is also reported that spraying is done at the wrong time, and applications are diluted. There is little accountability to clients – i.e. cocoa farmers – and this is perceived to be a major constraint to the effectiveness of the intervention.

⁹⁰ This may not be the profit maximizing optimum application rate.

⁹¹ The first survey was undertaken in four regions and 18 districts in 2010 and is based on participants of farmer field schools participating in IITA's sustainable tree crops program (STCP). It includes 4,357 usable records of which 3,940 include information on CODAPEC beneficiaries (in 16 districts). There are 1,902 observations from the Western region and 2,455 from Brong Ahafo, Eastern and Ashanti regions combined. The second survey concentrates on 170 cocoa producers from the Bia district in the Western region. These are referred to as the 'STCP survey' and 'Bia survey' respectively.

⁹² In fact, yields fell as the number of treatments increased from zero to two, indicating spraying is undertaken on affected farms but insufficient treatments fails to address the problem.

- *Farmers are supplementing access of subsidized inputs with out-of-pocket expenses.* Fully 91 percent of recipients of mass-spraying also purchase additional pesticides and fungicides from private agro-chemical dealers. Even among farmers not receiving CODAPEC treatment (17 percent of the sample), the majority (87 percent) nevertheless purchases pesticides and/ or fungicides. This suggests CODAPEC has served to demonstrate the benefits of chemical treatment and that producers are willing to pay for necessary treatments. Ironically, much of the private purchases are of product pilfered from the public schemes.⁹³ Importantly, the yield response to own-expenditures for insecticides and fungicides is stronger than those provided under the CODAPEC scheme and similar between the Western region and the other regions (combined);
- A similar pattern emerges with fertilizer use, with low-intensity farmers seeing no impact on yield. Fertilizer use rates are much higher in the Western region (73 percent), up significantly from 3 percent in 2002. Only 21 percent of cocoa farmers in other regions apply any quantity of chemical fertilizer. Fertilizer application per ha was higher in the Western region with one in four of farmers applying more than 200kg/ha compared to only 5 percent in the other regions applying these amounts.
- The Bia survey suggests small farmers have higher yields. This is indicative of labor constraints once farms exceed a certain size. There are limited opportunities for mechanization, and employing wage labor presents management problems. However, mechanization will become increasingly important for two reasons: first, because average farm size will need to increase of labor productivity is to increase in order to increase farm incomes. However, the ability for households to manage larger farms will be constrained by labor supply shortages for particular activities. Second, exchange rate appreciate from the oil economy will increase Ghana's comparative labor costs rendering the cocoa sector uncompetitive. Both constraints could be mitigated by increased mechanization of key tasks where this is technically feasible, such as pod breaking.

209. Both IITA surveys reveal a marked difference in productivity between low-input use farmers and those with more intensive application of agrochemicals, and a positive return from their use. According to the larger STCP survey, farmers receiving less than two treatments of mass spraying, spending less than GH¢5/ha on fungicide, less than GH¢10/ha of insecticide and/ or less than GH¢68/ha on fertilizers will see no impact on productivity. Conversely, those farmers who applied fungicide and insecticide most intensively enjoyed average yields 152kg/ha and 158kg/ha greater than those with no application, respectively. On-farm expenditures required to achieve these results averaged GH¢45.2/ha and GH¢65.3/ha respectively, implying a rate of return of 6.0 and 4.3 respectively.⁹⁴ In the case of fertilizer use, those farmers with the highest application rates – rates close to or in excess of the CRIG recommended dose of 371kg/ha – benefit from incremental yields of 381kg/ha compared to farmers with zero use; in the Western region the productivity impact was lower at 239kg/ha because of higher natural soil fertility. Based on aggregate costs and subsidy

⁹³ IITA staff were able to buy Ghanaian insecticides marked “Not for Sale” as far afield as Cameroon.

⁹⁴ According to COCOBOD data average producer payments in 2008/09 were GH¢1,797.4/mt valuing the incremental revenues per ha from fungicide and insecticide use of GH¢273 and GH¢284.

rates for the 2008/09 season⁹⁵ on-farm expenditures of fertilizer for this group ranged from GH¢181/ha to GH¢252/ha, implying a financial rate of return from fertilizer use of between 2.6 and 3.8.⁹⁶ A similar result is observed from the Bia survey, in which 1kg of fertilizer application increases cocoa production by 1.4kg, a return of 2.5.⁹⁷

210. The STCP survey data also revealed a significant gender disparity on cocoa yields. Other things being equal, the yield among women cocoa farmers was 61kg less than men.⁹⁸ Closing this gender-based yield gap alone would generate an additional 30,000mt of cocoa beans. This would provide additional gross cocoa sector earnings of GH¢46 million and incremental producer payments of GH¢25 million.⁹⁹

211. A notable feature of the Hi-Tech program has been the rapid increase in costs and in particular the innovation in the use of liquid fertilizer. As Table 10 demonstrates, procurement of liquid fertilizer has increased from a modest 238mt (costing \$4 million) in 2006/07 to almost 2,500mt (\$57 million) in 2009/10. Liquid fertilizer is imported in bulk and bottled locally into one liter bottles. In farming generally, there are instances when liquid is advantageous compared to dry compound, although only when deployed in bulk using mechanized (tractor-based) modalities over large areas. Such conditions are not applicable to Ghana's cocoa sector and what determines the comparative efficacy of liquid versus dry fertilizer is their relative nutrient content.

212. There appears to be no economic justification for the use of liquid fertilizer at prevailing market prices. Given the levels of nutrient content and specific gravity identified in laboratory testing, liquid fertilizer contains \$0.68 worth of active ingredients, yet sells for \$28.70 per liter. This equates to one ton of nutrients at a cost of \$23,333. The same quantity of nutrients in dry form is procured for under \$1000/mt. Box 6 provides further details based on chemical analysis. Liquid formulations are only cost effective when delivered in mechanical sprayers with capacities exceeding 15,000 liters, which is clearly inappropriate to cocoa. Under no conceivable scenarios can any purported increase in efficacy compensate for this extortionate cost.

⁹⁵ According to COCOBOD data, dry fertilizer for the 2008/09 season averaged GH¢1,249/mt with an additional distribution costs of GH¢277/mt. Fertilizer retailed at GH¢500/mt constituting a subsidy of 67 percent. Note that net subsidy price represented a marked increase compared to the three previous years where fertilizer retailed at GH¢295/mt, reflecting the sharp increase in global fertilizer prices observed at that time.

⁹⁶ Farmers in this group applied between 362kg/ha and 505kg/ha of fertilizer. With the subsidized cost of fertilizer of GH¢500/mt, this implies expenditures of GH¢181/ha and GH¢252/ha respectively. With producer prices as in footnote 94, this implies incremental revenues of GH¢684 in the Western region and GH¢667 elsewhere.

⁹⁷ Given fertilizer producers (net of subsidy) of GH¢500 and producer prices of cocoa of GH¢1,797.

⁹⁸ For the Bia survey, the coefficient for female cocoa farmers was also negative but not significant. Given the increased specification of this small-sample survey, it is likely that gender differences manifest in ways included in the production function, resulting in multi-colinearity.

⁹⁹ Eliminating the gender gap in yields would increase the overall yield by an estimated 14 kg/ha representing an increase in overall productivity of 4.4 percent. Extrapolating across the cocoa economy and based on mean annual output from 2006/07 to 2008/09 of 660,000 tons, elimination of this yield gap would generate an additional 28,800 tons of cocoa production. Taking the annual fob price of GH¢1,591/mt this implies additional foreign exchange earnings of GH¢46 million, and producer revenues of GH¢25 million.

Table 11: Nutrient Analysis of Liquid Fertilizer

Nutrient	Sidalco liquid fertilizer NPK 10-10-10 plus trace elements	Quantity of fertilizer element per liter	Unit price of fertilizer element	Cost of fertilizer raw material per liter	Description of raw material
	% of mass	g	\$/kg	\$/liter	
Total Nitrogen (N)	8.51%	104.8	\$ 1.143	\$ 0.12	Urea (46%)
Available Phosphoric Acid (P2O5)	8.57%	105.5	\$ 1.376	\$ 0.15	Super phosphate (46%)
Soluble Potash (K2O)	8.35%	102.8	\$ 1.002	\$ 0.10	Potassium chloride (60%)
Zinc (Zn)	0.01%	0.1723	\$ 266.36	\$ 0.05	Zinc chelate 14%
Iron (Fe)	0.05%	0.6045	\$ 303.77	\$ 0.18	Iron chelate 13%
Manganese (Mn)	0.02%	0.2585	\$ 219.15	\$ 0.06	Manganese chelate 13%
Copper (Cu)	0.01%	0.0616	\$ 282.07	\$ 0.02	Copper chelate 14%
Boron (B)	0.02%	0.1970	\$ 18.79	\$ 0.00	Boric acid (17% B)
Total				\$ 0.68	
				\$ 0.31	
Relative density of solution	1.2311				

Source: Authors calculations based on independent laboratory testing.

Box 6: The Cost Efficiency of Dry versus Liquid Fertilizer

Crop responses to dry and liquid fertilizer will be similar provided the same amount of plant nutrient is applied and the same placement and water soluble P materials are compared (Vitosh, 2005). When liquid fertilizers (solutions or suspensions) are priced by the liter, the cost and the density of the material as well as the percent of the nutrient in the fertilizer must be known to calculate the cost of fertilizer per nutrient. If the liquid fertilizer is priced by the ton, the calculations are similar to dry fertilizer materials (Flynn and Siepel, 2008). When placed in the soil, dry fertilizers absorb water and undergo chemical reactions similar to liquid fertilizer.

For farmers, the choice between dry or liquid will depend on the price per unit of plant nutrients, application costs, potential for leaching, and ease of handling (Vitosh, 2005). Assuming a specific density of 1.3, 600 liter/ha of the 10-10-10 liquid fertilizer would supply 78 kg/ha of both phosphorus and potassium which are within the ranges of P and K supplied at the CRIG recommended dry fertilizer applications.

A sample of this fertilizer was submitted for laboratory testing in order to evaluate the amount of nutrients including the undisclosed trace elements in this liquid fertilizer sample and the specific gravity of the solution. Price data from a retail agrochemical dealer of soluble nutrients for hydroponic producers of vegetables was used for calculating the per unit costs of the macro and micro nutrients in this fertilizer. The results are reported in Table 11.

The value of nutrients for totals \$0.68, of which the cost of N-P-K is \$0.37 and the value of the trace elements \$0.31. The efficacy of the latter is questionable, given that the laboratory testing revealed quantities so low that several thousand liters would be required to address micronutrient deficiencies. This implies the cost per ton of nutrients is \$23,333, compared to the costs for equivalent nutrients in dry compound form of less than \$1,000.

213. The opportunity cost of the liquid fertilizer subsidy is extremely high and there are substantial benefits from restructuring the program. As reported in Table 10, aggregate expenditure by COCOBOD exceeded \$57 million in 2009/10, equivalent to \$91/mt. Since the cost of the Hi-Tech program is levied directly on producers under the 'net FOB' computation, this is foregone revenues to producers. Terminating this subsidy program would have no impact on production yet would allow producer prices to be increased by GH¢129/mt. Alternatively, the subsidy program for dry fertilizers could be expanded commensurately by an additional 64,000mt. This would be sufficient to cover an additional 850,000ha at current average application rates¹⁰⁰ or 175,000ha at CRIG recommended rates.¹⁰¹

¹⁰⁰ The mean application rate is 77kg/ha according to the IITA survey.

¹⁰¹ The unit costs of *Asaara Wura* and *Cocoa Feed* is GH¢1,065 and GH¢1,227 respectively; the former constitutes 52 percent of the market.

214. Interventions to mitigate risks of disease outbreaks are crucial given that outbreaks of black pod are ranked ‘highly probable’ and capsids ‘probable’ in the risk assessment (World Bank, 2011b); impacts of such outbreaks are ‘critical’. Outbreaks of swollen shoot disease are also ranked ‘highly probable’ with ‘considerable’ impacts. There have been no major disease events while the CODAPEC program of mass spraying has been in place, although COCOBOD data suggests a trend increase in the areas affected. Cost effectiveness of programs to address supply chain risks needs to evaluate the potential losses avoided: in the case of CODAPEC it is estimated that a major disease outbreak would result in \$200m of crop losses. In addition, by demonstrating a positive impact these programs have inculcated a willingness to pay among farmers for agrochemicals. Farmers are now willing to incur out-of-pocket expenses to address disease outbreaks not treated by the public scheme.

215. The impact of the mass spraying program is limited, whereas farmers own expenditures on insecticides and fungicides is substantial. Perception surveys reveal that farmers themselves identify a number of problems with the public program (Abankwah *et al*, 2010). Aggregate spending on mass spraying totaled nearly GH¢400 million over the three years through 2009/10. Assuming the survey results are representative of the sector, producers could be spending an additional GH¢58 million on private sales.¹⁰² Given the other problems of the mass spraying systems such as the diversion of inputs and lack of accountability to producers, one option would be delegate greater responsibility to producers for the commissioning of spraying services. Farmers would contract spraying services directly from private sector service providers.

Recent Evolutions in Cocoa Marketing

216. Cocoa marketing costs have also risen sharply in recent years, reflecting in part the increased production volumes. Indeed, viewed on a per mt basis in real terms, costs have remained fairly stable (Figure 20). However, it is reasonable to consider that some of these activities should be subject to economies of scale and the absence of declining unit costs indicates some areas for efficiency gains.

217. The partial liberalization associated with LBCs appears to have had important benefits although their financial position is precarious. Since margins are slim, LBCs concentrate in those cocoa growing areas with high volumes in order to maximize throughput and harness economies of scale. PBC is becoming the purchaser of last resort in low-volume areas ignored by LBCs.¹⁰³ Moreover, because LBCs cannot compete on price, they are finding innovative ways to attract sales. Non-price incentives such as rubber boots and other farm tools are offered, as well as cash payments instead of the *Akufo Cheque* payment system.¹⁰⁴ More importantly, LBCs are now providing agrochemicals, in particular fertilizer, to farmers. Furthermore, this is provided on credit with costs recovered at the time of bean purchases. In order to reduce credit risk LBCs are investing in local representatives well known in the community and with strong social capital among cocoa farmers. During the early periods

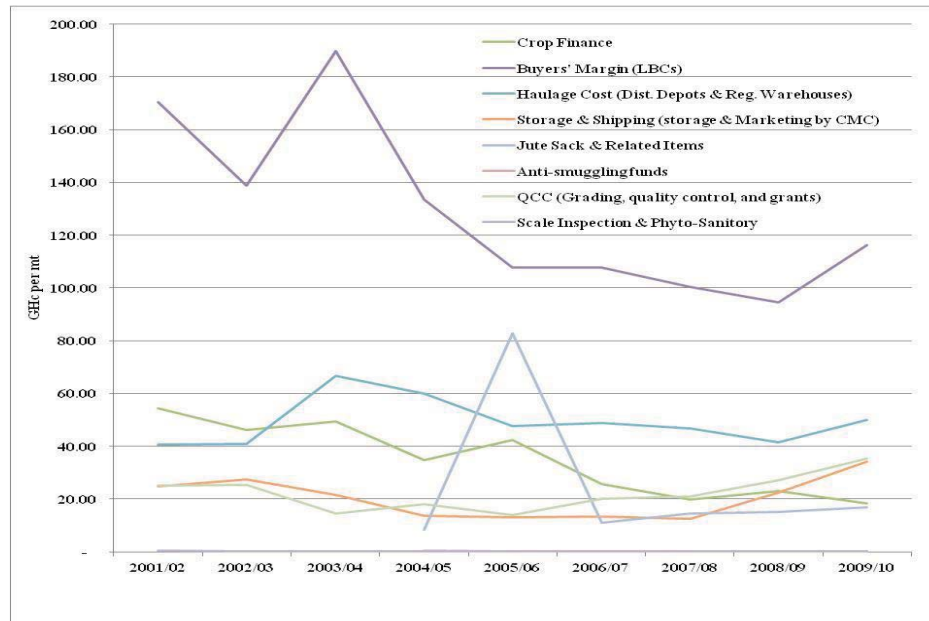
¹⁰² The STCP and Bia surveys found on average that farmers were spending GH¢33/ha on pesticides and GH¢37/ha on insecticide respectively. With a reported total cocoa growing area of 1.6 million ha, this implies a potential market of GH¢50 - 60 million.

¹⁰³ This role is not officially acknowledged by COCOBOD and imposes additional costs on PBC not factored into the LBC margin calculations. COCOBOD is legally obliged to purchase beans from all areas of Ghana and PBC is requesting additional compensation for fulfilling this public function.

¹⁰⁴ The *Akufo Cheque* system was introduced in 1982/83 to manage payments to farmers through the banking system. Producers objected the delays in receiving the cheque payment and the transaction costs associated with depositing it in a rural bank, and prefer the instant liquidity of cash payments.

after their introduction, competition among LBCs resulted in purchases of substandard beans potentially resulting in a loss of the quality premium – a purported consequence of liberalization observed elsewhere (Gilbert, 1997; LMC, 2000; Tollens and Gilbert, 2003).¹⁰⁵ This was addressed in Ghana's case by rapid remedial efforts by QCC. Beans were rejected for reconditioning at LBC expense and this has effectively addressed the problem.

Figure 20: Direct Marketing Costs per mt; 2001/02 – 2009/10



Source: Authors calculations using COCOBOD data.

218. In order to secure volumes essential for profitability, LBCs have established contract farming-type arrangements in which inputs are supplied on credit and deducted from beans sales. This has promoted fertilizer sale through private sector channels. In 2006 the only LBC distributing fertilizer was *Cocoa Abrapoba* (providing 11 percent of all fertilizer by volume) with the Cocoa Inputs Company supplying a further 11 percent and MoFA, then responsible for extension, supplying 77 percent. By 2009, LBCs supplied over half of all fertilizer: private LBCs supplied 31 percent, PBC 17 percent and *Cocoa Abrapoba* 7 percent. Some LBCs report problems of side-selling that undermines loan recovery, although their use of local procurement staff mitigates this risk.

219. Given the high costs of private sector finance in Ghana, COCOBOD assists with working capital to LBCs, including the PBC, financed by the syndicated loan at a subsidized interest rate. This seed fund is allocated on the basis of the previous year's trading and is expected to be recycled 2.2 times in the 33 week season. This does not reflect the actual cash flow requirements of LBCs – a sample of four LBCs analyzed reveals turnover rates of 1.20 – 1.57. LBCs may also expand procurement beyond the available seed money. Recourse to private financial markets is therefore necessary with the commensurate increase in interest costs. Interest costs now constitute between one-third and three-quarters of the permitted margin earned by LBCs.

220. The financial viability of LBCs is now contingent on efficient interactions with the other institutions in the cocoa supply chain. Low margins and high costs of capital mean any

¹⁰⁵ See Varangis and Shreiber (2001) for the opposing view.

interruptions impose burdens on LBCs. Some LBCs are seeking to mitigate risks by investing in their own trucking companies but this requires long-term investment. LBCs are particularly concerned by delays in quality control procedures and in off-loading at the take-over centers. These can be caused by bureaucratic inefficiencies and are also the source of rent-seeking. Delays in payments from CMC are especially debilitating to cash flow. An efficient and transparent interface between public and private actors in the cocoa supply chain is essential if LBCs are to continue and their role be expanded.

221. Partial liberalization has not led to an increase in the efficiency of the logistic function, but nor has it resulted in a decline in cocoa quality. Analysis of the unit costs of LBCs reveals the cost per mt for PBC has remained consistently around half that of other LBCs (combined). PBC continues to enjoy preferential access to the seed fund as well as other advantages from its legacy as the sole marketing agency. At the same time, there is no evidence of a fall in quality that has sometimes been associated with liberalization (Varangis and Shrieber, 2001; Ponte, 2002). As Tollens and Gilbert (2003) report for Cameroon, this common concern is often misplaced. LBCs are responsible for bean quality and deliveries rejected by CMC must be subject to reconditioning at their own cost. Overall rejection rates are less than 2 percent.¹⁰⁶

Fair Trade and Organic Cocoa

222. Recent innovations in organic and fair-trade cocoa present additional opportunities for niche markets. The organic cocoa market remains extremely small, at around 0.5 percent of production in 2006 (ICCO, 2006) although it continues to grow at a rapid pace (20 percent over the five years through 2008 according to ICCO [2010]). Organic cocoa enjoys a premium of around \$1,800/mt (IDS, no date). Fair trade cocoa accounted for only 0.1 percent of the market in the mid-2000s but has certainly increased subsequently. Fair trade cocoa enjoys a market premium of \$150/mt and a floor price of \$1,600/mt, increased in January 2011 to \$2,000/mt.¹⁰⁷ World prices continue to exceed the (revised) floor price, as they have since 2006. The market for fair trade cocoa has expanded considerably, from two countries in 1994 to 16 in 2003; global sales of fair-trade beans have increased from around 5,000mt in 2005 to over 35,000mt in 2010 (Fair Trade Foundation, 2011). Approximately half of certified Fair Trade Cocoa is also certified organic (FAO, 2009). Ghana is a major source of fair trade beans, accounting for 45 percent of global supply in 2003 (ICCO, 2005).

223. The *Kuapa Kokoo* experience demonstrates how arrangements fair trade requirements can be met within existing institutional structures. Fair trade certification typically requires an integrated supply chain from producer to confectionary manufacturer in order to ensure full traceability and physical separation from normal beans. The Ghanaian institutional arrangement would seem to exclude this possibility, since CMC holds the monopoly on exports thereby interrupting the supply chain. *Kuapa Kokoo* is an association of cocoa farmers – one of the few in the sector (see – established to produce and market fair trade cocoa beans. It is owned by farmers, who also hold a 45 percent shareholding in Divine Chocolate, the brand name of the confectionary that is certified as fair trade compliant. *Kuapa Kokoo* has established a mechanism with COCOBOD's endorsement in which production is organized by the producer association, with beans evacuated by their own LBC

¹⁰⁶ Rejection rates across three takeover centers of Takoradi, Tema and Kaase were 1.52 percent, 0.58 percent and 8.30 percent respectively in 2009/10. Kaase is by the smallest port, receiving 60,000mt in 2009/10 and is used predominantly by the smaller LBCs.

¹⁰⁷ The floor price and premium is set by the Fair Trade Labeling Organization (FLO).

(of the same name). *Kuapa Kokoo* sells their beans to CMC, who store shipments separately and then sell onward to Divine.¹⁰⁸ In order to guarantee the supply of *Kuapa Kokoo* beans, CMC forward sells all expected production from *Kuapa Kokoo* to Divine.¹⁰⁹ The sales price reflects the world price plus the \$150/mt fair trade premium which CMC allows to be passed through to the LBC and onward to the farmer's association. The fair trade premium on Divine Chocolate confectionary finances the \$150/mt premium for beans; any excess is retained within the Divine business.¹¹⁰ The premium is retained at the level of the association to fund investments in the supply chain and community infrastructure, and is not passed on to producers by means of additional producer prices.

224. There is a need to formalize arrangements for fair trade and organic cocoa production if additional investments in these niche markets are to be secured. The *Kuapa Kokoo* arrangement was agreed as an *ad hoc* solution when volumes were low and the significance of fair trade premiums were seen as limited. New entrants into the fair trade and organic markets will seek more formalized arrangements. In particular, they will require a differentiated supply chain that allows their purchases (via an LBC) to be distinguished from the regular chain. Second, although *Kuapa Kokoo* disburses the fair trade premium to the association, arrangements must allow for premiums to be disbursed to individual farmers in order to strengthen the incentives for producers to undertake necessary investments. Given the number of alternative certification regimes currently in existence, there may be a need for COCOBOD to review the merits of alternative standards, against the need for uniformity (which is typically advantageous to avoid duplication).

Box 7: Cooperatives and Farmer Associations in the Cocoa Sector

There are comparatively few farmers' organizations in the cocoa sector in contrast to other sub-sectors of the agricultural economy. According to CLP (2011) data, only 14 percent of Ghana's cocoa farmers were members of an association or cooperative. The most notable example is *Kuapa Kokoo* which was established to support fair trade cocoa production (see below). Under current arrangements, it is not obvious that a network of farmer based organizations (FBOs, of which cooperatives is one particular structure) would necessarily deliver benefits for their members. First, FBOs typically provide marketing opportunities not available for individual small farmers, through aggregating output and benefiting from other economies of scale in marketing. LBCs purchase direct from farmers, so this function is redundant. Second, FBOs can assist with the bulk purchase of inputs and/or the securing of credit for members. Again, with the existing arrangement of input programs, this would not appear to be a binding constraint. Third, cooperatives will be important for additional niche marketing arrangements to the extent that any marketing premiums are pooled into community development funds, as is the case of *Kuapa Kokoo*. Such arrangements are not a prerequisite if premiums are passed through directly to farmers through the producer prices.

Should the government contemplate greater liberalization of the sector then organizing farmers into cooperatives or FBOs would be important. The CLP (2011) survey confirms this: almost one third of surveyed cocoa farmers are members of FBOs in Cameroon and almost one-quarter in Nigeria, the two countries with more liberalized regimes.

Cocoa Processing

225. Domestic processing is now well established in Ghana although the instruments seeking to support the sector need reviewing. As noted above, processors secure access to

¹⁰⁸ To be precise, Divine contract a third-party confectionary company for the production of Divine-branded finished goods.

¹⁰⁹ This reflects the experience in 2003/04 when aggregate production fell short of projections, and COCOBOD had to use all available beans to honor forward sales that have been contracted. This led to a major interruption in the supply chain for fair trade beans.

¹¹⁰ A proportion will revert to producers through any dividends paid to shareholders; dividends were first paid out in 2007.

discounted beans to off-set the high-costs of operating in Ghana as well as the general disadvantages of processing in origin counties (ITC, 2001). Conditions are more favorable than in the past, with the reduction in tariff escalation.¹¹¹ Ghana's exports of cocoa and cocoa products enter the EU and USA markets duty free although tariff escalation remains in place for exports to Russia and Japan (ICCO, 2008). The *de facto* subsidy from the supply of discounted light crop beans imposes an opportunity cost in terms of foregone revenues to COCOBOD. On the other hand, promoting investment in processing brings jobs, the potential for further value addition and the positive signals resulting from securing large investments by multinational companies.

226. Ghana now accounts for 7 percent of global grindings. Except for expansion in Ghana, the distribution of grindings has remained fairly stable over the least 15 years, with modest reductions in the role of USA and increases in Malaysia and Indonesia, commensurate with their increasing production volumes. The majority of grindings take place in the Netherlands (14 percent of the world total) and Germany (11 percent). The Netherlands hosts four processing companies, including the world's largest grinders, and is the major port for handling cocoa beans with storage capacity in bulk and bags of over 700,000mt. It enjoys easy access to water transport (favored for bulk dry goods), a mild climate (that reduces the need for air conditioning) and cheap (natural gas) energy.

227. The data does not exist to provide a thorough assessment of the merits of the subsidy scheme, but a number of conclusions can be drawn from current practices:

- *There is an opportunity cost from foregone revenue for COCOBOD.* It is not possible to estimate this with any degree of accuracy, since the sales data to domestic processors is not published and available data is inconsistent. In any case, since sales are spot transactions between the CMC and local processors, there is no reference price against which the discount can be applied. For example, in 2008/09, 126,601mt¹¹² of the almost 700,000mt aggregate production was determined to be light crop. Of 160,000mt sold to domestic processors by CMC in that year, only 40,837mt was reported graded as light crop. Although the discount is stipulated at 20 percent against export prices, it is in fact closer to 14 – 16 percent in real terms. This is because the discount is applied to the price of good fermented Ghana main crop beans although it is lower-quality light crop beans that are supplied; these are already discounted by 4 – 6 percent by the market.¹¹³ With world prices (according to the ICCO) of \$2,594/mt in 2008/09 if all light crop production was discounted this implies a loss of revenue of around \$50 million.¹¹⁴
- *This opportunity cost would be higher if the incremental revenue accruing to COCOBOD from the removal of the discount would be utilized for expenditures with large economic returns.* This would certainly be the case if additional revenues were passed directly to producers through increased producer prices, since it is well documented that the resulting household expenditure generates large multiplier effects. Large returns would also result

¹¹¹ Tariff escalation occurs when the import tariff in the destination country increases with the degree of processing. This discourages value addition and diversification and perpetuates primary commodity dependence.

¹¹² Light crop bean production was 100,008mt in the main crop season and 26,593mt in the light crop season.

¹¹³ Good fermented Ghana main crop beans are defined as Ghanaian beans with no more than 5% mouldy and/or insect damaged or 5% slaty by count and with a bean size of up to 100 beans per 100grams.

¹¹⁴ This is the mean of monthly prices reported by ICCO. This figure is estimated assuming a 15 percent discount on sales of 126,000mt.

from the use of these resources for productive investments in the sector. However, as discussed above, a number of existing programs have negligible returns, rendering the likely marginal return to incremental COCOBOD spending very low.

- *The industry claims that domestic processing is more costly compared to processing near consuming countries have substantial merit.* It is widely accepted that there are significant disadvantages with processing at source (ITC, 2001). First, shipping semi-finished cocoa products is significantly more costly than shipping bulk beans because they need to be handled more carefully.¹¹⁵ Second, global supply chains are increasingly characterized as ‘just in time’ logistics which demands cocoa processors located in close proximity to confectionary manufacturers, themselves in turn located close to final consumers. Practically all the EU’s cocoa butter and powder requirements can be met within 48 hours from processors in the Netherlands (ITC, 2001). Third, confectionary companies typically seek to blend beans from various sources. Blending in Ghana is possible, but offers no cost advantage. Imports are permitted to Ghana, although only by sea (because of the perceived risk of smuggling of land borders are open for cocoa trade). Given the bulk of shipping costs are loading/ unloading this imposes a major cost even though distances might be short. Fourth, processors incur additional costs from poor infrastructure, especially energy (including the brown-outs that require back-up generators – over 5 percent of all Ghana’s power generation capacity is ‘emergency’ generation at a cost of almost 2 percent of GDP [World Bank, 2010b]). On the other hand, there are cost advantages of being located in Ghana including lower labor costs, as well as fiscal incentives for investors such as tax holidays. Specific incentives are available for foreign investors, and investors in export industries.
- *The economic impact of investments is probably muted because of the capital intensity of investments.* One recently opened processing factory with a capacity of 65,000mt cost \$100 million to construct and is projected to provide around 200 jobs. Other processors have greater employment impacts, but these are legacies of state control and significantly hamper efficient operations. CPC has about the same processing capacity but twice the number of staff. To be sure, there are multiplier effects from each position. However, because of the consumption patterns of urban households one Cedi accruing to an urban household through domestic processing will have a lesser overall economic return than one Cedi accruing to a cocoa producer, other things being equal (World Bank, 2007b). There are other potential benefits which will factor into a comprehensive cost-benefit analysis of the bean subsidy, including tax revenues accruing to MoFEP.¹¹⁶ In addition, domestic processing could provide the foundation for further processing, including into confectionary. However, the low regional demand and the need to import almost all other intermediate inputs limit such opportunities.¹¹⁷ Two other positive impacts that

¹¹⁵ CMC normally sells for export on a CIF basis, although CMC sells to processors on FOB terms, since there are no freight charges. However, in practice beans are delivered ex works from CMC warehouses, thereby doubling the handling costs incurred by processors.

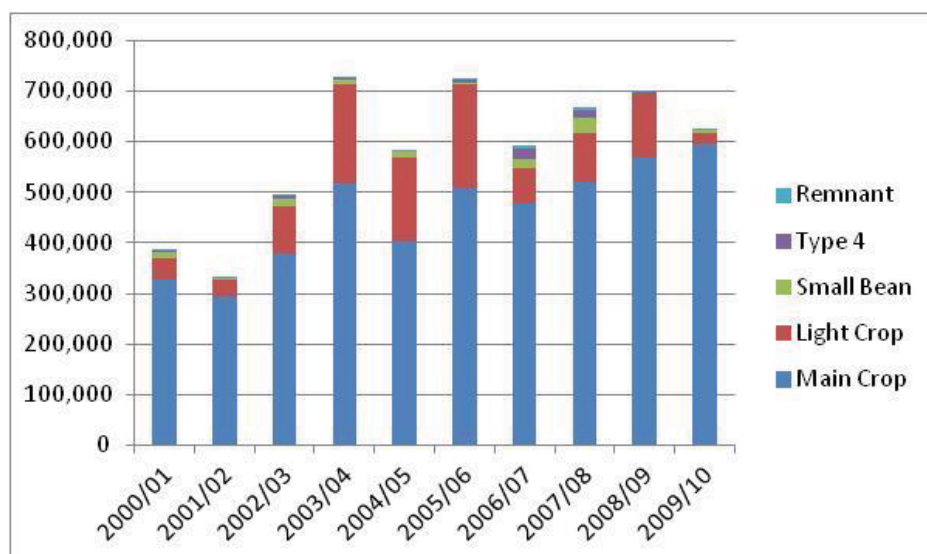
¹¹⁶ Conceptually, these will net out if it is assumed that incremental revenues from the removal of the discount will be fully passed to MoFEP. In any case, many processing enjoy substantial tax relief as part of Ghana’s fiscal incentives for investment promotion.

¹¹⁷ Only CPC, the state-owned processing company, produces chocolate products mainly for the local market.

are difficult to quantify are: (i) technology transfer associated with the establishment of new plants; and (ii) the demonstration effect associated with first-mover foreign investors establishing operations in Ghana.

228. The administration of the bean supply agreements is opaque, there are insufficient light crop beans to meet capacity and the allocation mechanisms are not transparent. Every processor has a bean supply agreement with COCOBOD, affording access to light crop beans at the discount. (Light crop beans are defined in the agreements by size [i.e. with a bean count of 101 – 120 per 100g] and not beans from the light crop, or minor, season.) Yet aggregate capacity is now around 400,000mt and far in excess of available light crop beans. Figure 21 provides the breakdown of aggregate production by bean type and clearly the light crop production will never fully satisfy local demands. Clearly, if the discount is required and justified, some reform is needed to ensure requirements are met. Moreover, the mechanism by which processors currently avail discounted beans lack transparency, with consequent allegations of rent-seeking. Leaving arrangements *ad hoc* restricts the efficient operation of the plants and further adding to cost pressures. A more transparent system is required to allocate the limited supply of discounted beans across the competing processors.

Figure 21: Bean Production by Type; 2000/01 – 2009/10



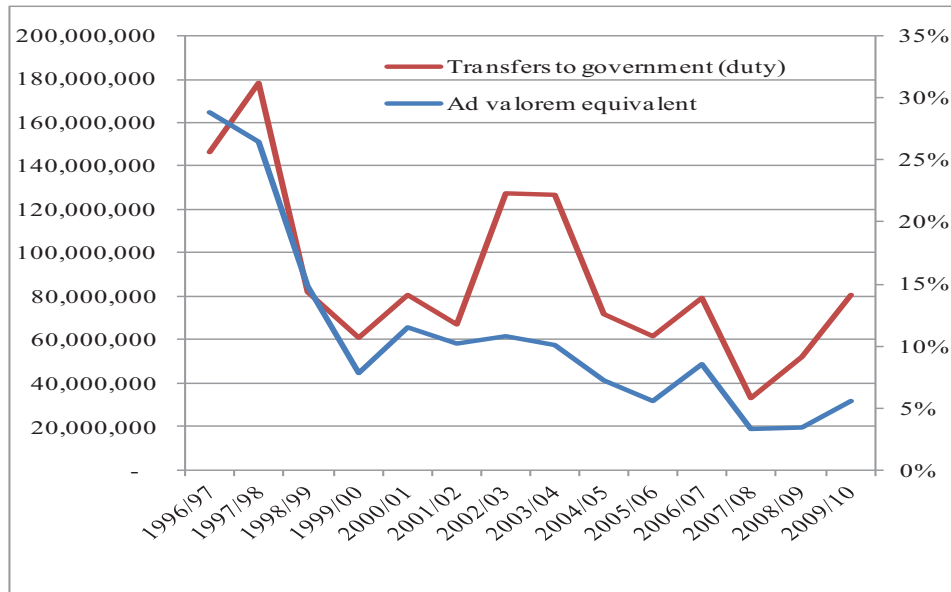
Cocoa Sector Taxation, Stabilization and Residual Funds

229. Historically the cocoa sector has constituted a major revenue base although its significance has declined rapidly with economic diversification. As in many newly-independent countries in Africa and beyond, post-independence development was to be funded primarily by commodity taxes, and this was certainly the case with cocoa in Ghana (Herbst, 1993). However, cocoa sector liberalization and economic diversification has seen a broadening of the revenue base and a consequent decline in the importance of cocoa tax revenues for central government financing. Over 2008 – 2010 the official cocoa tax revenues amounted to between GH¢4 – GH¢6 billion, accounting for around 1 percent of all tax receipts.¹¹⁸

¹¹⁸ Tax receipts are taken from MoFEP annual budget statements.

230. The precise nature of the cocoa export tax is not well articulated and the actual tax rate is determined annually. Unlike other countries such as Cote d'Ivoire, there is no formalized export tax on cocoa established by regulation. Rather, the annual transfer from COCOBOD to MoFEP is determined through bilateral negotiation, essentially as a residual once other sector expenditures are determined as per the PPRC procedures described above. According to COCOBOD data, the annual transfer to MoFEP has been trending downwards in real terms since the mid-1990s (Figure 22). Importantly, the *ad valorem* equivalent of the tax rate – transfers to MoFEP as a proportion of sector revenues – has been falling considerably from around 30 percent in the late 1990s to a low of 3 percent in 2008 and 2009. This could be explained if higher prices were being offered to farmers; however as discussed above, marginal increases in producer prices as a share of export prices fall far short of the respective decline of 20 percentage points in the tax rate. Similarly, in the absence of a formal stabilization fund, tax rates can be adjusted downward in times of falling prices and/ or production to sustain critical programs essential for sustained production and/ or marketing (i.e. *industry costs* or *marketing costs* referred to above). In fact, the reverse has occurred during the period. The recent up-tick in transfers to MoFEP appears to be temporary: in FY2011 MoFEP budgeted for cocoa sector export taxes of GH¢62 million yet actually received only GH¢5 million.¹¹⁹ COCOBOD also provides loans to MoFEP; one such loan in 2009/10 amounted to GH¢70 million.¹²⁰

Figure 22: Cocoa Export Tax Receipts; 1996/97 – 2009/10



Source: Author calculations based on COCOBOD data.

231. The ad hoc stabilization function of general taxation has been replaced with a formal stabilization fund managed by COCOBOD and this might also explain the decline in transfers to central government. Stabilization funds can be useful instruments for economies disproportionately dependent on primary commodity exports for installing fiscal discipline and avoiding the negative impacts of commodity price booms. Stabilization funds are most often found in non-agriculture based natural resources sector (e.g. oil or minerals) and indeed

¹¹⁹ See footnote 118.

¹²⁰ According to COCOBOD's Annual report for 2009/10, the loan was supposed to repaid in December 2010. However, "the loan was given to MoFEP without any agreement as to interest charges" (COCOBOD, 2010: 47).

Ghana has introduced such an instrument in light of its recent oil discovery. In principle the establishment of such a mechanism for the cocoa sector represents an innovation to be welcomed. However, the key ingredient for a successful stabilization fund is robust rules, often enshrined in legislation or in some cases the Constitution and which is immune from political interference, perhaps requiring the allocation of revenues to a discrete fund.

232. Absent a clear fiscal responsibility rules governing the contributions to and withdrawals from the stabilization fund, experience suggests it is unlikely to function properly. According to COCOBOD data, allocations to a stabilization fund in 2008/09, 2009/10 and 2010/11 amounted to GH¢19 million, GH¢34 million and GH¢29 million respectively. Yet there are no published procedures governing contributions or withdrawals of this stabilization fund. Contributions are drawn from industry costs and therefore form part of the off-the-top expenditures under the 'net FOB' calculation. Consequently, farmers are contributing directly without a clear appreciation of their likely benefit streams. Removing the contributions in 2009/10 would allow producer prices to be increased by GH¢54/mt.

233. COCOBOD expenditure data reveal that even after all sector expenditures are made, including producer payments and transfers to Government, there remains a balance of revenues not allocated. The amount of this residual varies, from a small loss in 2001/02 to positive balances of GH¢494 million in 2008/09. It is not clear what happens to these cash balances, although it is known that COCOBOD makes a number of investments including in other para-statal enterprises (COCOBOD, 2010). Such practices are not in themselves problematic (although the lack of scrutiny as further evidence of the lack of value-for-money drivers within the sector). However, since such investments are financed from producer proceeds it is important to ensure positive returns that support the development of the sector in a way that directly impacts on the welfare of cocoa farmers. Otherwise, these contributions represent a severe regressive tax from relatively poor cocoa farmers for the benefit of others.

Summary of the Diagnostic

234. This analysis suggests six headline conclusions:

- First, the mechanisms by which producer prices are determined and the sector budget prepared lacks major efficiency drivers. While this binds the interests of stakeholders and facilitates cooperative solutions, the absence of clear value for money motivations has let costs escalate and is likely to pose problems when there is a need to find efficiency savings in response to falling world prices.
- Second, there are a number of critical functions that have strong public good characteristics and where the available evidence suggests these functions are being provided effectively and efficiently. These interventions are critical for the wellbeing of farmers and should be continued and, in some instances, scaled up.
- Third, there are a number of functions of the overall system that are demonstrating rising unit costs and where this preliminary analysis suggests could be the target for efficiency gains.
- Fourth, there are a number of specific programs that involve substantial resources yet the evidence suggests are of limited impact. This includes one extreme case which lacks any supportive technical, economic and financial justification.

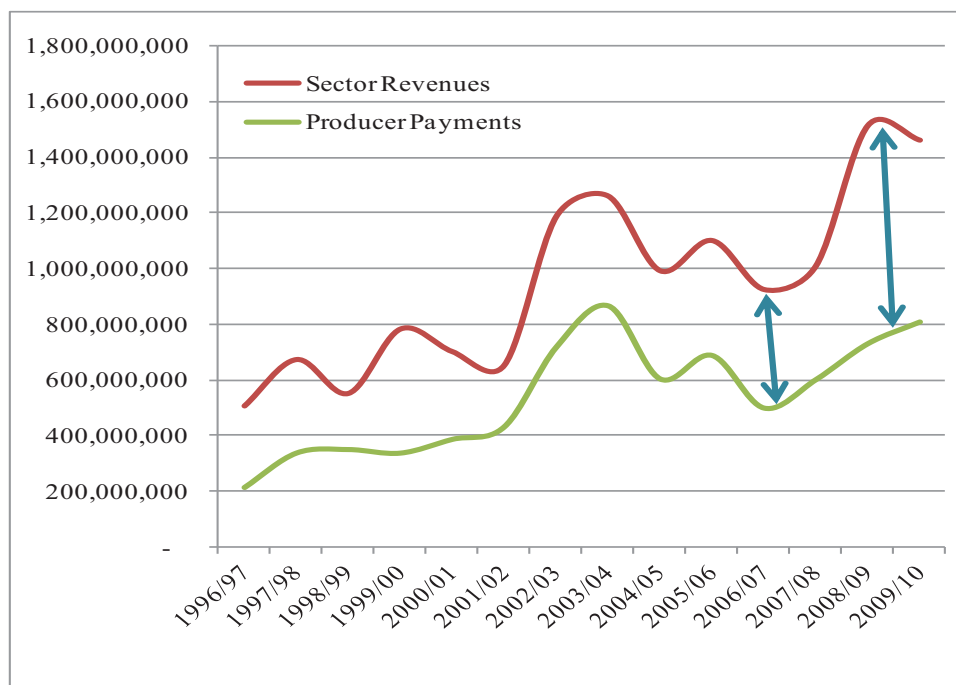
- Fifth, the partial liberalization and the introduction of LBCs has delivered some important benefits. These have accrued through the nature of the relationship between LBCs and producers. Anticipated efficiencies in that part of the value chain have not materialized, and LBCs remain financially fragile and extremely vulnerable to interruptions in their interface with the state apparatus.
- Sixth, and lastly, the implementation of the incentives for domestic processing industry needs to be reviewed. In the absence of detailed data from processors, it is not possible to conclude definitively whether the de facto subsidy is justified on economic grounds. However, it is clear that the mechanism by which the subsidy is provided is no longer appropriate (if indeed it ever was) and that an alternative instrument is required.

235. The final section draws some conclusions and recommendations as to how COCOBOD and the broader cocoa sector stakeholders might respond to these risks.

D. CONCLUSIONS AND RECOMMENDATIONS

236. There is a great deal to commend the Government and COCOBOD for in their management of Ghana's cocoa sector. Production is expanding, producer prices have been steadily increasing and investments in quality maintain the 'Ghana premium'. At the same time, the diagnostic presented above argues against complacency. A combination of structural factors inherent in the system and global trends of increasing prices has undermined the efficiency with which key services are provided. Identifying these inefficiencies and taking remedial action will improve the efficiency of the system and improve the competitiveness of Ghana's cocoa sector.

Figure 23: Revenues and Producer Payments; 1996/97 – 2009/10



Source: Authors calculations using COCOBOD data.

237. Fundamentally, remedial measures will need to reverse the trend of the increasing ‘wedge’ between industry revenues and producer payments. Figure 23 illustrates how sector revenues and payments to producers have diverged in recent years, and how revenues have dropped significantly in recent years as world prices have fallen. Two responses are possible:

- *The first would see COCOBOD passing on these price reductions to producers through a reduced producer price* (certainly in absolute terms and potentially as a share of export prices) thereby reducing farm incomes and/ or COCOBOD would also be forced to reduce the provision of key services to the sector with concomitant negative impacts on research, pest control, productivity, quality and the logistics of connection small farmers to global markets.
- *An alternative scenario would see COCOBOD reform those programs with limited impact*, improve the overall efficiency of the system based on the diagnostics presented above, and thereby allow producer prices to be maintained in absolute terms (this would have the effect of increasing the share of export prices going to producers) and maintaining the provision of key programs essential to the sector.

238. Specific recommendations pursuant to the second scenario are the following:

239. *Efficiency drivers within the sector.* The procedures for preparing the sector budget and the division of rents to all cocoa sector stakeholders removes any natural efficiency drivers that would typically be present through normal budgeting processes. While the multi-stakeholder composition of the PPRC is to be welcomed – it reflects good practice of inter-professional bodies that exist in other managed commodity sectors throughout the region – there is a need for a stronger ‘challenge function’. The current arrangements which are perceived by some stakeholders as a *fait accompli* should be strengthened by adopting standard principles of public expenditure management including ‘zero based budgeting’. Greater scrutiny of the proposed programs would promote improved efficiency. The same scrutiny should be applied to the incremental expenditures that result from unanticipated sector revenues. The PPRC should reconvene as appropriate throughout the season when it is apparent additional revenues are likely – or, equally, if the converse occurs, in order that any cuts in expected programs can be identified through a similar process.

240. *Improved transparency over producer prices.* The procedure of subtracting funding ‘off the top’ from sector revenues in order to determine a ‘net FOB’ price misrepresents the true distribution of revenues and the share of producer prices. The breakdown of ‘industry costs’ and ‘direct marketing costs’ helps convey to stakeholders in the sector the allocation of what are, in effect, cocoa sector taxes. It would greatly assist in the transparency and accountability in the use of cocoa sector taxes – which are, after all, paid by Ghana’s cocoa farmers – if the PPRC maintained the breakdown of expenditures and the database presented in this Policy Brief (or an improved version).

241. *Maintaining producer prices.* The decline in world prices will place pressure on COCOBOD to pass this on through reduced producer prices. This should be avoided as far as possible through the reduction in inefficient and ineffective programs funded from the cocoa sector taxation. Specific recommendations follow. If these are implemented there will be scope to absorb these price declines while maintaining producer prices in absolute terms, and without undermining the key functions so important to sector.

242. *Ending the subsidy on liquid fertilizer.* There are no circumstances under which the liquid fertilizer is economically viable, at \$23,000/mt of nutrients, compared to around \$1,000/mt for the dry compounds. Procurement of the liquid fertilizer should be cancelled. As a side issue, CRIG needs to review its procedures for advocating the use of commercial branded fertilizer if it is to retain its scientific credibility which would be undermined by repeated endorsements of such cost ineffective inputs.

243. *Identify additional efficiencies.* There is considerable evidence that cost effectiveness of overall sector expenditures has deteriorated in recent years with the increasing overall resource envelope and the absence of a rigorous value-for-money scrutiny within the budget process. More detailed analysis will be required to identify specific areas for reforms, but the analysis suggests the following are most likely to offer considerable savings:

- The mass spraying (CODAPEC) program has clearly demonstrated the benefits from the use of agrochemicals. However, the impact of the publically-funded spraying programs is low whereas the impact of own-expenses is high. Accordingly, COCOBOD should consider restructuring the mass spraying to provide greater accountability to farmers to improve the efficacy and to reduce the illicit sales of chemicals. One option to be considered would be to increase the ability to pay for spraying services and to establish the current spray gangs as private businesses, as service providers to the industry. The former could be achieved simply by increasing the producer prices commensurate with the removal of this program expense, or through the provision of vouchers to be redeemed against the hiring of spray gangs¹²¹;
- The current subsidy for dry fertilizer (Hi-Tech) constitutes a net transfer in favor of (relatively) intensive farmers in the Western region from extensive cocoa producers in the other regions. As such, it is likely to be somewhat regressive. Given the excess demand for fertilizer compared to available (subsidized) supplies, COCOBOD should consider mechanisms for increasing the availability of fertilizer within existing financial resources. This could imply reducing the per mt subsidy where positive financial returns are available from fertilizer use at market prices. At the very least, greater effort is required to ensure a more equitable distribution of subsidized fertilizer across the regions, with a focus on those with more severe soil infertility where fertilizer is demonstrated to have the greater impact on yields.
- There are likely to be further efficiencies from other programs, although given these are typically of a smaller scale the potential savings are less significant. A comprehensive review of value for money across all programs would identify incremental improvements.

244. *Increasing productivity.* There is a need to sustain and scale up effective programs at increasing overall yields, which lag behind regional comparators. Over the medium term, Ghana's aging tree stocks need to be replaced with higher yielding varieties and there is a case for an expansion of the current work of the SPU's, as long as quality is maintained. There are many donor- and industry funded programs that seek to raise on-farm productivity through better husbandry, increased input use and the like. Now that the responsibility for extension has returned to COCOBOD, a reinvigorated extension system could have a major

¹²¹ In fact, qualitative surveys of cocoa farmers suggest they would prefer just such an approach. Dormon *et al* (2004:249) reports that '[farmers] would have preferred that the government had paid them the money for mass spraying directly or indirectly through better producer prices'.

impact on yields. Given potential impacts of climate change, a major pillar of the research agenda should focus on ensuring new practices and improved varieties that can adapt to changing climatic conditions.

245. *Sustaining LBCs.* It is clear that the position of LBCs, especially smaller local LBCs without recourse to external financing, is increasingly precarious. LBCs are an important feature of the system – not only do they present opportunities for private sector participation in the supply chain, but their presence has had important spillovers for farmers, in particular through access to fertilizer. COCOBOD should revisit the assumption of intra-seasonal cash flow cycling to ensure the distribution of seed funding reflects operational realities. Crucially, there is an urgent need to improve the efficiency in the dealings between the LBCs and public activities, including testing and quality control, and off-loading, to avoid undue delays.

246. *Quality Control.* Quality control is an important and cost effective feature of the institutional arrangements in Ghana. At the macro level, it would appear to offer a good return. It can respond to specific quality concerns well. Moving forward, two issues should be subject to constant review: as the QCC matures as a company, financial performance and service standards need to be monitored and ensured; second, quality control is a potential source of rent seeking and there is a need to maintain the integrity of the system and staff. Over the long term COCOBOD should consider separating the quality control function into (i) compliance and (ii) testing with QCC focusing on the latter, alongside alternative (suitably approved) private sector service providers. Compliance needs to remain in the public sector, and could be streamlined with sister agencies such as the Ghana Standards Board.

247. *Cocoa taxation.* Without a formal stabilization fund, there are benefits in retaining the formal structure of cocoa taxation as a residual so transfers to MoFEP can be adjusted in response to mid-season fluctuations. However, absent other efficiency drivers, revisions to the formal taxation would create a set of incentives that would support improved efficiency. For instance, a constant *ad valorem* tax rate would ensure MoFEP enjoyed a proportionate gain from sector revenues in excess of PPRC projections. Increasing the cocoa sector tax base should not come at the expense of producer prices, but there is scope for increasing the *ad valorem* tax rate commensurate with improvements in the efficiency of the overall system. More generally, given the overall need for Government to increase the revenue base, it is surprising that MoFEP has allowed the transfers to decline as a proportion of revenues to such a low level, and this could be reversed without undermining producer prices with the improved efficiencies identified above.

248. *Formalizing the stabilization fund.* There are merits in establishing a fund to mitigate price risk. Experience suggests that ensuring fiscal sustainability is a challenge. However, it is not clear what modalities apply to the current arrangements and in that regard establishing the key elements of the fund would constitute an importance advance.

249. *Domestic processing.* There is an urgent need for a detailed analysis of the costs and benefits of the discount for domestic processors. This needs the active participation of the industry. While COCOBOD should lead this on the Government side, it needs to be acknowledged that their interests may not reflect the broader social policy trade-offs associated with industrial policy (i.e. their objective function is to maximize revenue from bean sales). The analysis should construct a detailed cost structure based on validated industry norms in order to understand major cost components which may be remedied from more direct policy responses than a general subsidy (c.f. if costs are high because of emergency power generation, what measures could the Free Zone Board take to improve

power availability?) Without commensurate improvements in the overall value for money proposition of aggregate COCOBOD expenditures there should be a presumption that the discount should continue. Special attention should also be paid to improving the mechanism for allocating discounted beans should the subsidy be continued.

250. *Sector monitoring and improved accountability.* Given that the sector is funded almost entirely by small-holder farmers directly through the *de facto* cocoa tax, there is an obligation on the state to account for the use of their funds. An important conclusion from the research undertaken for this Policy Brief is the difficulty in compiling accurate statistics for the sector that allow an assessment of the inputs, projects, programs, outputs and outcomes. A database for the sector budget has been compiled which provides a time series of all disaggregate expenditures from 1995/96 – 2010/11. This should be updated annually by COCOBOD and made available on-line. Furthermore, as part of the sector monitoring, COCOBOD should report at the end of each cocoa year on the performance of the programs funded by the sector and this should be a key factor in the subsequent discussions of the PPRC. Specific attention should be paid to the benefit incidence of such programs in order to gauge their distributional impacts. Similarly, donor funded projects should also provide annual reports on their performance. A stakeholder forum should be established annually where results can be reported and shared, in an effort to scale-up effective interventions and revise or close down those with limited impact. The national program of the Africa Cocoa Initiative might be an appropriate forum.

251. *Addressing imbalances in agriculture sector expenditures.* The Government needs to give attention to the wide disparities in expenditures in support of the cocoa sector compared to other elements of the agricultural sector. The cocoa sector is one-tenth the size of the rest of the agricultural sector, yet spending on the major subsidy programs for fertilizer and mass spraying alone is equal to the entire annual budget of MoFA.

252. In summary, Ghana's cocoa is an important success story that, both by design and circumstance, has delivered important development benefits to Ghana's rural poor. While some of the credit is due to global trends – the bonanza in world prices especially – it is equally clear that the Government of Ghana and COCOBOD in particular deserve credit. It is notable that neighboring countries are seeking to draw on Ghana's expertise when considering their own marketing arrangements for cocoa. However, global trends are reversing and Ghana faces its own challenge in becoming an oil economy. The greatest risk is complacency: for Ghana's own sake, there is a need to continually critique the orthodoxy in order to anticipate threats and make adjustments accordingly. Doing so would also be of service to Ghana neighbors: lessons could be learned and neighboring Governments could then differentiate those elements of the Ghana regime that are clearly delivering results and are value for money, those that are less effective, and those that arose from path dependence and therefore may not be applicable their own circumstances.

5. REMOVING BARRIERS TO TRADE WITH NIGERIA

A. INTRODUCTION

253. Regional exports can represent a testing ground for accessing global markets as they are often close in terms of taste, standards, distance, and culture. Creating regional markets can help increase the potential scope for operations and creating economies of scale, increasing incentives for increased investment flows, and permit suppliers to specialize and integrate into regional supply chains, that ultimately cater to both domestic and international markets. Particularly where political considerations make it more feasible to open market selectively (regionally), strengthening of regional integration processes and addressing trade related barriers that also affect trade with the rest of the world can play an important role in strengthening parallel processes of integrating into world markets.

254. In West Africa, regional integration processes, and the resulting degree of regional integration has been consistently lagging behind expectations, and a large number of political commitments have either not been translated into policy and regulatory reforms, or such reforms are not effectively implemented. As a result, the region remains de-facto weakly integrated, characterized by substantial non-tariff barriers and effectively continuing tariff barriers (for example where restrictive rules of origin cannot be met). The common external tariff has still not been agreed at ECOWAS level and the existing scheme for regional free trade is fraught with challenges.

255. This note looks at the regional integration process in West Africa, focusing on Ghana and Nigeria. Both countries account for about 61 percent of population and 68 percent of GDP in ECOWAS.¹²² They are already closely linked with bilateral non-oil trade between the two countries increasing from less than USD 15 million before 2000 to more than USD 130 million in 2010, according to COMTRADE data. While the share of non-oil exports from Ghana to Nigeria increased from less than 0.5 percent in the late 1990s to about 1.9 percent of global exports in 2010, a recent working paper estimates the potential for Ghana's exports to Nigeria at more than 10 times of current exports and the potential for bilateral trade at twice the observed flows.¹²³ Beyond trade, also substantial migration flows between both countries have existed for a long time. Recent estimates put the number of Ghanaian emigrants in Nigeria at 125,000 (IOM, 2009), representing 13 percent of Ghanaians living outside Ghana, and the number of Nigerians living in Ghana at more than 50,000 (DRC, 2007).¹²⁴

256. Complaints regarding the lack of implementation of existing commitments are consistent but often remain vague. This note contributes to the discussion by assessing in greater detail the challenges that goods exporters within the region are facing when trying to benefit from the ECOWAS-wide Free Trade Area. It focuses on the experience of 30 exporting companies in Ghana that we interviewed to better understand their particular difficulties when exporting to Nigeria under the scheme. We consistently find that substantial informal payments and delays, regardless of whether or not documentation is complete, as well as transit charges, and product registration requirements in Nigeria are seen as key barriers by Ghanaian manufacturers to increasing trade with Nigeria. Despite the relatively

¹²² Côte d'Ivoire, the third largest economy in the region, is slowly emerging from a long conflict.

¹²³ See working paper by Adam and Tweneboah (2008).

¹²⁴ These numbers seem to be a lower bound. The Nigerian High Commission in Ghana has repeatedly mentioned that more than 1 million Nigerians live in Ghana. In 2008, the University of Ghana reported that nearly half of their 1100 foreign students came from Nigeria (IOM, 2009).

small sample size, we are confident that these findings, which support recent findings by the West Africa Trade Hub, are representative for a wider range of economic operators in Ghana.

257. With regional integration lacking behind, effectively implementing existing commitments in Ghana and Nigeria and facilitating trade flows between them would represent a critical step towards achieving freer trade and deeper integration within the region. Getting policies right in these two extremely dynamic and large economies should be a priority for policy dialogue that focuses on regional integration in West Africa as it will likely serve as a catalyst for deeper regional integration within the region as a whole.

258. The remainder of this note is structured as follows. First, we give an overview of the current trade policy situation and commitments undertaken as part of the regional integration process before looking at the implementation of these commitments in West Africa. We will then turn to the central part of this note by describing our findings regarding the particular difficulties that Ghanaian exporters are facing when exporting to Nigeria. Last, we offer policy recommendations to address the challenges identified.

B. TRADE POLICIES AND THE REGIONAL FRAMEWORK WITHIN WEST AFRICA

259. In the absence of an agreed Common External Tariff (CET) or a functioning customs union in West Africa, countries continue to apply their own individual tariff schedules.¹²⁵ Ghana and Nigeria have largely aligned their tariff schedules to what will likely be a CET, but differences remain. According to COMTRADE data, the simple average of Ghana's external tariffs is 12.7 percent, while that of Nigeria is 11.9 percent. However, Nigeria levies an additional duty of up to 100 percent on 245 lines, increasing the average tariff to 13.0 percent. In addition, Nigeria continues to apply import bans on roughly 10 percent of tariff lines at the 6-digit level (Hoppe and Pitigala, 2011) and is currently debating to increase additional duties on some products. Compliance with standards remains burdensome and there have been reports of standards being used as disguised protectionist measures. Due to data constraints, however, no aggregate measure of the importance of non-tariff measures is available in either country.

260. In the absence of a functioning customs union, intra-regional trade relationships are governed by the Free Trade Area (FTA), and the ECOWAS Trade Liberalization Scheme (ETLS) is at the heart of this FTA. Under the ETLS, preferential tariffs for intra-regional trade are set at 0 percent and products should not face any quantitative restriction. The scheme aims to ensure free movement of goods and persons within ECOWAS. It was established in 1983, initially not implemented, launched in 1990 and re-affirmed as part of the ECOWAS Revised Treaty in 1993, now covering in principle all products of community origin. However, the share of intra-regional trade has remained low with around 10 percent in ECOWAS. WAEMU, the more strongly integrated group of French-speaking economies

¹²⁵ There is general agreement among the ECOWAS member states that the UEMOA external tariff will be adopted after a transition period and following some modifications, the most important of which is the inclusion of a 5th tariff band at 35 percent at the request of Nigeria. This 5th tariff band will supplement the four existing tariff bands for social goods (0 percent), raw materials and necessities (5 percent), intermediate products (10 percent), and finished goods (20 percent). Large disagreement continues to exist among ECOWAS member states as to which products should be classified under this high-duty tariff band and countries continue to apply similar, but distinct, tariff schedules. In addition, disagreement with regard to (temporary) exemptions to the CET persists, and the critical issues of harmonizing product valuation procedures, other charges levied at the border, and the treatment of tariff exemptions have not yet been discussed either. Agreement on how to share the overall revenue that would be raised by the customs union seems to be another stumbling block.

within ECOWAS, is relatively more integrated, with about 11 percent of trade being intra-regional, despite the smaller size of this economic area (Goretti and Weisfeld, 2008). After more than two decades of existence, the scheme continues to face a substantial number of challenges and lacks implementation, as a recent report by the West Africa Trade Hub demonstrated.

261. To benefit from the scheme, companies need to demonstrate that they meet the relatively restrictive rules of origin specified under the ETLS. Companies can register their products under the scheme using a lengthy, and two-staged, approval process (first by a national committee that forwards the decision to a regional committee) that takes about 4-6 months. It is seen by many private sector operators as extremely cumbersome, resulting in a continuously low number of registered products. Registration is needed for every individual product that a company intends to export under the scheme. As a result, 1100 companies had registered only about 3200 products by 2006, 1326 of which are from Nigeria and 800 from Ghana according to the Central Bank of Nigeria. A preferred trader system, allowing faster border crossing for such enterprises has also been foreseen but is not implemented.

262. The ETLS also covers transit trade and establishes an ECOWAS Inter-State Road Transit (ISRT) scheme to ensure goods in transit can flow easily and do not have to pay duties or other fees. A single logbook and single bond are foreseen to facilitate such transit flows. Harmonizing axle load limits, a regional vehicle insurance scheme, harmonization of vehicle standards, and a reduction in road blocks along major corridors all form part of this initiative.

263. Regarding the free movement of people, the protocols establish the right of citizens with a valid travel document and health certificate to stay for up to 90 days in another ECOWAS member state, before they have to apply for residency that should be granted. The commitments made in existing protocols were reaffirmed by the revised ECOWAS treaty of 1993 and stipulate that ECOWAS citizens should be treated identical to national citizens with regard to establishing and running a business.¹²⁶

C. IMPLEMENTATION OF EXISTING COMMITMENTS CONTINUES TO LAG BEHIND

264. However, our analysis shows that these objectives have not been met after more than two decades of implementation. Even when a product is registered and all necessary information provided, crossing the border can be difficult, additional payments seem to be always necessary, and the importation of products can be outright prohibited, as Nigerian customs does not seem to distinguish between ECOWAS- and global exporters when applying existing import bans. As a result, intra-regional trade is effectively not duty or quota free, and borders continue to create substantial barriers to regional integration. These findings support a set of recent reports by the West Africa Trade Hub assessing the degree to which existing regional commitments have been translated into national laws, and to which degree they are applied. These reports also find that the ETLS is only partially implemented in member states; that trade costs remain high; and that exporters continue to pay customs duties even when they should be granted duty free treatment.

¹²⁶ Cf. to the supplementary protocol A/SP.2/5/90 on the “Implementation of the third phase (right of establishment) of the protocol on free movement of persons, right of residence and establishment”, stating that “[i]n matters of establishment and services, each Member State shall undertake to accord non-discriminatory treatment to nationals and companies of other Member States.”

265. The Ghana-specific report of this set of reports (WATH 2010b) finds that Ghana does not always allow the duty-free importation of goods originating in ECOWAS, and applies a large number of additional taxes and fees that are not customs duties but that are charged on all imports (for example the statistical fee, various processing fees, or the export development levy). With the exception of the VAT and National Health Insurance Levy, most of these do not seem to be applied to domestically produced goods and they therefore effectively function as additional import duties. The report also stresses that Ghana continues to apply (temporary) import bans and quotas for a few, mostly agricultural items. The report focusing on Nigeria (WATH 2010c) outlines import bans and other quantitative restrictions, discriminatory non-tariff barriers, and the incorrect treatment of transit goods as key issues of non-conformity with ETLS protocols.

266. While Ghanaian exporters mainly complain about the difficulties in accessing the Nigerian goods market, Nigerian traders have long complained about discriminatory treatment when setting up trading companies in Ghana, claiming that protocols relating to the free movement of people and the right of establishment are also only partially implemented. A long-standing dispute regarding the activities of Nigerian traders in Ghana continues to resonate in the greater public and the media. The Ghana Investment Act reserves a number of economic activities exclusively to Ghanaians, including “sale of anything whatsoever in a market, petty trading, hawking or selling from a kiosk at any place”, taxi and car hire services, and barber shops. However, the law foresees that trading enterprises either wholly or partly owned by a non-Ghanaian and involved only in the purchasing and selling of goods can operate if they invest at least US 300,000 and employ at least ten Ghanaians.¹²⁷ A similar investment threshold of only USD 50,000 is set for other activities. The discriminatory nature of these provisions seems to run counter to existing ECOWAS treaties and protocols,¹²⁸ and there have even been complaints that these provisions have specifically been applied to Nigerians and not to other nationalities.

267. This issue has resurfaced repeatedly during the last four years, with news reports and Nigerian advocacy groups, such as the Nigerian Union of Traders Association, Ghana (NUTAG) reporting that about 100 retail shops of Nigerian traders have been closed during September 2010 following non-compliance with the Investment Act. NUTAG estimates that there are an estimated 1000 businesses in Ghana that are potentially affected. There have also been complaints that Nigerian companies in other sectors face particular challenges in obtaining operating and construction licenses, but these claims are hard to verify. While the issues seem to have attracted less attention recently, tensions between Ghanaian and Nigerian traders reportedly continue to simmer below the surface.

D. A CLOSER LOOK AT TRADE PROCEDURE PROBLEMS THAT GHANAIAN COMPANIES FACE

268. This note focuses on the difficulties Ghanaian goods exporters are encountering when exporting to Nigeria. Ghanaian and other exporters complain that market access to Nigeria is extremely difficult. A recent study (World Bank, 2009b) found that up to 15 percent of Nigeria’s imports enter the country informally, largely along the Benin-Nigeria border, where Ghanaian products also enter. This policy note contributes to the existing general discussion

¹²⁷ A new Ghana Investment Promotion Centre law is under discussion and would increase the investment threshold to USD 1 million, though that revised law has not yet been enacted.

¹²⁸ ECOWAS protocols on the right of establishment foresee the possibility for a member state to formally opt out for specific activities but it is not clear whether Ghana has formally done this for the retail sector.

by adding some more structured evidence regarding the difficulties that Ghanaian exporters are facing, based on the experience of 30 Ghanaian exporters that have been and are exporting to Nigeria. While these companies only represent a relatively small share of economic operators in Ghana, we are confident that their experience is representative for other operators as well.

269. Our research finds even though companies are aware of the ETLS, only half of the companies have registered under the scheme, claiming that the scheme is at best partially implemented, and that informal payments remain necessary to access the Nigerian market. In addition, registration requirements with Nigerian regulators seem to be discriminatory against non-Nigerian producers, and import prohibitions in Nigeria are also applied to exports from ECOWAS producers. While these import restrictions are inconsistent with WTO commitments, they also violate the ETLS that specifically determines that regional exporters should not be subject to quantitative restrictions. A key complaint that was consistently voiced throughout the interviews was the lack of official means to seek redress.

270. We interviewed 30 manufacturing enterprises that were currently, or had been in the past, exporting to Nigeria by land and had substantial export experience (of 9.5 years on average). Their operations covered a wide range of manufacturing products, from garment and textiles, to food and beverages, plastics, aluminum, to pharmaceutical and other manufacturing products. More than 90 percent of the sampled companies said they currently exported to Nigeria, and nearly all of these also export to other countries in the sub-region. For about a third of the interviewed companies, exports make up a significant part of their business, indicating that more than 50 percent of their production was exported. The average share of exports going to Nigeria for all interviewed companies was 45 percent.

271. Large Ghanaian exporters, who dominate our sample, seem very much aware of the ETLS; however, only 17 of the 30 interviewed companies have registered and are using the ETLS. Of these, 10 had received training with regard to the ETLS, while of the 12 companies that did not register for the ETLS, only two had received training, with two more indicating that the training they received had not been detailed enough. Of the 14 companies who said they received training with regard to the ETLS, 10 claimed to have subsequently registered. While subjective and based on our small sample, these numbers indicate that offering training seems to play a positive role in companies registering for the ETLS. In addition to inadequate knowledge of the scheme, companies mentioned the ineffectiveness of its implementation and their small volume of export within ECOWAS as reasons not to register.

E. DELAYS AND PAYMENTS, REGARDLESS OF ADEQUATE PAPERWORK

272. Companies perceive the benefits from the ETLS as very limited and only a third of respondents indicated that border officials are fully implementing the ETLS. Of the 17 companies that said they were benefiting from the ETLS, more than 40 percent reported that they had not been granted duty free access to the Nigerian market before, and claimed that this had largely been the case because they had failed to pay bribes and other unofficial payments.¹²⁹ More importantly, nearly a third of exporters reported that their products had at times been completely prohibited to enter Nigeria. These prohibitions were generally justified by official Nigerian import bans and covered products such as biscuits, ceramic pots, fruits juices, sachet alcoholic drinks, wood works and pharmaceutical products. As pointed out

¹²⁹ We observed that some exporters do not even know whether they pay duties or not as usually no receipts are issued.

earlier, however, the lack of national treatment to ECOWAS producers violates the ECOWAS treaties and protocols, in addition to being WTO inconsistent.

273. In addition to paying customs duties, companies complained of lengthy inspection time, documentation requirements, delays and bribes at borders, regulatory registration requirements in Nigeria with National Agency for Food and Drug Administration Control (NAFDAC), and high costs to transit Togo and Benin.

274. According to the exporters, physical inspection at the border demands lengthy unloading and reloading of goods, increasing substantially costs and delays. Disputes regarding official documentation requirements and the accuracy of presented documentation further contribute to these delays (there seems to be a lack of transparency regarding which documentation is needed, creating opportunities for rent extraction). These delays are further aggravated by (and/or cause) congestion at Seme border, the entry point into Nigeria for Ghanaian exporters.

275. Our interviews demonstrate the clear perception that goods cannot enter Nigeria without unofficial payments being made to the customs officers and other security officers, even if traders have all proper documentation, including registration documents under the ETLS.¹³⁰ Bribery and corruption seem to be omnipresent and have substantial impact on cross-border trade, though the information obtained during the interviews does not allow us to estimate the value of these bribes and corresponding delays at road blocks and border posts. It is striking, however, that only two of the respondents stated they had never paid bribes when exporting to Nigeria, with the remainder claiming that paying bribes to officials was unavoidable at borders when exporting to Nigeria, and that they either paid them directly or through their transporters. Exporters who refuse to bribe the customs and insist on correct procedures were said to suffer significant delays by customs with various excuses even if all documentation is correct. We were told that exporters' goods could be held up at the borders for more than three weeks in such cases. As long as such payments have to be made regardless of whether or not a product fulfils the necessary requirements to enter duty free, the ETLS scheme will remain ineffective in stimulating regional trade. At the same time, where documentation is incomplete, unofficial payments allow the trade transactions to proceed, preventing relevant agencies from fulfilling their mandates. In a number of cases, Nigerian customs officials have complained of fake certificates of origin for Ghanaian products, where products were simply repackaged in Ghana to obtain duty-free access to the Nigerian market.

276. Obtaining certification under the National Agency for Food and Drug Administration Control (NAFDAC) was mentioned as additional barrier to trade with Nigeria as food products and drugs require NAFDAC certification. Obtaining the relevant certificates is extremely complex and burdensome and registration fees are considered excessive (EU, 2010). Products need to be registered before being landed in Nigeria. To obtain product certification and register a product, a sample needs to be imported into Nigeria, and an additional import license is needed prior to the importation of such a sample. In addition, products can only be registered by a locally registered subsidiary company or a local partner, who needs to have the power of attorney from the producing company, at times apparently creating legal problems. Registration fees are ten to fifteen times higher for imported as compared to locally manufactured products, and the registration needs to be renewed every

¹³⁰ A number of interviewees described the Nigeria customs officers to say in their pidgin language "Oga we no they chop papers ooo!!!!", literally meaning "master we do not eat papers".

five years, at 60 to 100 percent of original registration costs according to NAFDAC's website. According to the EU market access database (EU, 2010), companies have to register every product type and need to pay a separate registration fee for different sizes of the same product. NAFDAC registration and certification seems to be a critical challenge to Ghanaian manufacturers who try to export to the Nigerian market and whose products require such certification.

277. In addition, products subject to mandatory standards issued by the Standards Organization of Nigeria (SON) need to demonstrate compliance, and need to follow a two stage process. Product types need to be certified by a SON office in the exporting country prior to importation into Nigeria and will obtain a product certificate (valid for up to three years) if the exporter produces an acceptable test report. Subsequently, each shipment will have to be certified as well.

F. TRANSIT THROUGH TOGO AND BENIN CAUSING ADDITIONAL COSTS

278. Last, three quarters of exporters in our sample were facing difficulties when transiting through Togo and Benin to access the Nigerian market. Exporters claimed that they have to pay substantial charges to transit through these countries, as well as large unofficial payments, in Togo and Benin before being allowed to pass. About 70 percent of the exporters reported paying charges for transiting Togo and Benin, and others include them in the general transport allowances they pay to transporters. Informal payments at roadblocks contribute to these costs. Language issues are said to be used as pretext to extract additional informal payments.

279. Such payments are also reported in the recent WATH (2010a) report, and seem to relate to vehicle inspection certificates (annually in Benin, but per trip in Togo). In Togo, transporters also reported extensive delays to obtain documentation at borders, the need to pay escort fees and the non-application of the bond scheme, leaving transporters struggling to reclaim payments made under the bond (WATH, 2011a). The Benin-specific report (WATH, 2011b) reports that the bond scheme is not functional in Benin either and describes how transit goods in Benin are subject to accumulated taxes of more than 6 percent as well as a customs escort fee of more than USD 100 per truck even where container seals are correctly applied. These practices at Togo and Benin borders are inconsistent with WTO treaties and contravene the ETLS protocol which seeks to provide free movement of goods, services and persons. Under the provisions of the ETLS, transit trade should be governed by one single log-book and one bond.

G. SOME POLICY INITIATIVES EXIST, BUT MORE IS NEEDED

280. Making the ETLS fully functional will be the first step to achieving an ECOWAS-wide fully functional FTA that will allow companies in ECOWAS to benefit from larger markets, increase specialization, and integrate into regional supply chains. This will foster growth, create much needed employment, and increase productivity as a first step to competing more successfully in global markets. To ensure credibility it will be important to demonstrate that the FTA can be effectively implemented before eventually applying the yet-to-be-agreed Common External Tariff and achieving a customs union.

281. Despite the challenges that companies face, exporting to Nigeria is profitable and offers potential for export growth. Our findings complement recent research by the West Africa Trade Hub in that the ETLS is not effectively implemented. It seems that a lack of

political will among various governments is a key factor in the ineffective implementation. The revised ECOWAS treaty of 1993 provides for the settlement of disputes among the concerned parties either through “direct agreement without prejudice to the provisions of this Treaty and relevant Protocols”, or by a binding ruling of the Court of the Community. However, only member states or the Commission may refer a matter to the court, leaving no formal direct dispute settlement mechanism accessible for private sector operators.¹³¹ Likely as a result of the increased monitoring activities undertaken under the Borderless West Africa Program, a number of countries in West Africa have established complaint hotlines that drivers can call to report road harassment. These directly link to national law enforcement agencies and their use is likely affected by existing prejudices against these agencies. Data on actual usage of these new hotlines is unavailable.

282. Since 2007, ministries in Ghana and Nigeria have been meeting to address the issues affecting bilateral trade, with Nigeria focusing on the treatment of Nigerian traders living in Ghana, and Ghana focusing on the difficulties her goods exporters are facing. The two countries have drafted a bilateral Trade and Investment Agreement stating that both countries “agree to fully implement the ECOWAS protocol on the Free Movement of Goods and Services otherwise referred to as chapter VII of the revised ECOWAS Treaty of 1993”, to facilitate the free flow of trade between both countries, while complying with the rules of origin as defined in the ECOWAS protocols. The agreement also states that both parties will make special provisions in their investment laws for ECOWAS nationals. It foresees the establishment of a Joint Standing Committee, the harmonization of regulatory procedures and the inclusion of special investment provisions. The agreement also re-iterates the right of citizens with a valid travel document and health certificate to stay for up to 90 days in another ECOWAS member state. In principle, all of these provisions are not new but existing commitments at the ECOWAS level. Apparently, the Federal Economic Council in Nigeria has “approved the signing” of the agreement though the agreement has not yet been signed. As the agreement re-iterates commitments made under the ECOWAS treaties, its value lies particularly in the renewed effort it presents in implementing these existing commitments. It should support, rather than conflict with, the ongoing integration processes and could function as a catalyst to broader implementation also by other member states. The agreement prescribes the use of “diplomatic channels” for the settlement of disputes under this agreement.

283. Customs clearance in Ghana has improved substantially in the recent past, with the private company GCnet managing the electronic processing of trade and customs documents, and facilitating transit trade to landlocked countries through Ghana. While there has been some collaboration between NAFDAC, the Food and Drugs Board (FDB), and the Ghana Standards Board (GSB) in the past to facilitate trade in locally produced goods, it is not clear to which degree this has led to tangible results in terms of harmonized standards or ensuring mutual recognition of test results, conformity assessment, and standards.

H. POLICY RECOMMENDATIONS

284. Given the economic and political importance of Ghana and Nigeria in West Africa, addressing the identified issues in these countries should be of highest priority as successful

¹³¹ Only in the case of human rights violations does the Court have competence to rule on cases submitted by individual ECOWAS citizens. ECOWAS member states gave this specific mandate to the Court in 2005. However, there do not seem to be any cases testing the widths of this mandate and if, for example, complaints brought forward by an individual regarding humiliation at a border post would be accepted by the Court.

reforms here will likely serve as a catalyst for deeper regional integration within the region as a whole.

285. To facilitate trade between Ghana and Nigeria, focus should be on ensuring existing commitments are fully implemented and laws applied. Increasing transparency and improving mechanisms for complaints will have to be at the heart of such an initiative. Increasing access to functioning and impartial mechanisms for seeking redress and dispute settlement could then play an important role in increasing compliance with existing laws and commitments.

286. In parallel, simplifying trading procedures at the border, registration requirements for products to meet national standards, and critically with regard to registration under the ETLS should be further pursued. Such an approach would include reviewing existing laws and taxes and increasing collaboration between standards and other agencies over the medium term. A mechanism to monitor increases in transparency, reductions in arbitrary behavior, and the degree of simplification of procedures should be set up as well.

287. Addressing the remaining barriers in goods trade should be of interest to both countries to allow their companies more easily access important regional markets. In addition, addressing the barriers that Ghanaian goods exporters are facing in Nigeria will improve the political environment to address the situation of Nigerian traders in Ghana.

288. To increase transparency, both governments could start by publishing an easily accessible overview of current procedures and official fees and charges levied at borders—and keeping this information up-to-date. It should include the publication of other regulatory requirements, such as registration requirements for products in Ghana and Nigeria, including the documents needed at the border and presentation of such information on the internet by the relevant standards agencies. To make this information more broadly available, the Ghana Export Promotion Council could intensify its training activities for the private sector, including aiming for smaller companies and getting involved during regional or bilateral business summits. Increasing transparency would create an environment in which economic operators know their rights and obligations and would increase their confidence to seek redress.¹³² Undertaking a review of existing procedures and assessing their compliance with existing commitments under ECOWAS would further increase transparency, particularly if the results of this assessment were made public widely. Such reviews could be undertaken by the respective Ministries of Trade and Finance and would lead to removing (temporary) barriers in Ghana and imports bans in Nigeria, as well as more consistent application of existing procedures.

289. This drive for transparency should be complemented by initiatives to further simplify procedures and documentation requirements at borders, reducing the number of agencies present, strengthening collaboration and delegation among these agencies, and reviewing and possibly consolidating the number of taxes and fees payable at the border. This would reduce the number of interactions between traders and officials and contribute to reducing the costs and time needed to cross borders. A long-term objective of such an initiative would be to create a single window mechanism and single point of payment for trade transactions which would further reduce possibilities for the extraction of illegal payments. To succeed,

¹³² Recently established Border Information Centers at Aflao (Ghana) and Kodjoviakopé (Togo) already help increase transparency, but publishing official information by border agencies would further support this initiative.

substantial high-level political support would be needed and all agencies present at the border be involved. The Ghana Immigration Service and the Ghana Revenue Authority in Ghana, and the Nigeria Immigration Service, the Nigeria Customs Service in Nigeria, and the Nigeria Task Force on Trade Facilitation could take leadership of such initiatives.

290. For increased transparency and simplified procedures to effectively lead to trade facilitation, two additional issues will have to be addressed. Governments need to embark on initiatives to foster behavioral change—in particular of officials at the borders—to address the issue of corruption and informal payments, and establish functioning and impartial mechanisms for seeking redress and dispute settlement as current mechanisms seem to be insufficient. Strengthening already existing mechanisms established for cases of harassment will be essential to ensure compliance with laws and shifting the balance of power towards the users of trade infrastructure. Keeping plaintiffs anonymous could help to increase the uptake of the system as economic operators often seem to resist using such channels for fear of subsequently increased repression by border agents. The mechanisms could also be expanded to cases where border officials do not apply procedures correctly and could be undertaken initially on a pilot basis at Aflao and Seme borders before being expanded to other border posts. Again, high-level political commitment will be needed to ensure that individual complaints are followed up, thereby slowly generating confidence in the system and leading to a virtuous circle. Beyond national initiatives, member states could press for establishing an ECOWAS-wide enquiry point, possibly as part of the Court of Justice, that would serve as an official point for seeking redress where ECOWAS treaties with regard to the free movement of goods, people, and transport, are not applied.

291. To allow a continuous assessment of how successful reforms and initiatives are in facilitating trade between the two countries, it will be essential to develop and monitor measurable indicators. For example, the number of interactions with government officials or the average time when crossing the border in either direction could be monitored. Collecting anonymous data on the amount of formal and informal payments that traders pay when crossing the border could be used to establish trends in border management. Last, statistics on the number of complaints filed and verdicts issued would help monitor improvements in the balance of power between government officials and traders.

292. In parallel to these largely procedural reforms, it will be critical for both governments to follow up on the proposed procedural and legal reviews and to actively work towards bringing their trade, investment, and other policies—and their application—in compliance with existing ECOWAS commitments. Further deepening already existing collaboration between NAFDAC, SON, GSB, and FDB, including moving towards mutual recognition of standards and certificates of conformity and reducing costs and simplifying registration procedures, would also contribute to facilitating trade between Ghana and Nigeria. Such an initiative should be structured in a way that will ensure its coherence with existing commitments and should be open to other interested standards bodies in the region. Transit-related payments in Togo and Benin should be addressed in a corridor approach, for example as part of the Abidjan-Lagos corridor initiative that is supported by the World Bank.

6. COORDINATING INFORMAL SECTOR POLICIES

A. INTRODUCTION

293. The informal economy in Ghana has been an important source of employment generation and poverty reduction. Over the last decade, employment growth in informal enterprises has greatly exceeded the employment generation in other types of employment, especially among younger workers. At the same time, both the Government of Ghana (GoG) and non-governmental organizations (NGOs) have undertaken a number of initiatives (programmes and policies) designed to improve incomes and working conditions for business and workers in the informal economy.

294. This National Strategy and Action Plan for Informal Enterprises focuses on coordination and collaboration to harness the effectiveness of ongoing and planned interventions, to support the development of stronger growth and poverty reduction strategies targeted at the opportunities and constraints facing enterprises in the informal economy of Ghana.

Definition

295. “Informal enterprises” (IEs) as discussed in this Strategy are small non-farm businesses that are based in the household, rather than corporate entities or with a business name registered with the Registrar-General. They include what are commonly known as “micro and small enterprises” (MSEs), which may have employees; but the largest share is operated by an individual alone or with the assistance of family members (“household enterprises”).¹³³ See Annex 12 for basic data and characteristics of IEs.

Strategy Objectives

296. The core objectives of the Strategy are to:

- i. Establish a framework for prioritization and coordination of policies and on-going support activities relevant to informal enterprises, and for identification of gaps for future support programmes; and
- ii. Disseminate good practices based on experience for scaling up on-going or planned interventions.

Studies and Workshops leading up to Strategy Paper

297. In Ghana the work leading up to this Strategy was carried out through cooperation of the World Bank with the National Committee on the Informal Economy (NCIE), which is chaired by the Ministry of Employment and Social Welfare (MESW). The NCIE is a national coordinating body comprised of some twenty governmental and non-governmental agencies.

298. The first phase of the study was an inventory and review of available literature on IEs in Ghana and relevant policies, programmes and institutions, including a brief description of the available data. Combined with a quantitative analysis, these findings were discussed at stakeholders meetings and guided the study for the second phase. The second phase was a

¹³³ The National Board for Small-Scale Industries (NBSSI) categorizes MSEs as “micro” with 1-5 workers and “small” with 6-29. Firms with 30-99 workers are “medium” and 100 or more are “large.”

field study to verify and investigate in more depth the gaps and implications of those findings from the viewpoint of IEs themselves, as well as officials and support organizations with whom they interact. These results were also discussed at stakeholder meetings to build consensus.

299. A final synthesis report summarizes the recommendations for improving the productivity and mitigating the risks of IEs in Ghana, based on the findings from the quantitative and qualitative analyses and a review of the policy issues from a macro, meso and micro level perspective.

B. STRATEGY: WHAT, HOW AND WHO

300. Presented in Annex 13 is a synopsis of background information on the problems and solutions identified from the previous studies for enterprises operating in the informal economy. The Policy Matrix developed by stakeholders during previous review meetings, in responses to the problems and solutions for the enterprises operating on the informal economy provides the framework for the Action Plan that is elaborated in Annex 14. This section summarizes the strategic priorities agreed upon by stakeholders.

Improving Policy and Business Environment

301. The main vehicles for improving the policy and business environment are the legal, regulatory and taxation framework and dialogue mechanisms to remove bottlenecks that affect the productivity and growth of IEs. Many Ministries and other national agencies and organizations have programmes and policies that are relevant for IEs. However, IE operators are much more likely to mention local government entities as either the source of constraints to improving productivity, or as key actors supporting IE growth and development. According to the Local Government Act, 1993 (Act 462), the various Metropolitan, Municipal and District Assemblies (MMDAs) are responsible for the development of their areas, and this includes the promotion and supporting of productive activities and social development in the district while removing any obstacles to initiatives and development. These responsibilities and many others are aimed at creating the enabling environment for IEs (including MSEs and HEs) to thrive so as to boost local economic development (LED).

302. *Improving the Legal, Regulatory, Taxation and Dialogue Mechanisms.* Many MMDAs have established MSE Sub-committees and provided capacity building to assembly officials to help improve upon their relationships with MSE operators. Key strategic elements for strengthening the consultative process are:

- a) Ministry of Local Government and Rural Development (MLGRD) and Ministry of Trade and Industry (MOTI) will facilitate DAs to establish and implement MSE sub-committees (or rationalize existing sub-committees that promote MSEs), preferably with representation from local business associations.
- b) The MESW and MLGRD will encourage MMDAs to develop better methods of supporting and engaging local associations in planning, taxing and carrying out relocation exercises.¹³⁴ Use of the LED approach and the creation of LED

¹³⁴ Provisions in the existing laws (Local Government Act 480 and 462) on planning systems and fee fixing requires MMDAs to have multiple public hearings on their plans.

platforms to enhance dialogue between MMDAs and MSEs associations could enable IEs to play a more active role on issues affecting them.

Managing Risk and Vulnerability

303. *Infrastructure and Secure Sites.* Many MMDAs have set up or are planning light industrial zones for MSE operators, especially those in auto repair, metalworking and carpentry. These industrial zones are meant to facilitate clustering of certain trades and bring them into a particular location for easier delivery of services and support, as well as revenue collection. In some cases, the primary motivation is to remove certain activities from the central business district; in others, associations of MSEs themselves have requested a secure, serviced site to reduce vulnerability and costs of finding or moving locations.

304. In order to construct serviced light industrial zones and markets suitable for MSEs/IEs and their clients the Government will use a combination of national and local programmes, particularly through the MLGRD and coordinate existing and planned interventions by:

- a) Setting up more industrial zones and markets with infrastructure and facilities suitable for IEs.
- b) Developing a manual of guidelines for planning and implementation of industrial zones and markets, including: (a) suitable location and design; (b) ownership and management structures; (c) roles of private sector in funding (consortium), building, managing, providing fee-based services; (d) dialogue (planning, on-going); and (e) services, both infrastructural (roads, power, drainage, storage, water, waste, security) and business (training, technology, financial).
- c) Training of Planning Officers in MOTI, MLGRD, MMDAs on the Guidelines.
- d) Projecting the need for new markets with population and city growth, and plan for markets suitable for informal IEs alongside new transportation nodes.

Addressing Access to Finance and Business Development Services

305. Regarding access to finance and business development services (BDS), the strategy will focus on the areas of financial inclusion and the role of business advisory centres (BACs). National programmes aimed at relieving constraints on the access of IEs to BDS and finance include the National Board for Small-Scale Industries (NBSSI) and the Rural Enterprises Programme (REP). Short-term (2-3 years) projects often are implemented at the District level in collaboration with development partners such as German Development Cooperation (GIZ), European Union (EU), United Nations Development Programme (UNDP), and NGOs. Some key factors contributing to the success of these programmes include availability of funds and effective monitoring. Although many of such projects have financial support components, IEs do not perceive that they have adequate access to finance, while project credit lines often go undisbursed because financial institutions do not consider as creditworthy those people put forward, or they lack the capacity to adequately appraise and monitor IEs. Hence improving access to finance will require strengthening the capacities of both the financial institutions and the potential clients.

306. *Improving Access to Finance.* In order to facilitate IEs in accessing financial institutions and applying for loans, the BACs will be strengthened and linked more closely with financial institutions to educate and prepare small business owners in order to improve

their creditworthiness. The BACs' mandate should not be to make loans directly available to IEs, but to counsel, screen and assist them, in consultation with the financial institutions; and also to encourage IEs to open separate savings accounts for their businesses.

307. There have been major developments in the legal and regulatory framework in Ghana since 2008 to ensure that the financial sector is well regulated and provides scope for financial institutions to develop innovative and accessible products and services through the following measures which are worth noting.

- a) *Regulation and Supervision of MFIs.* The Bank of Ghana (BoG) has recently established a regulation and supervision framework which seeks to maintain minimum capitalization, standards of performance and compliance for microfinance institutions (MFIs; classified into Tiers 1, 2 and 3). BoG is working with MFI apex bodies (including the Ghana Microfinance Institutions Network [GHAMFIN], the Ghana Cooperative Susu Collectors Association [GCSCA], the Ghana Association of Microfinance Companies [GAMC], and Money Lenders Association) with the aim of ensuring compliance without stifling innovation for developing products and services suitable for MSEs so that the diversity, innovative and responsive character of the microfinance industry is not lost.
- b) *Multiple Borrowing.* Multiple borrowing is becoming a growing problem for MSEs. While multiple borrowing enables borrowers to access more credit, it makes loan repayment very difficult, as it increases the debt burden on borrowers caught in this trap. With the enactment of the Credit Reporting Act of 2007 (Act 726), financial institutions are now able to check the credit history and worthiness of an individual or business through a Credit Reference Agency (CRA), multiple borrowing will therefore become more difficult. An additional step to addressing the problem of multiple borrowing is that MFIs are establishing databases at the district level to be used for sharing information about their clients and borrowers.
- c) *Provision of Collateral.* The growing development among financial institutions and lending programmes of alternative and substitute collateral such as insurance, guarantee funds and cash flow lending is important for providing the collateral security that MFIs demand from borrowers.
- d) *Interest Rates and Consumer Protection.* Interest rates ranging from commercial rates of 25-30 percent per annum (Commercial Banks and Rural and Community Banks) to 4 percent to 9 percent per month (Microfinance Companies) are high for investment projects and even for working capital in many IE activities. The GoG will continue improving the macroeconomic environment in order to encourage the BoG, Banks, NBFIs and MFIs to bring down interest rates. Additionally, all these institutions should innovate and address cost inefficiencies that contribute to high interest rates.

308. The Government will facilitate the protection of potential and actual end-users of microfinance products and services from unfair practices such as usurious interest rates through public disclosure and transparency in the operations of institutions. Until national consumer protection legislation and regulations cover financial services, MFI apex organizations will be encouraged to develop and implement industry standards. It is expected that the Borrowers and Lenders Act of 2008 will go a long way to decrease or eliminate such unfair practices in the financial sector.

309. *Improving Access to Business Development Services.* The Government, through the NBSSI's BACs and the local DAs that support them, will coordinate the provision of business development services (BDS) that improve management practices and enable IEs to prepare the required financial statements and documentation that demonstrate the viability of their businesses to help improve their ability to obtain access to credit.

310. BDS will focus on basic training in Financial Literacy, Business Management, and Bookkeeping through the BACs, RMFI Apex Organizations and Financial Inclusion Projects by:

- a) Introducing and integrating financial literacy education into the education curriculum (general or vocational) as early as possible, in a relevant and appropriate way.
- b) The BACs and organizations/programmes supporting IEs/MSEs will make training available to apprentices and master craftsmen on the concepts of saving, investing, budgeting, borrowing, planning, and bookkeeping, the difference between wants and needs, and consequences of financial decisions.

Raising Productivity and Market Access

311. Improving the competitiveness of IEs will be done through skills training and evaluation, an improved apprenticeship system, collaboration with Trade Associations, and the BACs as follows:

- a) Give masters and graduate apprentices advanced training and assistance in acquiring technology/equipment, in particular through REP III, Ghana Regional Appropriate Technology Industrial Service (GRATIS), and the Council for Technical and Vocational Education and Training (COTVET).
- b) Establish the Skills Development Fund (SDF) under COTVET as a challenge fund for the skills needs of the informal as well as the formal sector.
- c) Through COTVET provide information to school leavers on the high demand areas for informal business.

312. *Standardize Skills and Qualification System.* Steps are being put in place toward increasing access to good quality training by standardizing training programmes, training outcomes, examinations and the awarding of certificates by the National Vocational Training Institute (NVTI). Many certificates are awarded by private institutions which are not accredited. Hence, standardized competency testing suited to artisanal trades of IE/MSEs would help them improve their marketability. Relevant trade associations will be involved in this process to ensure relevance and ownership of these standards.

Vulnerability and Social Protection

313. *Social Protection.* The social insurance programmes available to IEs are the National Health Insurance Scheme (NHIS) and the SSNIT Informal Sector Fund (SISPS). Awareness and utilization of NHIS by IE operators are high, especially for women and children, even though the quality of service delivery at healthcare facilities is a concern often raised. IE operators, on the other hand, are generally not aware of the SISPS Informal Sector Fund's pension programme and are more focused on their children looking after them during old age. In order to improve social protection services, the Government will:

- a) Improve institutional structures and arrangements to reduce the waiting period for health insurance registration and access to medical services.
- b) Encourage IEs to be proactive in responding to prompts by NHIA to collect their cards the fourth month after registering.
- c) Upgrade and expand health facilities to ensure equal quality and absorb growing number of registrants.
- d) Provide greater education on general operation of NHIS, drug administration, doctor engagement and communication and observe the gatekeeper system of health delivery.
- e) Provide more information on the SISPS through the Trade Associations and develop products and services through financial institutions to improve access for IEs to pay and collect their social security contributions.

C. ACTION PLAN: COORDINATION AND MONITORING

314. The Action Plan for Informal Enterprises (Annex 14) focuses on the roles and responsibilities of Leading Institutions for coordination and collaboration to harness the effectiveness of ongoing and planned interventions, to support the development of stronger growth and poverty reduction strategies targeted at the opportunities and constraints facing enterprises in the informal economy of Ghana.

NCIE and MESW: Coordination

315. The NCIE¹³⁵ was established in 2009 as a coordinating body chaired by MESW to review government policies and action plans relating to the informal economy, provide a common understanding for discussing the informal economy and formulating appropriate policies for it, develop a National Policy and Action Plans to guide all key stakeholders, assess the effectiveness and impact various interventions initiated by government and other stakeholders, liaise with relevant bodies and institutions to develop appropriate programmes to enhance the entrepreneurial and business management skills of operators in the informal economy, guide implementation, and brief government on the status of the informal economy.

316. Due to the focus of the NCIE, this body will be charged with coordinating the ongoing and planned interventions while constantly reviewing the gaps to be considered and addressed for the informal economy.

Monitoring and Evaluation Framework

317. The Action Plan (Annex 14) includes key indicators for each of the major objectives. All the on-going and planned interventions identified and presented in the Action Plan, have

¹³⁵ The NCIE comprises the Ministries of Employment & Social Welfare, Youth & Sports, Finance and Economic Planning, Trade and Industry, Women & Children's Affairs, Local Government & Rural Development, Food & Agriculture, the Association of Rural Banks, the Congress of Indigenous Business Association, the Institute of Social, Statistical & Economic Research, the National Development & Planning Commission, the Informal Sector Division of Social Security & National Insurance Trust, the National Board for Small Scale Industries, the Ghana Trades Union Congress, the Association Small Scale Industries, the Ghana Employers' Association, the Association of Ghana Industries, the Institute of Local Government Studies, the Ghana Statistical Service, National Association of Local Authorities in Ghana, and the Ex-Officio Members of sub-committee.

established their own M&E Framework for reporting on their implementation performance and impact for each activity.

318. The NCIE will, therefore, establish an M&E Framework for the gap analysis of ongoing and planned intervention for informal economy enterprises and in this regard obtain the M&E reports from the identified Lead Institutions, most of whom are members of the NCIE, to establish the responsiveness or otherwise of these various interventions to the problems and solutions identified for informal economy enterprises.

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Annex 1: Documents and Reports Used in Forecasting

1. Basic Project Information

Petroleum Agreements
Field Development Plans
Reserve Studies
Lifting Agreements
Marketing Agreements
Transfers of Interest and other ownership changes

2. Reports Provided by Operator under Petroleum Agreement (Accounting Guide)

Cash Call Statement	Monthly
Production Statement	Monthly
Value of Production Statement	Quarterly
Cost Statement	Quarterly
Statement of Expenditure and Receipts	Quarterly
End-of-Year Statement	Annual
Budget Statement	Annual
Long Range Plan and Forecast	Annual
• Capital Expenditure • Operating Costs • Production • Headcount • Marketing Arrangements	

3. Income Tax Information

Annual Tax Returns	Annual
• Certified audited accounts • Production statement • Sales price statement	
Quarterly Estimated Tax Returns	Quarterly

Annex 2: Petroleum Reserve Determination

Reserves are defined as those quantities of petroleum which are anticipated to be commercially recovered from known accumulations (Society of Petroleum Engineers). However, estimates of production and reserves are based on engineering and geological interpretations and hence subject to uncertainty. To account for this uncertainty, reserves are grouped into three categories – proved, probable, and possible – to describe a range from highest to lowest confidence of the estimate. By convention, a proved reserve estimate is interpreted to mean that there is a 90 percent chance that actual ultimate production will be greater than or equal to the estimate. The sum of proved plus probable reserves (often referred to as 2P reserves) is taken to mean that actual recovery has a 50 percent chance of being less than the estimate and a 50 percent chance of exceeding it. Likewise, the sum of proved, probable, and possible reserves (3P reserves) is interpreted to mean that actual ultimate production has only a 10 percent chance of exceeding the estimate. These reserve estimates are sometimes referred to as P10, P50, and P90 estimates, respectively.

Reserves refer only to known accumulations. Measures of undiscovered or yet-to-find resources, while useful for quantifying exploration potential of a prospect or basin, do not fit within the definition of reserves. Furthermore, reserves refer only to the recoverable quantities of hydrocarbons and not to in-place hydrocarbons. Recovery factors vary enormously but generally fall between 10 percent and 60 percent. Finally, to be categorized as reserves, an accumulation must be capable of generating future sales revenue at current prevailing prices to cover operating expenses and a reasonable return on investment.

To qualify as proved reserves, an accumulation must meet extremely tight standards. Proved reserves are only those quantities of petroleum which, by analysis of engineering and geological data, can be estimated with reasonable certainty to be commercially recoverable from known reservoirs and under current economic conditions, operating methods, and government regulations (Society of Petroleum Engineers).

Establishing the commercial productibility of a reservoir normally requires actual production or formation tests, not just logging data. The proved reservoir is limited to the area delineated by drilling plus adjacent undrilled areas that can be reasonably judged to be productive. Proved reserves exclude any production occurring after the economic limit is reached or when the concession or production sharing contract term expires. Finally, reserves may be classified as proved only if facilities to process and transport those reserves to market are operational at the time of the estimate or there is a reasonable expectation that such facilities will be installed. For large international offshore projects, this normally requires the existence of an approved field development plan.

Annex 3: Crude Oil Quality Measures

- API Gravity: measure of density¹

API degrees	Oil Quality
Greater than 31.1°	Light
22.3° – 31.1°	Medium
10° – 22.3°	Heavy
Less than 10°	Extra-heavy

- % Sulfur: measure of impurity, corrosiveness, processing problems

% Sulfur	Oil Quality
Less than 0.5%	Sweet
Greater than 0.5%	Sour

- Other crude oil quality measures
 - Acidity (TAN)
 - Viscosity: resistance to flow
 - Pour point: lowest temperature at which oil will flow
 - Heavy metal impurities: nickel, vanadium, etc.
 - Salinity

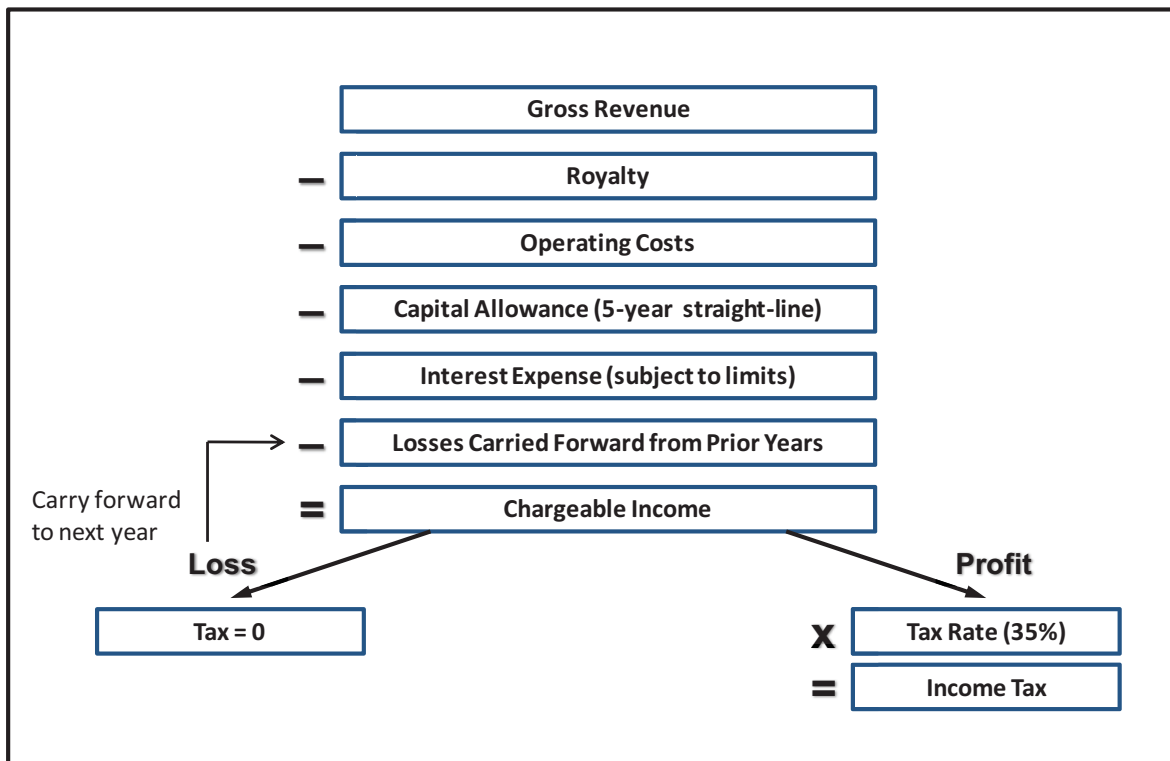
$$^1API\ Gravity = \frac{141.5}{SG} - 131.5$$

Annex 4: Crude Oil Quality Comparison

<u>Crude</u>	<u>Region/Country</u>	<u>API Gravity</u>	<u>% Sulfur</u>
Jubilee	Ghana	37.6	0.25
<i><u>Marker Crudes:</u></i>			
Brent	North Sea	38.5	0.41
WTI	North America	39.6	0.24
Dubai	Middle East	30.4	2.13
<i><u>West African Crudes:</u></i>			
Bonny Light	Nigeria	32.9	0.16
Agbami	Nigeria	47.2	0.05
Cabinda	Angola	32.5	0.12
Dalia	Angola	23.1	0.50
Doba	Chad	21.4	0.10
Escravos	Nigeria	33.7	0.16
Girassol	Angola	29.9	0.30
Hungo	Angola	28.3	0.60
Kissanje	Angola	30.7	0.40
Nemba	Angola	39.8	0.22
Qua Iboe	Nigeria	35.2	0.10

Source: Tullow, Exxon Mobil, Chevron, Total

Annex 5: Income Tax Flow Chart

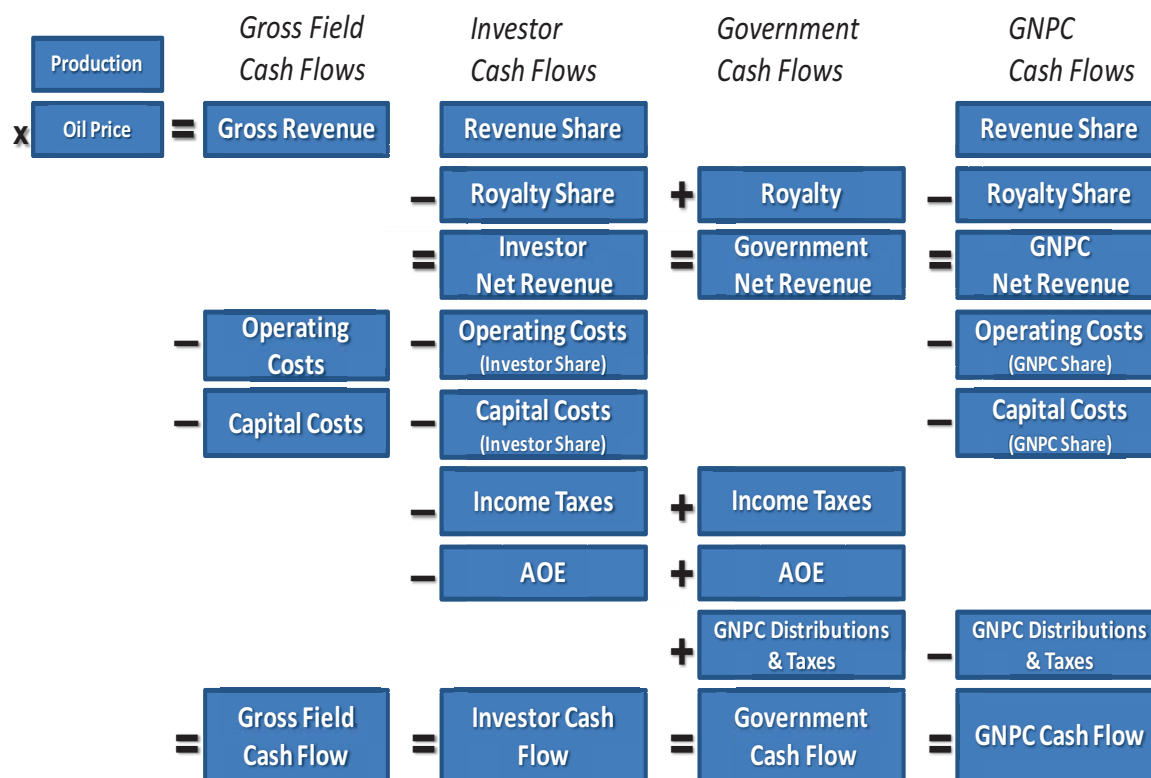


Annex 6: AOE Calculation Example

AOE Thresholds	ROR	Inflation	Adjusted	Marginal
			ROR	Tax
First Threshold	12.5%	2%	14.5%	12%
Second Threshold	17.5%	2%	19.5%	18%
Third Threshold	22.5%	2%	24.5%	24%
Fourth Threshold	27.5%	2%	29.5%	28%

Year	Cash Flow				First Threshold		Second Threshold		Third Threshold		Fourth Threshold		Total AOE
	Revenue	Pet Costs	Taxes	CF	PV14.5%	AOE1	PV19.5%	AOE2	PV24.5%	AOE3	PV29.5%	AOE4	
1	-	(2.0)	-	(2.0)	(2.0)	-	(2.0)	-	(2.0)	-	(2.0)	-	-
2	-	(15.0)	-	(15.0)	(17.3)	-	(17.4)	-	(17.5)	-	(17.6)	-	-
3	-	(15.0)	-	(15.0)	(34.8)	-	(35.8)	-	(36.8)	-	(37.8)	-	-
4	-	(20.0)	-	(20.0)	(59.8)	-	(62.8)	-	(65.8)	-	(68.9)	-	-
5	-	(50.0)	-	(50.0)	(118.5)	-	(125.0)	-	(131.9)	-	(139.3)	-	-
6	-	(75.0)	-	(75.0)	(210.7)	-	(224.4)	-	(239.2)	-	(255.3)	-	-
7	135.0	(25.0)	(35.0)	75.0	(166.3)	-	(193.1)	-	(222.8)	-	(255.7)	-	-
8	150.0	(30.0)	(40.0)	80.0	(110.4)	-	(150.8)	-	(197.4)	-	(251.1)	-	-
9	180.0	(35.0)	(45.0)	100.0	(26.4)	-	(80.2)	-	(145.8)	-	(225.2)	-	-
10	270.0	(40.0)	(80.0)	150.0	119.8	14.4	39.8	7.2	(53.0)	-	(163.1)	-	21.5
11	230.0	(35.0)	(70.0)	125.0	125.0	15.0	110.0	19.8	24.2	5.8	(126.8)	-	40.6
12	145.0	(30.0)	(40.0)	75.0	75.0	9.0	66.0	11.9	54.1	13.0	(123.1)	-	33.9
13	85.0	(25.0)	(20.0)	40.0	40.0	4.8	35.2	6.3	28.9	6.9	(137.5)	-	18.1
14	50.0	(20.0)	(10.0)	20.0	20.0	2.4	17.6	3.2	14.4	3.5	(167.1)	-	9.0
15	17.0	(10.0)	(2.0)	5.0	5.0	0.6	4.4	0.8	3.6	0.9	(213.6)	-	2.3
Total	1,262.0	(427.0)	(342.0)	493.0		46.2		49.1		30.0		-	125.4

Annex 7: Cash Flow Model Diagram



Annex 8: Logic Sequence for Oil Revenue Model

1. Calculate gross field economics: Production volume (in barrels) for each period is multiplied by net realized price (in dollars per barrel) to arrive at gross field revenue. From this figure, gross exploration, development and operating costs are in turn deducted to arrive at pre-tax net cash flow for the field.
2. Create separate cash flow sections: Create separate sections in the model to accumulate the various cash flows accruing respectively to the government, the national oil company (in this case GNPC), and the Investor.
3. Distribute gross revenue: Split gross revenues between GNPC and the Investor according to GNPC's participating interest.
4. Calculate and distribute royalty: Calculate royalties as a percentage of gross revenues and include this figure in the government cash flow section. Distribute royalty cost between GNPC and the Investor according to GNPC's participating revenue.
5. Calculate net revenue: Subtract royalty from gross revenue for both GNPC and the Investor to arrive at net revenue.
6. Distribute costs: Distribute development and operating costs between GNPC and the Investor according to GNPC's initial and additional participating interests. If GNPC's share of development costs is being financed by the Investor, accumulate these costs plus interests and calculate the offsetting reduction against GNPC's net revenue share according to the terms of the petroleum agreement. Attribute 100 percent of exploration costs to the Investor.
7. Calculate capital allowances: Divide the Investor's total capital (exploration plus development capital) by five in the year the expense is incurred and replicate this figure in the ensuing four years. Capital incurred before the project start-up year are accumulated and lumped in with year-one capital for purposes of calculating capital allowances.
8. Calculate income taxes: Tentative chargeable income for the Investor is calculated as net revenue minus capital allowances and the Investor's share of operating costs and interest. If this calculation yields a loss, taxes are zero and the current period loss is carried over as a deduction against income in subsequent years. If tentative taxable income is positive, it is multiplied by the tax rate (normally 35 percent) to arrive at income taxes.
9. Calculate Investor net cash flow: The Investor's net cash flow for each forecast period is calculated by deducting operating costs, capital costs, and income taxes from net revenue.
10. Calculate AOE: Investor's net cash flow for each period is used to calculate AOE according to the definition of AOE in the petroleum agreement. In the case of a unitized field like Jubilee, Investor's net cash flow is apportioned between the two separate license

areas and AOE is calculated separately for each license. AOE should appear as a cash flow accruing to government and as a reduction in net cash flow to the Investor.

11. Calculate GNPC distributions: GNPC will be called upon to distribute a portion of its net cash flow to the government in the form of dividends or taxes. While the mechanism for implementing these distributions is not fully known at this time, a reasonable interim assumption is to presume that GNPC will be a regular taxpayer with its own separate deductions and capital allowances.
12. Summary cash flows: The above calculations collectively result in summary cash flow statements for the government, GNPC, and the Investor. It is always a useful double check to make sure that the sum of these three individual cash flows equals the gross field cash flow calculated in step 1.
13. Calculate Oil Entitlements: Gross oil production is divided between the government, GNPC and Investor in the same proportions as net revenues. AOE in dollars is divided by oil price to arrive at the physical barrel equivalent.

Annex 9: Key Definitions

Appraisal: Drilling and other activities carried out following a discovery of petroleum for the purpose of delineating the accumulation of petroleum in terms of thickness and lateral extent and estimating the quantity of recoverable petroleum.

Barrel: A quantity of crude oil equal to forty-two (42) United States gallons.

Capital allowances: Tax deductions providing recovery of an investor's past capital costs as a reduction in on-going chargeable income as defined under the income tax law. Often referred to elsewhere as "tax depreciation".

Capital Expenditure (also capital costs): Expenditure incurred in searching for and discovering petroleum, ascertaining and testing the extent and characteristics thereof, and the installation of facilities for the production, gathering, transportation and sale of petroleum. Broadly equivalent to the sum of Exploration Costs and Development Costs as these terms are used in the Model Petroleum Agreement.

Crude Oil: A naturally occurring mixture of long chain hydrocarbons in liquid form at normal temperature and atmospheric conditions.

Development: The building and installation of facilities for production including drilling of production wells, construction and installation of equipment, pipelines, facilities, plants and systems which are required for production, treatment, transport, storage and loading of petroleum.

Development Costs: the cost incurred in development.

Discovery: An accumulation of petroleum encountered by means of exploration drilling.

Exploration: the search for petroleum by geological, geophysical and other methods and the drilling of wells for the purpose of locating a discovery.

Exploration Costs: the costs incurred in exploration including seismic surveys and exploration drilling.

Field Development Plan: A plan prepared and submitted by the operator of a license area establishing the commerciality of a discovery and setting forth the activities and investments needed to develop and produce the discovery.

Lifting Agreement: An agreement made between and among the parties holding production entitlements setting forth the manner and order in which each party will be allotted loading dates.

Loss Carry-forward: The application of losses incurred in prior years as a deduction against chargeable income in future years.

Marker Crude (also called Benchmark Crude): A crude oil used as a reference point for world oil prices. Although normally named for particular fields, marker crudes are selected by virtue of being representative in quantity to several crude oils produced in a particular region and sold in sufficient quantities to provide liquidity and price transparency.

Natural Gas: A naturally occurring mixture of hydrocarbons composed mostly of methane but also containing other simple hydrocarbons that are gaseous at normal temperature and atmospheric conditions.

Operator: The particular member of an investment consortium designated as being responsible for carrying out the exploration, development, and production activities on behalf of the consortium.

Petroleum Agreement: An agreement (as envisioned and authorized under the petroleum law) between the State (or national oil company acting on behalf of the State) and one or more private investors defining the rights and obligations of the private investor, in particular the right to carry out exploration, development, and production activities, the sharing of costs, and the right to receive a share of production from a successful project. Often referred to generically as a Production Sharing Agreement (PSA) or Production Sharing Contract (PSC) even though these terms more accurately refer to a specific mechanism for sharing of production.

Petroleum Costs: All of the costs involved in exploration, development, and production, abandonment, and remediation activities.

Production Costs (also called Operating Costs): The costs associated with activities (other than development activities) undertaken in order to extract, save, treat, measure, handle, store and transport petroleum to storage and/or loading points.

Production Entitlement: The share of gross oil production attributable and receivable by government or an investor by virtue of a petroleum agreement and relevant law.

Ring-fencing: The limitation of tax deductions against income generated within a license area to only those deductions attributable to that license area.

Annex 10: Investor Shares in Jubilee

	Deepwater Tano Block	West Cape Three Points Block	Jubilee Unit
Tullow	47.175%	22.260%	34.718%
Kosmos	17.000%	30.018%	23.509%
Anadarko	17.000%	30.018%	23.509%
Sabre	3.825%	1.803%	2.814%
EO Group	0.000%	3.402%	1.701%
GNPC	15.000%	12.500%	13.750%
Total	100.000%	100.000%	100.000%

Annex 11: Gap Analysis of the PIM in Ghana

Stage of Public Investment	Desirable Institutional Arrangement (As framed in Rajaram et al. 2010)	Current Status of the PIM in Ghana
1. Strategic Guidance and Preliminary Screening	Published development strategy or vision statement which has unambiguous authority. Centralized approval by planning or finance ministry (or delegated) for developing proposals/explicit ministry level justification with strategy. Clarity of project objectives in terms of outputs and outcomes. Consideration of alternative approaches to objectives.	GSGDA for 2010-2013 developed. Guidance notes issued by NDPC for MMDAs to develop and cost their sector strategies. Based on sectoral and sub-national medium term plans, annual work plans are prepared and fed into the three-year rolling budget (MTEF). But divergence between strategy-planning and budgeting remains due to the low quality of costing of sector strategies. MoFEP is only at the very initial stage of development of a PIP in conjunction with NDPC. But still no established process for screening of project proposals.
2. Formal Project Appraisal	Publicized and transparent guidance, backed by effective training and deployment of staff for project design and appraisal (including stakeholder consultation in project design). Application of guidance in project appraisal.	Project appraisal highly decentralized without an established formal process. MoFEP has issued multiple guidelines for budget preparation, public borrowing and project selection. MoFEP has undergone institutional restructuring with the newly established PID. However PID is not sufficiently resourced and lacks analytical capacity to perform its central functions in PIM. Absence of a dedicated set of uniform, centrally publicized, consistent, and transparent guidance for MMDAs to carry out ex ante evaluation of financial, economic and social costs/benefits of proposed projects.
3. Independent Review of Appraisal	Independent checks to ensure objectivity and quality of appraisals. Disciplined completion of project appraisals prior to budget. Identifying and maintaining an inventory of appraised projects ranked by priority for budgetary consideration. Clarity of roles between projects which are minor and may be dealt with at the departmental level, and those requiring additional appraisal.	While appraisal completely delegated to MMDAs, the independent review function remains missing, compromising the integrity of the project appraisal and exposing appraisal process to the risk of optimism bias.
4. Project Budgeting and Selection	Transparent criteria for selecting projects with reference to policy objectives at ministerial level. Well structured budget preparation process with scope to integrate investment and recurrent implications of projects. Effective gate-keeping to ensure that only appraised and approved projects are selected for budget financing. Ensuring adequate financing for selected projects, including recurrent needs on completion.	Absence of a consistent approach to project selection and budgeting. Project proposals often selected on an ad-hoc basis with the budget directorate accepting projects which may not necessarily be priority projects. MoFEP concerns about the persistent problem that MDAs do not adequately budget for infrastructure investments while embarking on projects for which there is no provision in their budget.

Stage of Public Investment	Desirable Institutional Arrangement (As framed in Rajaram et al. 2010)	Current Status of the PIM in Ghana
5. Project Implementation	Published guidelines for project implementation. Cost-effective implementation through procurement and contracting. Timely implementation in line with guidelines. Timely implementation reports on major projects. Effective budgeting for selected projects.	Absence of central guidelines for project implementation and for cost control. MDAs often fail to prepare and submit to the MoFEP detailed implementation and procurement plans, simply because such documents are not considered as mandatory for budget allocation. MDAs focus on annual cost control only. The Public Procurement Act 2003 establishes competitive tendering as the preferred procurement method but fails to curb the continued problems with project delays and cost overrun. Arrears had long been an acute problem. Recent efforts to restore commitment controls (e.g., requirement to obtain MoFEP's commencement certificates) were successful to stop the rising trend of accumulation of project arrears since 2011.
6. Project Changes	Active monitoring.	While a formal system for internal and external oversight exists, the timeliness and quality of internal audit reports are uneven across agencies. The AG's Office lacks resources to conduct performance audit, and project commencement and mid-term construction audits are not conducted. The PFA Unit (within the PID) coordinates with Budget Division to undertake monitoring of contracts and with the M&E units of MDAs to conduct sampled joint inspection. But they have limited staffing and expertise. MDAs not required updating project documents during construction. Project adjustment is left to the discretion of MDAs within their available budgeting.
7. Facility Operation	Asset registry. Facility Operation.	The Financial Administration Regulations impose on each MDA to have an inventory of public assets acquired and maintained. This legal provision is not being complied with systematically and consistently in all MDAs.
8. Project Evaluation	Formal institutional arrangements for ex post evaluation of projects/programs with feedback into future project designs.	Government financed capital spending is not subject to formal ex-post evaluation.

Annex 12: Statistical Appendix

	2007/08	2008/09	2009/10
Acreage under cocoa cultivation (FAOSTAT)	1,463,000	1,822,500	1,656,000
Gross FOB /tonne (US\$) achieved	2,103.69	2,687.96	2,927.50
GH¢/US\$ Exchange rate achieved	0.98	1.21	1.42
Gross FOB /tonne (GH¢) achieved	2,064.77	3,252.43	4,157.05
Quantity purchased (MT) (annual report)	680,781	710,642	632,024
Sector Revenues (GH¢)			
Gross Revenue (annual report)	1,411,702,318	2,464,455,036	2,790,149,437
Sales: exports + domestic delivery (mt)	673,219	654,060	526,760
Industry costs (Expenditure on public goods)			
Disease/Pest Control -- CODAPEC	113,438,547	123,905,205	162,565,019
Swollen shoot disease control programme		15,182,859	14,093,831
High tech	66,783,125	216,602,378	280,489,581
Cocoa Roads	1,500,000	5,000,000	40,000,000
Scholarship Fund	2,000,000	2,500,000	10,000,000
Cost of Elimination of WFCL			2,000,000
Stabilization Fund		19,045,000	34,172,047
Farmers' Housing Scheme			868,000
Tree Replanting & Rehabilitation			35,000,000
Social Security for Farmers			15,000,000
Total industry costs	183,721,672	382,235,442	594,188,478
Direct marketing costs			
Crop Finance	21,958,677	21,186,744	67,279,124
Buyers' Margin (LBCs)	90,074,290	134,607,479	162,301,831
Haulage Cost (Dist. Depots & Reg. Warehouses)	39,481,939	57,947,772	74,169,576
Storage & Shipping (by CMC)	21,304,885	39,575,174	19,027,400
Jute Sack & Related Items	14,500,000	19,702,475	19,800,000
Anti-smuggling funds	100,000	100,000	350,000
QCC (Grading, quality control, and grants)	25,835,371	40,804,466	44,919,868
Scale Inspection & Phyto-Sanitary	169,000	214,500	195,300
Total direct marketing costs	213,424,162	314,138,610	388,043,099
COCOBOD expenditures			
Total marketing costs	338,234,071	490,075,756	663,745,542
Recurrent expenditure			
Head Office	62,204,663	87,909,358	135,679,011
CSSVD	28,468,554	38,615,874	48,290,649
SPU	9,394,306	13,030,114	21,783,685
CSD			
CRIG	18,409,562	24,080,297	25,340,423
Bonsu Cocoa College	316,913	575,044	1,020,102
Cocoa Clinic			
Capital Expenditure	6,015,912	11,726,459	43,588,574
Total COCOBOD Expenditures	124,809,909	175,937,146	275,702,443
Producer Payments			
Producer proceeds + bonus	838,722,192	1,188,193,424	1,542,138,560
Bonus	42,443,106	50,873,352	23,543,771
Producer proceeds	796,279,086	1,137,320,072	1,518,594,789
Net balance before transfers to government	175,834,292	579,887,560	265,779,300
Transfers to government (duty)	46,252,800	85,473,828	153,933,253
Balance after transfers to government	129,581,492	494,413,732	111,846,047

Annex 13: Synopsis of Background, Problems and Solutions

This Annex briefly summarizes key findings from the Country Study, Field Work, Inventory and Issues Paper, and Stakeholder Workshops.¹³⁶

Background

IEs are interesting from a growth and poverty perspective. Even though most IEs are unlikely to grow into large or medium sized companies, their sheer size in number of enterprises makes them important potential contributors to both growth and poverty reduction. Productivity gains for IEs will reach a large section of the population and increase their income as well as GNP.

From an enterprise point of view, 90 per cent of IEs are household enterprises (HEs) without regular employees. The most recent Ghana Living Study Survey¹³⁷ (GLSS 5) shows that there are about 3.6 million non-farm enterprises, the vast majority of them HEs operated by a single individual without the assistance of family members (Table 1).

Distribution of HE/MSE by type of enterprise, 2005 (%)	
HEs, of which	92.6
Self- Employed without employees	72.0
Self- Employed with only family worker assistance	13.3
Self- Employed with only apprentice assistance	4.2
Self- Employed with only casual worker assistance	2.0
Self- Employed with family workers, casual workers and apprentices	1.1
MSEs with employees, of which	7.4
Self- Employed with at least one employee	1.6
Self- Employed with 1-5 employees	5.8
Self- Employed with more than 5 employees	0.0
Total	100

Source: GLSS 2005.

The growth of informal employment is largely a consequence of the inability of wage employment to absorb the growing labor force and the relatively easy entry into IEs – at least those that do not require a minimum level of skills and capital. The result is that productivity tends to be low, limiting the ability of IEs to contribute to growth of incomes. In developing a proactive strategy to support increasing productivity in IEs, the following conditions for IEs to flourish need to be addressed:

¹³⁶ These studies were prepared for the World Bank Africa Regional Project on Improving the Productivity and Reducing Risk of Household Enterprises. The design stage of the project was a collaborative effort with the WIEGO network. Preparation was supported by the World Bank, the Multidonor Trust Fund on Labor Markets, Job Creation, and Economic Growth funded by the German, Norwegian, Austrian, and Korean governments, and the donors to the TFESSD Trust Fund. The findings, interpretations, and conclusions expressed in this volume do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent.

¹³⁷ GLSS5 covers 2005/06 (Ghana Statistical Service, 2008). Previous GLSS surveys used in this report cover 1991/92 (GLSS3) and 1998/99 (GLSS4).

- Security: secure premises (including rights to the property or site) to encourage investment and minimize risks of theft and harassment by authorities;
- Infrastructural services: availability of electricity, water, and sanitation;
- Adequate skills: both technical and business and financial management;
- Access to support: both financial and business development services;
- Social protection: health insurance, business insurance, retirement financing.

Trends in Growth and Employment. Real growth in GDP per capita has been steady and decent for over two decades in Ghana (close to 3 percent per year from 1999 to 2009). During this prolonged period of growth, poverty decreased substantially while value added in the economy gradually shifted away from agriculture. Services grew the most and are today the largest share of GDP. Nevertheless, agriculture will remain the largest sector of primary employment for some time to come.

The growth of wage employment did not displace IEs as an important source of employment either. In both 1991 and 2006, close to one-third of the labor force worked in HEs as their primary employment, making HEs the second largest source of employment after agriculture. Hence, even with good growth in wage jobs, IEs (including HEs and MSEs) are and will be a key part of the Ghanaian economy for a long time. Between 1991 and 2006 about 2.8 million new jobs were created, and approximately 1 million of those new jobs were created by HEs (World Bank, 2009). In comparison the entire private wage sector had about 1.2 million jobs in 2006.

Most HEs are in the trade sector, followed by manufacturing. There has been some diversification, with a shift out of trading towards other services, especially in rural areas, where trade fell from 55 percent of all HEs in 1991/2 to 40 percent in 2005/6. In rural areas, HEs are more likely to engage in manufacturing from local materials, such as: charcoal making, beer brewing, shea butter processing, and brick making. Urban HEs are more service-based, including: repair of vehicles and small machines, transport, food vending, shoe repair, and personal services such as barbering and hairdressing. Dressmaking is very common for women in both areas.

Key Characteristics of IEs. The following “Stylized Facts” are based on an analysis of GLSS5 data focusing on HEs, which account for over 90 percent of IEs (see World Bank, 2011e).

- *HEs are more common in middle class households in both rural and urban areas;* households in the bottom two and top two deciles are much less likely to have a HE.
- HE operators have usually completed primary education but not secondary. As the labor force has gained education, so have HE owners, and they are much more likely to have at least some secondary education than 20 years ago. However, few people who have completed secondary education opt for the HE sector.
- Over 70 percent of HE operators are women in both urban and rural areas, with little change over time, although they represent half of the labour force. This is in part related to the educational gap between men and women; in particular, a higher share of men have completed secondary or above and hence are more likely to obtain wage employment.

- *HE operators are young (as is the labour force), but youth under 24 are underrepresented, in part because they may lack the experience, capital or access to finance.*
- *Apprenticeship is the most common type of training in Ghana, but it is not a substitute for formal education. The more education people have, the more likely they are also to have undergone an apprenticeship.*
- *Ownership of a HE is not related to migration. Although IEs may provide opportunities to recent migrants moving to urban areas, HE operators are not more or less likely to be a migrant than the labor force in general.*
- *Most IEs are not formally registered. While it is legal to do business in one's own name without formal registration in Ghana, over time there has been an increasing tendency of MSEs nationwide and HEs in Accra to register their business name with the Registrar-General.*
- *IEs pay substantial fees and taxes to MMDAs. Besides the increasing tendency to pay registration fees, IEs also pay regular market fees, presumptive income tax, other fees for specialized licenses, and Value Added Tax on their inputs. All these go a long way to financially strengthen the revenue base of the local government authorities.*

Key Issues and Potential Solutions: Rationale for Strategy

Local Economic Development and Interaction between IEs and MMDAs. The key issue facing IEs is the lack of access to secure location, infrastructure and services. From the point of view of authorities in MMDAs, a key issue is zoning and use of public spaces. A common consequence is conflict over location between public authorities and IEs. The perception by IEs of harassment by authorities is often aggravated by regulations and taxation, which is seen by authorities as essential for revenue as well as control but often perceived by IEs as arbitrary.

The business environment for IEs is largely determined by local authorities (MMDAs), which are primarily responsible for zoning and other regulations which determine whether IEs have access to workplaces, as well as infrastructure and support structures. This includes the provision of roads, water, electricity, and markets, among others. In many cases the relationship between MMDAs and IEs is contentious at best, with IEs voicing concerns about arbitrary taxation and corruption. MMDAs on the other hand generally perceive IEs as reluctant to pay taxes and fees or obey planning regulations, and the level of illiteracy and poor record keeping among IEs. Lack of funds to support IEs was also mentioned as a problem.

Some MMDAs are running projects aimed at improving the economic environment for MSEs, including IEs, but in general it's a mixed track record with inadequate service provision and examples of new markets located at poor locations leaving them unused. In urban areas access to location is one of the largest and most frequent conflicts between MMDAs and IEs. Urban bylaws tend to restrict the location and operations of IEs, often leading to conflict when local authorities attempt to evict informal enterprises from central business districts, especially hawkers and activities considered noisy or polluting, such as vehicle repair, metalworking and carpentry.

Where associations of MSEs are well organized, dialogue with local authorities and assessment of needs for services has proven much easier. It is common for artisans in the same activity to organize into local associations; however, only a few in rural districts are affiliated with national associations. Although about 49 percent of the respondents to the field survey for this study were members of a trade association, most of the trade associations are weak, and the leadership lacks the necessary managerial and lobbying skills to effectively run these associations. When leadership is weak and members do not comply with their own association's constitution, their bargaining position with city authorities is weakened. While some trade associations focus on knowledge transfer, networking and accessing credit, others focus more on social aspects, rather than economic or advocacy issues.

Addressing the above issues will require improvements both in the dialogue and consultation mechanisms between municipal authorities to resolve conflicts, set fees and better plan the provision of markets, light industrial zones and services available to IEs. Effective consultation will require support for strengthening associations representing informal IEs.

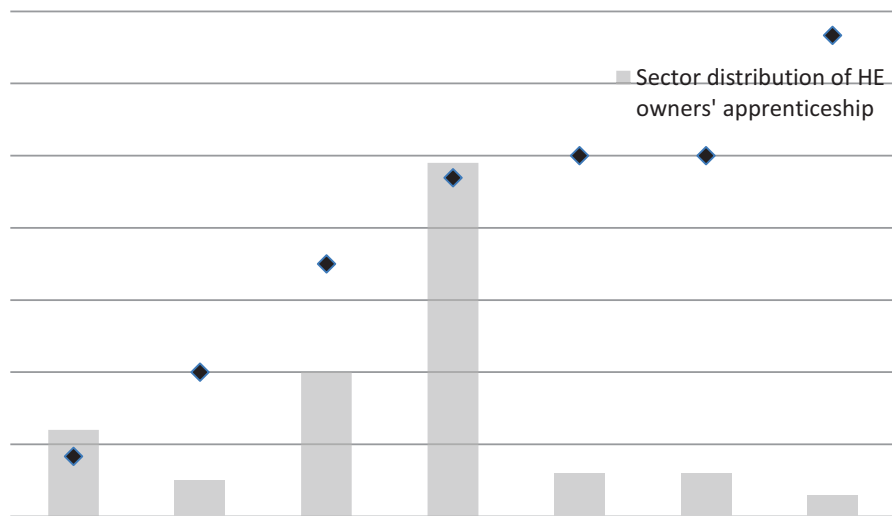
The current practice of some MMDAs of establishing Micro and Small Enterprise Committees with representatives of MSE trade associations and Business Advice Centers should be extended. Such committees provide a forum for negotiations on issues as fee levels, service provision, and establishment of new industrial zones and markets. The Local Economic Development framework could provide the platform on which to enhance the dialogue between MMDAs and IEs. A first step would be for MMDAs to hold public hearings on their plans as the law requires. Guidelines for MMDAs on development of infrastructure for new light industry areas and markets would also be useful.

A prerequisite for better dialogue is for IEs to be better organized. IEs are simply too many and too heterogeneous for MMDAs to negotiate and deal with individually. Trade organizations representing IEs could negotiate with MMDAs, but also insure self-regulation of the sector to minimize confrontations. At the national level, affiliation with the Trades Union Congress (TUC) has helped raise the effectiveness of some trade associations. For instance, the Ghana Union Traders Association (GUTA) was instrumental in the enforcement of the investment laws and the introduction of a flat VAT rate, but in general trade organizations are weak and need to span both wider and deeper. Capacity-building support in terms of governance, leadership, lobbying and advocacy skills is needed strengthen trade organization. The recently established Skills Development Fund (SDF) could support capacity building among trade associations with limited financial resources. Channeling communications and other support services as for instance training through trade associations would also be a way of strengthening trade organizations and encourage HE membership.

Light industrial zones in Bekwai and Bechem illustrate a successful model for relocating and supporting IEs (particularly MSEs). In Bechem, thorough advance collaboration with HEs avoided tension with the local authority. GIZ and private companies (as part of their social responsibility) have assisted with preparing the sites, electricity and access roads, which experience shows should be completed before the relocation of enterprises takes place in order to minimize disruption and maximize benefits. Bechem is considering private operators to provide fee-based water, latrines and waste removal. The Ghana Industrial and Commercial Estates Limited (GICEL) in Accra received financial support from SSNIT to construct the estate. Having rented the stalls and sheds to IEs over the years, management finally paid off the credit facility in March 2010.

Skills and Youth. Though some entrepreneurs enter the IE sector due to lack of any other alternatives, many report higher potential for earnings as their primary motivation. Generally, those who enter IEs do not have enough education to qualify for wage employment (completed secondary or above). Apprenticeships are relatively common (any other type of labor market training is rare), and account for a major share of entrants into certain activities; but it is difficult to establish any significant returns to apprenticeships. It is not clear why many do not use their apprentice training or why data do not show positive returns to apprenticeships, but lack of standards and quality of training could be part of it. Mismatch between supply and demand for skills could be another reason. The lack of start-up capital might also be one of the reasons why many IE entrepreneurs with experience from an apprenticeship end up working in trade - a sector with low entry requirements - instead of the business they trained for.

Many HE operators do not use their apprentice training and end up in trade



Source: World Bank calculations using GLSS5 (2005/6). Note: figure shows sector of apprenticeship for HE owners and the share that works in trade.

Although a large majority of HEs are operated by women, apprenticeships are more common for men. There is clear segregation along gender lines when it comes to sector of apprenticeship. Two-thirds of male HE owners who underwent apprenticeships did so in the highly male-dominated areas of construction, automotive repair, transportation, electrical and mechanical. Tailoring/dressmaking/ shoes was the only area in which a substantial share of both men (26 percent) and women (62 percent) apprenticed – though women were more heavily represented. Personal services (including hairdressing), food preparation and processing were the most female-dominated areas of apprenticeships.

Many have successfully started their own HE after an apprenticeship. Unfortunately not all that go through an apprenticeship succeed in the field where they trained. Indeed, over a third of apprentices end up in trading, which does not involve any apprenticeship as such. This is especially a problem for apprentices in tailoring/dressmaking/shoes, who account for almost half of all apprentices – and nearly half of whom end up in trading.

Both male and female IE operators state that they underwent apprenticeship training in order to enhance their skills and knowledge to run their businesses effectively. However, standards at many traditional apprenticeship workshops are low, with few using basic precision tools,

and there is little evidence that former apprentices are more successful than other informal entrepreneurs. Controlling for a range of observable characteristics including education level, gender, industry, and location, there does not seem to be any significant impact on HE operators' earnings from apprenticeships (World Bank, 2011e), at least for those with more than five years of education. Some research indicates that a positive impact exists for those that have not completed primary education (Monk, Sandefur and Teal, 2008). However, more than two-thirds of apprentices had completed primary school in 2005 and even more will have done so today. The lack of significant positive returns to apprenticeships is also found for those that work in the industry they trained for.

Informal apprenticeship training has advantages and disadvantages. It is a private system that allows for easy access to training, especially for the poor, and the skills taught by the master craftspersons are usually relevant to the real “world of work”. In addition, the training allows the apprentice to gradually build up a business network with suppliers and clients. Overall, the approach is seen as more effective than pre-employment training in classrooms. Its main limitations are the lack of a training plan, the passive nature of learning, limited entry possibilities of new technologies, incomplete training content, and the difference in quality of skills acquired due to the absence of trade testing and certification. In addition, the often long training periods and the risk of exploitation of apprentices as “cheap labour” are criticized, as well as the lack of post-training follow-up and support for apprentices to start up their own business.

The traditional apprenticeship system should be upgraded to ensure higher quality training. This should include registration, training and equipping of master craftsmen. Institutions such as the Council of Technical and Vocational Education and Training (COTVET) and National Vocational Training Institute (NVTI) have already started efforts to standardize skills and qualification systems for various trades and create a database of all master craftsmen. These efforts should be scaled up, and partnerships with trade organizations and others relevant stakeholders should be formed to ensure relevance, ownership, and support from the private sector and HEs. Higher productivity through use of better equipment and technology should also be a goal that could be achieved through institutions such as NVTI, GRATIS Foundation and RTFs. Including financial literacy and encouraging youth savings in all vocational and technical programs would facilitate young graduates in starting up their own business, enhancing the probability that youth are able to utilize their acquired skills in a HE.

Finance and Business Development. HE operators mostly rely on household savings or friends and relatives for start-up capital (62 per cent and 20 per cent, respectively, in 2005). Although access to credit was ranked as highest on a list of constraints to business development by both HEs and key stakeholders, only 11 percent of HEs had applied for a loan in 2005 (roughly half successful). Unlike in many other SSA countries, access to credit is not so much a question of physical access to financial institutions, as 33 per cent of HEs had a savings account in 2005 and almost all (91 per cent) lived in an area where they have access to a financial institution. These data indicate that programs to build the capacities of rural and micro finance institutions over the past decade have yielded access to financial institutions for many.

Nevertheless, IEs perceive finance as the dominant constraint: most IEs are unable to meet creditworthiness criteria or reluctant to apply. Although financial institutions need to more accessible to the poor and IEs, the main financial challenges faced by HEs are often rooted in their weak business.

Annex 14: Action Plan for Informal Enterprises

Objective/Key Indicator	Actions / Implementation Activities	Responsible Institutions, Programmes & Partners	Time frame
1: Strengthening the Consultative Process and the Trade Associations			
1.1 Ensure MMDA openness towards the IE sector Indicator: Number of MSE subcommittees with IE Association Representatives	Leading institutions and partners: 1.1.1. Establish MSE subcommittees in all assemblies and rationalize existing subcommittees that promote MSEs. Subcommittees should have representation from business associations of IEs. • <i>Directives issued to MMDAs to establish Dept. of Trade & Industry and MSEs sub- committee – MOTIs</i> • <i>Strengthen BACs to interface with IEs associations and represent them at Sub-committee</i> 1.1.2 Use of LED approach and the creation of LED platform to enhance dialogue between MMDAs and MSE associations and enable IEs to play a more active role on issues affecting them. • <i>Develop a national policy for LED</i> 1.1.3 Implement provisions in the existing laws (Local Government Act 480 and 462) on planning systems and fee fixing that require assemblies to have public hearings on their plans. • <i>Develop guidelines for consultative process for planning and who should be invited to different types of hearing</i> 1.1.4 Mandate MMDAs to include consultation with and support for IEs in assessment criteria and to be accountable and transparent in disclosing sources and uses of revenue .	MLGRD, MMDAs, MoTI, NDPC, REP, BACs	2010-11
		<i>MOTI</i>	
		REP	On-going Scaling –up 2012-18
		ILGS	End 2012
1.2 Build and strengthen local and national IE associations to represent IEs interests	Leading institutions and partners: 1.2.1 Build capabilities of IE trade associations and their umbrella organizations in governance, advocacy, needs assessment, training, etc. • <i>Design training programmes for IEs trade associations</i>	ASSI, GUTA, CIBA, SDF, MOTI, REP/BACs, NGOs GTUC	
		GTUC in collaboration with donors	

Indicator: Number of IE Associations receiving capacity building assistance	• <i>Capacity building for local trade associations</i> 1.2.2 Encourage IEs to join trade associations and participate in its activities. Channeling information and training through these organization could make the organizations directly relevant to IEs • <i>Organize IE Associations under umbrella networks at District level as well as national</i> 1.2.3 Within the policy framework of the informal economy, government should encourage donors or other NGOs to develop and finance programmes to tackle capacity gaps such as leadership, advocacy and lobbying, organizational and management. • <i>Provide support to associations for advocacy</i> • <i>Interact with MMDAs on taxation and budget issues</i>	REP /BACs ASSI Street Net Ghana BUSAC Fund GUTA	On-going 2012-18
2: Strengthening Worksites and Local Infrastructure			
2.1 Ensure adequate access to appropriately located worksites and to local infrastructure (Industrial Zones and Markets) Indicator: Number of New Local Industries and market sites constructed in consultation with	2.1.1 Develop MMDA guidelines for planning and implementation of industrial zones and markets, including: (i) suitable location and design; (ii) ownership and management structures; (iii) roles of private sector in funding , building, managing; (iv) dialogue with IEs and other stakeholders throughout process; and (v) provided services (infrastructure, security, etc) 2.1.2. Based on these guidelines, set up more zones and markets with infrastructure and facilities suitable for IEs	Leading institutions: MMDAs, MLGRD, MoTI, GIZ MLGRD	

established, and its outreach to end users through financial institutions.	3.2.3 Examine legal and regulatory structures potentially holding back adoption of new technologies in financial products (e.g., mobile phone banking)	REP, RAFiP, other sectoral programmes BOG	
3.3 Increase IEs access to services, support for improving productivity Indicator: Number of IEs accessing diverse services to address their needs	Leading institutions: 3.3.1 Broaden mandate of GRATIS Foundation to embrace modern technological changes. 3.3.2 Scale up NBSSI-BAC and RTF mechanisms to strengthen their ability to facilitate access to business services, finance and technology.	GRATIS, REP, NBSSI-BACs, APEX BODIES OF FINANCIAL INSTITUTIONS GRATIS MoTI/REP	
4: Skills and Youth			
4.1 Increase quality of apprenticeship system and improve the transition of youth from school into labor market Indicator: Number of youth transitioning from school in to the labour market and self employment	Leading institutions and partners: 4.1.1 Upgrade quality of traditional apprentice programmes through standardizing the training programmes, training outcomes, examinations and certification. • <i>Harmonize the technical and vocational training contents for the mastercrafts persons for Apprenticeship</i> • <i>Include entrepreneurial skills development in the training for the Mastercraft persons</i> • <i>Resource COTVET and the training providers in the training delivery.</i> • <i>Reduce duration for normal apprenticeship to a minimum of 2years and a maximum of 3 years.</i> • <i>Implement the National TVET Qualifications Framework (Certification) for Apprenticeship programmes.</i> • <i>Provide start up support (equipment starter kits, business locations) for the beneficiaries of specialized training/upgrading programmes</i> • <i>Conduct periodic monitoring of the businesses at the MMDA level.</i> 4.1.2 Provide information to school leavers on the areas high and low demand in the	COTVET, MoE, NVTI IE trade assoc'ns, BACs COTVET, NBSSI and all Training providers COTVET through MOFEP COTVET COTVET REP, other projects BACs	December 2012 September 2012 January 2013

	labor market, including the IE sector • <i>Collect data on labour demand and production in IEs (GLSS, the new labour survey).</i> • <i>Identify skills gaps in the formal and informal sectors</i>	GSS COTVET/NVTI	June 2012 June 2013
5: Vulnerability and Social Protection			
5.1 Improve IEs access to health and social protection products Indicator: Number of persons with access to health care social protection services	Leading institutions: 5.1.1 Improvement of institutional structure and arrangements to reduce the waiting period for registration and access for NHIS and encourage IEs to collect of their NHIS cards 4 months of registering. • <i>Increase sensitization and awareness creation</i> • <i>Organize special seasonal registration exercises on quarterly basis to quicken up the acquisition of cards after registration and reduce waiting time.</i> • <i>Work with IE trade associations to enable them to quicken the registration process and reduce the waiting time for acquisition of cards by their members and to organize special registration session in various locations where IEs congregate(e.g., lorry parks, market centres).</i> • <i>Progressively decentralize production of ID cards to reduce the waiting period</i> • <i>Ministry of Employment and Social Welfare to collaborate with all the other ministries undertaking intervention projects in the communities (common targeting) to register the poor in the scheme.</i> 5.1.2 Upgrade and ensure equal quality of health facilities. • <i>Encourage more private providers to run private health insurance scheme.</i> 5.1.3 Greater education on general operation of NHIS, drug administration, doctor engagement and communication and observe the gatekeeper system of health delivery.	NHIS, SSNIT, MoFEP, MESW, <i>NIC, GIZ</i> NHIS MESW, NCIE	

	5.1.4 Increase visibility and public awareness of SISPS. • <i>Sensitize and intensify the campaign on SSNIT Informal Sector Scheme for IEs to take advantage of it.</i> • <i>Promote community and group based insurance schemes suitable for IEs (including health and life insurance, and fire, flood and other risk insurance where feasible, e.g. in markets)</i> 5.1.5 Increase contact points and adopt technology e.g. mobile phone systems for contributions to ensure ease of access and participation in SISPS. 5.1.6 Investigate the options and costs for SISPS to more effectively cater to the needs of IEs by factoring in incentives such as matching system for contributions and contributions tied to a basic pension that is funded by government.	MOH, private health care providers SSNIT SSNIT SSNIT	
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