GHANA

Agriculture Development Policy Operations:

Phase I–IV

Report No. 112622

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PROJECT PERFORMANCE ASSESSMENT REPORT

GHANA

FIRST AGRICULTURE DEVELOPMENT POLICY OPERATION
(IDA CREDIT-4425-GH)

SECOND AGRICULTURE DEVELOPMENT POLICY OPERATION
(IDA CREDIT-747-GH)

THIRD AGRICULTURE DEVELOPMENT POLICY OPERATION
(IDA CREDIT-4939-GH)

FOURTH AGRICULTURE DEVELOPMENT POLICY OPERATION
(IDA CREDIT-5109-GH)

Financial, Private Sector, and Sustainable Development
Independent Evaluation Group

Currency Equivalents (Annual Averages)

Currency Unit = Ghanaian Cedi

2008	US$1.00	₵1.06
2009	US$1.00	₵1.41
2010	US$1.00	₵1.43
2011	US$1.00	₵1.51
2012	US$1.00	₵1.91
2013	US$1.00	₵2.37
2014	US$1.00	₵3.21
2015	US$1.00	₵3.83

Abbreviations and Acronyms

AGDPO	Agriculture Development Policy Operation
CIDA	Canadian International Development Agency
DPO	development policy operation
EDAIF	Export Trade, Agricultural and Industrial, Development Fund
FASDEP	Food and Agriculture Sector Development Policy
FBO	farmer-based organization
GDP	gross domestic product
ICR	Implementation Completion and Results Report
IEG	Independent Evaluation Group
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
MDBS	Multi-Donor Budget Support
METASIP	Medium Term Agriculture Sector Investment Plan
MOFA	Ministry of Food and Agriculture
MOFEP	Ministry of Finance and Economic Planning
NAFCO	National Food Buffer Stock Company
OVCF	Outgrower and Value Chain Fund
PPAR	Project Performance Assessment Report
PPMED	Policy Planning and Monitoring Directorate
PRSC	Poverty Reduction Support Credits
RELC	research extension liaison committees
WRS	warehouse receipt system

All dollar amounts are U.S. dollars unless otherwise indicated.

Fiscal Year

Government: January 1 – December 31

Director-General, Independent Evaluation	:	Ms. Caroline Heider
Director, IEG Financial, Private Sector and Sustainable Development	:	Mr. José Cándido Carbajo Martínez
Manager, IEG Sustainable Development	:	Ms. Midori Makino
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This report was prepared by April Connelly and Aphia Appia, who assessed the project in June 2016. With input from Daniel Palazov, Sarah Boyd and Hassan Wally. The report was peer reviewed by James Sackey and panel reviewed by Robert Lacey. Vibhuti Khanna provided administrative support.

Principal Ratings

First Agriculture Development Policy Operation Series (AGDPO 1 and 2)

	ICR*	ICR Review*	PPAR
Outcome	Moderately satisfactory	Moderately unsatisfactory	Moderately unsatisfactory
Risk to Development Outcome	Moderate	Significant	Significant
World Bank Performance	Satisfactory	Moderately unsatisfactory	Moderately unsatisfactory
Borrower Performance	Moderately satisfactory	Moderately satisfactory	Moderately unsatisfactory

* The Implementation Completion and Results Report (ICR) is a self-evaluation by the responsible World Bank department. The ICR Review is an intermediate Independent Evaluation Group (IEG) product that seeks to independently verify the findings of the ICR.

Second Agriculture Development Policy Operation Series (AGDPO 3 and 4)

	ICR*	ICR Review*	PPAR
Outcome	Moderately satisfactory	Moderately satisfactory	Moderately unsatisfactory
Risk to Development Outcome	Significant	Significant	Significant
World Bank Performance	Satisfactory	Satisfactory	Moderately unsatisfactory
Borrower Performance	Satisfactory	Moderately satisfactory	Moderately unsatisfactory

* The Implementation Completion and Results Report (ICR) is a self-evaluation by the responsible World Bank department. The ICR Review is an intermediate Independent Evaluation Group (IEG) product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

First and Second Agriculture Development Policy Operations

Project	Task Manager or Leader	Division Chief or Sector Director	Country Director
Appraisal	Christopher Paul Jackson	Karen McConnell Brooks	Sergiy Kulyk
Completion	Christopher Paul Jackson	Karen McConnell Brooks	Sergiy Kulyk

Third and Fourth Agriculture Development Policy Operations

Project	Task Manager or Leader	Division Chief or Sector Director	Country Director
Appraisal	Jan Joost Nijhoff	Karen McConnell Brooks	Ishac Diwan
Completion	Jan Joost Nijhoff	Martien Van Nieuwkoop	Yusupha B. Crookes

IEG Mission: Improving World Bank Group development results through excellence in evaluation.

About this Report

The Independent Evaluation Group (IEG) assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the World Bank's self-evaluation process and to verify that the World Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20–25 percent of the World Bank's lending operations through fieldwork. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or World Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, interview World Bank staff and other donor agency staff both at headquarters and in local offices as appropriate, and apply other evaluative methods as needed.

Each PPAR is subject to technical peer review, internal IEG panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible World Bank country management unit. The PPAR is also sent to the borrower for review. IEG incorporates both World Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the World Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: http://ieg.worldbankgroup.org).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current World Bank country and sectoral assistance strategies and corporate goals (expressed in poverty reduction strategy papers, Country Assistance Strategies, sector strategy papers, and operational policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared with alternatives. The efficiency dimension is not applied to development policy operations, which provide general budget support. *Possible Ratings for Outcome:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, highly unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible Ratings for Risk to Development Outcome:* high, significant, moderate, negligible to low, and not evaluable.

World Bank Performance: The extent to which services provided by the World Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan or credit closing, toward the achievement of development outcomes). The rating has two dimensions: quality at entry and quality of supervision. *Possible Ratings for World Bank Performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible Ratings for Borrower Performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Preface

This is the Project Performance Assessment Report (PPAR) for the First, Second, Third, and Fourth Agriculture Development Policy Operations in Ghana (IDA-4425, IDA-747-GH, IDA- 4939-GH, IDA-5109). Together these represent two programmatic development policy operation (DPO) series. The four operations together disbursed $157 million.

This report presents findings based on a review of the project's Implementation Completion and Results Report, program documents, legal documents, and other relevant material. An Independent Evaluation Group (IEG) mission to Ghana in June 2016 held discussions with World Bank country office staff, government officials and agencies, development partners, and other project stakeholders (see appendix D).

This program was selected for a PPAR for a number of reasons. The program was innovative, representing one of the first DPOs exclusively used to support agriculture goals in the Africa Region. The PPAR is also designed to offer input into a forthcoming joint IEG-European Union evaluation of budget support to Ghana over the past 10 years, which was conducted in parallel.

The contributions of all stakeholders, including World Bank staff in Washington, DC, and Accra, Ghana, are gratefully acknowledged. Following standard IEG procedures, copies of the draft PPAR will be shared with relevant government officials and agencies for their review and comment.

Following standard IEG procedures, a copy of the draft report was sent to the relevant government officials and agencies for their review and feedback. Comments were received from both the Ministry of Finance and the Ministry of Food and Agriculture and are attached in appendix D of the report.

Summary

This Project Performance Assessment Report (PPAR) assesses the outcome and sustainability of two consecutive World Bank–financed programmatic series of DPOs in the agriculture sector in Ghana with a total disbursement of $157 million:

- The first series (Agriculture Development Policy Operation [AGDPO] operations 1 and 2), implemented between 2008 and 2011, consisted of two International Development Association credits of $25 million each. The objectives were (i) to increase the contribution of agriculture to growth and poverty reduction and (ii) to improve the management of soil and water resources.

- The second series (AGDPO operations 3 and 4), implemented between 2011 and 2012, was financed by an International Development Association credit of $57 million for operation 3 and of $50 million for operation 4. The objectives were (i) to enhance productivity and market access among farmers and (ii) to improve agriculture sector management.

The original design of both series included a third operation, which was canceled following the completion of the second operation in each series. The third operation in the first series was canceled to allow for preparation of a new series that was expected to improve alignment with the government's new agricultural policy; the government canceled the third operation in the second series because of difficulties in monitoring sector budget support and a preference to consolidate budget support from all development partners into a single multisector program.

The prior actions in both series were mostly carried out as designed, but implementation of the policy reforms they supported did not achieve the outcomes in the field envisaged by the development outcomes.

Ratings

Relevance of Objectives	
First series (AGDPO operations 1 and 2)	Substantial
Second series (AGDPO operations 3 and 4)	Substantial

The program's objectives aligned well with the goals of Ghana's agriculture strategies and the World Bank's country assistance and partnership strategies. IEG assesses the relevance of objectives for both series as **substantial**.

Relevance of Design	
First series (AGDPO operations 1 and 2)	Modest
Second series (AGDPO operations 3 and 4)	Modest

While prior actions and government policies were clearly aligned in both series, most prior actions involving the upstream adoption of legislative or government decisions, plans, and policies were insufficiently tied to implementation. Consequently, their contribution to expected outcomes is frequently difficult to establish. Prior actions were spread across too many policy areas, with insufficient depth in any one area to translate into results in the field.

The results matrixes had several weaknesses: (i) the objectives were defined at a high level of generality, making it difficult to relate to specific policy reform areas and results; (ii) there was a mismatch between the identified outcomes and the prior actions and performance indicators; (iii) the absence of intermediate outcomes further weakened the linkages between prior actions and the overall series objectives. The strategic relevance of the DPO instrument also diminished overtime.

Overall, the relevance of design in both series is rated **modest**.

Efficacy	
First series (AGDPO operations 1 and 2)	
Objective (i): increasing agriculture's contribution to growth and poverty reduction	Modest
Objective (ii): improved management of soil and water resources	Negligible
Second series (AGDPO operations 3 and 4)	
Objective (i): improving farmers' productivity and market access	Modest
Objective (ii): improved management of the sector	Negligible

First series: The efficacy of the first objective (increasing agriculture's contribution to growth and poverty reduction) is rated **modest.** Agriculture sector growth rates have slowed over time and have been significantly lower than that of the overall economy. There is no hard evidence to establish agriculture's contribution to poverty reduction.

The efficacy of the second objective (improved management of soil and water resources) is rated **negligible.** Despite efforts to disseminate information on various sustainable land management practices, the practices did not result in high adoption rates of better soil and water practices. Insufficient resources at the district level and uncertain security of land use rights have constrained further progress.

Second series: Efficacy of the first objective (improving farmers' productivity and market access) is rated **modest.** Yields of most major crops have been relatively flat and well below their potential. Farmers continue to face significant hurdles that limit the uptake of productivity-enhancing technologies and access to markets.

The efficacy of the second objective (improved management of the sector) is rated **negligible.** Changes to budgetary processes have been minimal, and the structures to facilitate coordination have not functioned effectively. Coordination across the Ministry of Food and Agriculture (MOFA) directorates and other agencies with work affecting the sector remains weak, which is a key bottleneck to improving planning and management of the entire sector.

Development Outcome	
First series (AGDPO operations 1 and 2)	Moderately unsatisfactory
Second series (AGDPO operations 3 and 4)	Moderately unsatisfactory

Given the **substantial** relevance of the series objectives but **modest** relevance of design and the **modest** efficacy of one objective and **negligible** efficacy of the other, the outcome of each programmatic series is rated **moderately unsatisfactory.**

Risk to Development Outcomes	
First series (AGDPO operations 1 and 2)	Significant
Second series (AGDPO operations 3 and 4)	Significant

Development outcomes of both series face significant risks. Ghana's economy remains susceptible to external financial risks and export price volatility. Growth of the oil sector may undermine agricultural competitiveness. The macroeconomic environment has deteriorated, and the current fiscal situation creates a risk to resourcing reform implementation. Environmental risks (including natural disasters and inconsistent rainfall) are also high. Insufficient access to extension services remains a key barrier to farmers' uptake and use of productivity-enhancing technologies. The risk of the fertilizer subsidy continuing to displace other productive public expenditures is high. Overall the risk to development outcomes of both series is assessed as **significant**.

World Bank Performance	
First series (AGDPO operations 1 and 2)	Moderately unsatisfactory
Second series (AGDPO operations 3 and 4)	Moderately unsatisfactory

The assessment of the World Bank performance has two components: quality at entry and quality of supervision.

- Quality at entry is rated **moderately unsatisfactory.** The design in both series was based on a solid body of technical knowledge and analytical work and was aligned with the government's reform program. The World Bank and the Canadian International Development Association prepared a harmonized policy matrix covering budget support programs to prevent duplication and enhance sector planning and coordination. However, the first series experienced shortcomings in the assessment of the macroeconomic framework, the poverty and social impact assessment, and the gender analysis. Both series relied on the government's monitoring and evaluation framework without sufficiently assessing its adequacy, and a broader engagement was required to build government ownership beyond the main counterpart agency.

- The quality of supervision in both series is rated **moderately satisfactory.** Throughout implementation, the task leader was based in country, which facilitated engagement with the government and other development partners. Supervision missions were carried out as part of the joint sector review process involving MOFA and all development partners. During the first series, the World Bank team identified the macroeconomic threat to development impact and fiduciary environment during implementation and delayed the second operation for a year until the new program with the International Monetary Fund was in place. The World Bank was also flexible in adjusting the program to adapt to the evolving policy environment. However, greater effort could have been made during supervision to adjust the overly general formulation of objectives and identify more appropriate results indicators. In the second series, the World Bank revised the wording of objectives to link them more clearly to the measures supported by the series. However, the World Bank did not address other design flaws in the results framework. In both cases, the World Bank could have made more efforts to build capacity and ownership of the various directorates and agencies responsible for implementing reforms.

On balance, the World Bank's performance for both series is rated **moderately unsatisfactory.**

Borrower Performance	
First series (AGDPO operations 1 and 2)	Moderately unsatisfactory
Second series (AGDPO operations 3 and 4)	Moderately unsatisfactory

Government engagement and ownership was strong during the design stage in both the DPO series. Various MOFA directorates and agencies engaged actively in the identification of prior actions. However, the government did not ensure the implementation of polices and strategies prepared as prior actions, and reforms in several areas remained underresourced. In the first series, internal government processing delays contributed to postpone the disbursement of the second operation. During the second series, weak fiscal management hampered regular transfers of adequate resources to support investment in the agriculture sector. Realistic and actionable medium-term expenditure frameworks could not be established. The government's decision to terminate early the second series negatively affected some policy objectives that required consolidation. The government monitoring and evaluation system, used to assess both series, was inadequate. Many indicators were inappropriate and some could not be measured.

Overall, IEG assesses the borrower's performance as **moderately unsatisfactory.**

Lessons

The experience of these two programmatic DPO series provides the following lessons:

- **Engagement of stakeholders responsible for implementation:** *Responsibilities in Ghana's agriculture sector are fragmented across different directorates and agencies. Broadening the World Bank engagement to other directorates charged with delivering program results beyond key counterparts in the leading ministry can enhance development impact*. In these two DPOs, the World Bank's dialogue and engagement was largely through counterparts in the MOFA's Policy Planning and Monitoring Directorate, while other key stakeholders had a limited understanding of the budget support instrument. Insufficient efforts were put in to sensitization and capacity building of other directorates.

- **Government commitment and ownership:** *Rigorous assessment of government commitment and ownership is needed not only at the design stage but throughout implementation*. In Ghana, the government engagement was high with respect to the identification and meeting of prior actions, but subsequent implementation of reforms was weak.

- **Coordination across general and sectoral budget support:** *Effective coordination, monitoring, and feedback across sector and general budget operations can create potential synergies between the two, but it requires adequate coordination and feedback between sector and macrolevel teams***.** The design of the two agriculture DPOs assumed that the general public finance management reforms supported by Poverty Reduction Support Credits and economic governance DPOs would also benefit MOFA. However, public finance management reforms did not perform as expected, and measures to adequately compensate at the sectoral level were not taken. Many reforms in the agriculture sector are beyond MOFA's jurisdiction, and some of the cross-jurisdictional reforms may be best incorporated into national-level budget support. Prior actions that can improve coordination across ministries, directorates, and agencies should be considered.

- **Realistic intervention design:** *Defining DPO objectives in concrete and measurable terms and tailoring prior actions to realistic targets can improve the demonstration of impact and enhance attribution.* In both series, the overly general formulation of objectives made it difficult to link the various policy areas to expected outcomes. The results framework did not establish a clear causal chain between the prior actions and the DPO series objectives. The mismatch between identified outcomes and prior actions and performance indicators added to the challenge. Quantifiable prior actions directly linked with outputs and outcomes allow for better monitoring, drawing of lessons, and attribution.

José Cándido Carbajo Martínez
Director, Financial, Private Sector, and
Sustainable Development Department

1. Background and Context

1. This Project Performance Assessment Report (PPAR) assesses the outcome and sustainability of two World Bank–financed programmatic series of development policy operations (DPOs) in the agriculture sector in Ghana. The first series (Agriculture Development Policy Operation [AGDPO] operations 1 and 2) was implemented between 2008 and 2011. The second series (AGDPO operations 3 and 4) was implemented between 2011 and 2012.

2. In the years prior to the preparation of the first DPO series, Ghana experienced a sustained period of economic growth and corresponding reductions in national poverty rates. During this period the agricultural sector also experienced strong growth, driven largely by the cocoa subsector and expansion of the area under cultivation. In 2008, cocoa earnings were about $1.2 billion, exceeding earnings from gold.

3. Most of these gains, however, where achieved in the south and central regions of the country, where agroecological conditions are more favorable. Poverty remained high in rural areas and became increasingly concentrated in the more arid northern regions, which accounted for one-quarter of the population but half of Ghana's poor. About 80 percent of Ghana's agricultural output is produced by smallholders on family-operated farms with average landholdings of less than two hectares. Smallholders in the northern regions produce food crops, primarily under rain-fed conditions with low use of agro inputs. Food crop output was driven by area expansion and weather conditions rather than productivity.

4. The Ghana poverty reduction strategy (GPRS II 2006–09) was an agriculture-led strategy to diversify the economy away from its dependence on cocoa and toward cereals and other cash crops for export markets. The recently approved agriculture sector strategy (Food and Agriculture Sector Development Policy II [FASDEP II]) emphasized the need to address regional disparities and improve the productivity of staple food crops because of the potential impact on poverty and meeting domestic demand (MOFA 2007).

5. Preparation of a DPO series for the agriculture sector responded to the need to support policy reforms and provide budgetary resources at the sector level. The first AGDPO series overlapped with implementation of the Multi-Donor Budget Support (MDBS) framework, which the World Bank contributed to through a series of Poverty Reduction Support Credits (PRSCs; PRSC 1 to 5). The MDBS and PRSCs focused on cross-cutting issues of public finance management and economic governance. This general budget support was considered insufficient for deepening the policy dialogue at the sector level because of its focus on cross-cutting targets. Nor did it address budgetary needs at the sectoral level. Historically, budget allocations to the agriculture sector from government sources covered salaries only. The government relied predominantly on investments through rural development and agriculture projects to address other needs. Strengthening the sector's ability to plan and implement using budgetary resources instead of project funding was viewed as a critical element of implementing a coordinated and internally consistent development policy in the sector.

6. Although the World Bank had previously supported Ghana's agriculture sector through a number of investment lending projects, this was the first DPO prepared specifically for the agriculture sector in Ghana and the Africa Region. The Ghana AGDPO followed the closure of the World Bank–funded Agriculture Services Subsector Investment Project, which was the first phase of an Adaptable Program Loan. Instead of proceeding to the second phase, it was deemed more appropriate to start a programmatic DPO series to meet the budget requirements to implement the FASDEP II.

2. First Programmatic Series: First and Second Agriculture Development Policy Operations

Objectives, Design, and Relevance

OBJECTIVES

7. The objectives of the first DPO series were to increase the contribution of agriculture to growth and poverty reduction while improving the management of soil and water resources (World Bank 2008). These objectives are shared by each of the two operations in the series.

Relevance of Objectives

8. The objectives were aligned with the government's reform program outlined in Ghana's poverty reduction strategy II (GPRS II) and the FASDEP II. The GPRS II was an agriculture-led strategy to diversify the economy away from dependence on cocoa and toward cereal and other cash crops. FASDEP II was a newly revised agriculture strategy which also recognizes the need to maintain the quality of natural resources for continued increases in agricultural productivity.

9. The objectives were also relevant to the goals of the World Bank's country assistance and country partnership strategies. The country assistance strategy (fiscal year [FY] 08–11) identified modernization of agriculture as central to the diversification and expansion of exports needed to achieve and sustain higher economic growth. Agriculture remains a priority in the country partnership strategy for FY13–16.[1]

10. Relevance of objectives is assessed as **substantial.**

DESIGN

11. This programmatic series was designed as a three-year program to support implementation and associated policy reforms of the 2007 FASDEP II. It was to include three operations, with financing disbursed through three single tranches of $25 million each.

12. The DPO focused on actions intended to establish the enabling conditions for increasing total factor productivity growth and the diversification of production systems diversification to broaden the existing sources of growth in the sector beyond the cocoa

sector and area expansion. Prior actions were identified to support each of FASDEP II's six policy areas:

- Policy area 1: Food security and emergency preparedness
- Policy area 2: Increased growth of income, focusing on participation of nonstate actors
- Policy area 3: Increased competitiveness and enhanced integration into international and domestic markets
- Policy area 4: Sustainable management of land and the environment
- Policy area 5: Science and technology applied in food and agriculture development
- Policy area 6: Institutional coordination to improve budget allocation to and execution within the sector (MOFA 2007)

13. Support in these areas was expected to maintain the positive trend of export diversification; encourage nonstate actors such as farmer organizations and the private sector to increase investments and manage assets; address constraints to productivity increase, particularly for staple crops; and improve planning and execution of budgets, including those for services and investments.

Implementation Arrangements

14. Responsibilities for Ghana's agriculture sector are fragmented across various ministries, directorates, and agencies. The Ministry of Food and Agriculture (MOFA) is the lead ministry for the sector and is responsible for noncocoa crops, livestock, and fisheries.[2] MOFA was the main counterpart responsible for policy development and implementation and technical oversight.[3] The Ministry of Finance and Economic Planning (MOFEP) was the contractual partner to whom the resources were disbursed.

Coordination with Other Sector Budget Support Operations

15. The DPO series was designed to be complementary to budget support provided by the Canadian International Development Agency (CIDA) that was ongoing at the time of preparation.[4] World Bank and CIDA project teams coordinated closely to prevent duplication and maximize synergy. Series design emphasized high-level policy triggers as prior actions. CIDA's performance triggers were process oriented, and its policy agenda focused on local-level government management processes, gender, farmer organizations and research extension linkages. A harmonized policy matrix was prepared that incorporated both the prior actions of the DPO series and CIDA performance triggers. Appraisal of the benchmarks and prior actions was done jointly. Performance appraisal was integrated in the annual joint sector review process with the intent of allowing external partners to agree on policy actions that can be supported by various project funding regardless of whether the funds are in the form of budget support.

Relevance of Design

16. The prior actions and policy areas supported by each of the operations were broadly relevant to achieving the overall series objectives. The prior actions were clearly

defined and rooted in the government’s agriculture policy and ongoing legislative and policy dialogue. However, in several areas they lacked sufficient institutional depth to achieve stated objectives. Many prior actions involve upstream adoption of legislative or government decisions (for example, submission of an irrigation policy to cabinet, a postharvest loss survey, legal framework for farmer-based organizations [FBOs]), action plans and policies (for example, irrigation policy action plan and action plan for management of irrigation facilities, and draft Fisheries and Aquaculture Policy) not closely tied to implementation. As a result, even though the prior actions were completed as envisaged, the impact on outcomes was difficult to establish in several policy areas, and where it could be established, it was largely modest. Greater selectivity in prior actions and targeting specific bottlenecks in achieving policy objectives and implementation would have resulted in a more streamlined design and potentially greater effectiveness with respect to outcomes.

17. The project appraisal document does not outline a clear theory of change. The results framework was built around the six policy areas in FASDEP, with expected outcomes articulated for each and outcome indicators specified to measure the expected outcomes. However, there was no clear link between objectives and intermediate and final outcomes since no intermediate outcomes and outputs were specified. As a result, it is difficult to establish a plausible association between the broad development objectives and the policy reform areas, and between the policy areas and expected results in the field. Fewer policy areas targeting a few, high-impact outcomes with clear, existing baseline (not dependent on ongoing or future surveys) and measurable rate change would have had potentially greater impact.

18. In addition, the formulation of objectives was broadly relevant to both government and World Bank strategies but were too general, making it difficult to attribute and relate them to the specific policy reform areas and results. The strategic relevance of the use of the DPO instrument also diminished somewhat overtime. In the current country partnership strategy, the DPO instrument is no longer indicated as the ideal instrument to achieve the agriculture goals.

19. Relevance of design is assessed as **modest.**

IMPLEMENTATION

20. The series was initially designed for three years (2008–10) with annual disbursements of $15 million. Before the first disbursement was made, the amount for each operation was revised upward to $25 million in response to the food crisis in 2007–08. The first operation (AGDPO 1) was approved by the World Bank Board of Executive Directors on June 30, 2008, for credit of special drawing rights (SDR) 15.8 million ($25 million equivalent). It became effective on August 5, 2008, and closed as planned on June 20, 2009. Board approval and disbursement of the second operation (AGDPO 2) was delayed from the original plan of July 2009 until June 3, 2010, because the macroframework was considered inadequate. The financing agreement was signed on September 8, 2010, and effectiveness was declared on December 7, 2010. Delays from Board approval to disbursement were due to internal Government of Ghana processing, partly caused by a long summer recess of parliament. In response to the delayed

disbursement, the closing date was extended from the original date of July 12, 2010, to June 30, 2011.

21. The series was discontinued after the second operation to launch a new series that would better align with a newly emerging policy and program environment with a scaled up envelope of support. During the period under review, the government adopted the Comprehensive African Agricultural Development Program, which provided a continent-wide planning framework for the development and investment in the agriculture sector.[5] Under the Comprehensive African Agricultural Development Program process the government committed to both policy and investment targets. In October 2009, the Medium Term Agriculture Sector Investment Plan (METASIP) was adopted as an investment plan for implementing agriculture policy objectives over the period 2011–15 (MOFA 2010).

22. The World Bank's dialogue and engagement was largely through counterparts in MOFA's Policy Planning and Monitoring Directorate (PPMED). Although, other directorates were involved in the selection and identification of prior actions, insufficient efforts were put in to sensitization and capacity building for implementation of reforms. PPAR mission interviews with MOFA officials suggest there was a limited understanding of the budget support instrument among many key stakeholders beyond PPMED. Many did not fully capture the distinction between budget support operations versus project support. They viewed budget support as merely meeting triggers and did not capture how it could benefit their particular area beyond budget resources provided. There was also a lack of ownership in implementation of reforms. Weak coordination within MOFA and the weak leverage that PPMED had over agencies outside of MOFA linked to prior actions hampered PPMED's ability to track subsequent implementation of reforms beyond the prior actions. In its comments on this report, MOFA notes that failure to track implementation was due to lack of resources to implement reforms.

23. **Safeguards issues**. In compliance with operational policy 8.60, the policy measures supported by the operation were not expected to have significant effects on the environment. Actions aimed at strengthening the management of land, soil, and water and the promotion of good agricultural practices offered the possibility of generating beneficial environmental effects. The policy actions supported by the series also offered the potential to directly and indirectly benefit rural populations through enhancements in the availability of improved agricultural input technology and improved market access. The World Bank did not appear to monitor whether adverse environmental or social effects occurred, and did not report on these in the Implementation Completion and Results Report (ICR). No adverse environmental or social impacts were reported to the Independent Evaluation Group (IEG) assessment mission.

24. **Fiduciary issues**. When the operations were being designed, Ghana's fiduciary environment was considered adequate for development policy lending. The Public Expenditure Financial Accountability assessment carried out in June 2006 concluded that the public finance management system in Ghana has a solid legal and regulatory framework and performs at an average and occasionally above-average standard. No financial management issues or challenges were reported in the ICR or to the IEG assessment mission.

Achievement of Objectives

25. The two objectives—"[i] to increase the contribution of agriculture to growth and poverty reduction while [ii] improving the management of soil and water resources"—are assessed separately (World Bank 2008).

OBJECTIVE 1: INCREASE THE CONTRIBUTION OF AGRICULTURE TO GROWTH AND POVERTY REDUCTION

26. For most years under review, growth of agriculture has been significantly lower than that of the overall economy (table 2.1). As a result, agriculture's contribution to overall gross domestic product (GDP) has steadily declined.[6] Although this consistent with structural transformation of agrarian economies, considerable evidence indicates that the agriculture sector has been performing below its potential.

27. Ghana's average annual agricultural growth rate over the past eight years (2008–15) has been about 4.2 percent, which is below the projected growth rate and Maputo target of 6 percent (MOFA 2015). This is a drop from the 5 percent average agriculture growth rate during the 2001–06 period. For the period 2016–18, the Ghana Statistical Service projects that agriculture sector growth will slow further to an average 3.3 percent.

28. Increasing output and yield of staples has been an important aim of Ghana's agriculture policies. Yet, production of key crops over the evaluation period (table 2.2) has been variable, and the yields of most major staple crops have remained flat (table 2.3). In most cases, yield growth rates have lagged behind output growth rates, suggesting expansion in the area cultivated is playing a role (Dzanku and Aidam 2013).

29. The ICR argued that between 2008 and 2010, "disproportionately high food production and productivity increases were achieved in the northern regions" compared with the rest of the country and attributes this to MOFA's fertilizer subsidy program which was financed with the financial transfers from the DPO series.[7] Other evidence indicates that this is far from certain and that rainfall may have played a more significant role. Rainfall was above the 30-year average for that region during that period, whereas rainfall averages in the rest of the country were on par with or below 30-year averages. Moreover, although average consumption of fertilizer increased over presubsidy levels, it remains low by international and Sub-Saharan African standards. The effectiveness of the subsidy program is hampered by leakages and other factors. The impact of fertilizer use on yields is constrained by the lack of availability of improved seeds.[8]

30. With regard to the series' contribution to poverty reduction, data from the last two Ghana Living Standards Surveys indicate that overall poverty rates in Ghana declined from 29 percent in 2006 to 21.4 percent in 2012. However, there is insufficient information to establish whether the agricultural sector has contributed to this. A 2015 World Bank study of Ghana's poverty reduction found that the key factors contributing to poverty reduction over this period were improved access to basic infrastructure, increased educational attainment, and modification in the household structure (Molini and Paci 2015).[9]

31. Efficacy of objective 1 is rated **modest.**

Table 2.1. GDP Growth Rates by Sector at 2006 Constant Prices (percent)

	Year							
Item	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014***	**2015†‡**
Agriculture, total	7.4	7.2	5.3	0.8	2.3	5.7	4.6	0.04
Crops	8.6	10.2	5.0	3.7	0.8	5.9	5.7	−1.7
Of which cocoa	3.2	5.0	26.6	14.0	−9.5	2.6	4.3	3.5
Livestock	5.1	4.4	4.6	5.1	5.2	5.3	5.3	9.3
Forestry and logging	−3.3	0.7	10.1	−14.0	6.8	4.6	3.8	1.6
Fishing	17.4	−5.7	1.5	−8.7	9.1	5.7	−5.6	5.3
Industry, total	15.1	4.5	7.0	41.6	11.0	6.6	0.8	9.1
Services, total	8.0	5.6	9.8	9.4	12.1	10.0	5.6	4.7
GDP at basic prices	9.1	4.8	7.9	14.0	9.3	7.3	4.0	4.1
GDP at purchaser's value	9.1	4.8	7.9	14.0	9.3	7.3	4.0	4.1

Source: MOFA 2015.
Note: *Revised. †Provisional. (January–September). ‡The University of Ghana Agriculture Faculty informed IEG that the 2015 growth rate was revised to 2.3 percent as of April 2016. GDP = gross domestic product.

Table 2.2. Production Trends of Major Staple Crops (metric tons, thousands)

	Year										
Crop	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Maize	1,171	1,189	1,220	1,470	1,620	1,872	1,684	1,950	1,765	1,762	1,692
Rice	237	250	185	302	391	492	464	481	570	604	688
Cassava	9,567	9,638	10,218	11,351	12,231	13,504	14,241	14,547	15,990	16,524	17,213
Yam	3,923	4,288	4,376	4,895	5,778	5,861	5,855	6,639	7,075	7,119	7,296
Sorghum	305	315	155	331	351	353	287	280	257	259	264
Soybeans	39	54	50	75	113	145	165	152	139	141	142
Millet	185	165	113	165	113	194	246	219	183	180	n.a.
Cowpea	144	167	119	180	205	219	237	223	200	201	n.a.

Source: MOFA 2015.

Table 2.3. Actual versus Potential Yields of Major Staple Crops (metric tons per hectare)

	Year											
Crop	***200 5***	***200 6***	***200 7***	***200 8***	***200 9***	***201 0***	***201 1***	***201 2***	***201 3***	***201 4***	***2015***	***Potentia l***
Maize	1.58	1.50	1.54	1.7	1.7	1.9	1.7	1.4	1.7	1.7	1.9	5.0
Rice (paddy)	1.98	2.0	1.70	2.3	2.4	2.7	2.4	2.5	2.6	2.7	2.7	6.0
Cassava	12.8	12.2	12.8	13.5	13.8	15.4	15.8	16.7	18.3	18.6	18.8	48.7
Yam	13.1	13.2	13.5	14.2	15.3	15.5	14.5	15.6	16.8	16.6	16.9	49.0
Sorghu m	1.0	0.98	0.75	1.2	1.3	1.3	1.2	1.2	1.1	1.1	1.2	2.0
Millet	1.0	0.83	0.69	1.07	1.32	1.24	1.03	1.0	n.a.	n.a.	n.a.	2.0
Cowpea	n.a.	n.a.	n.a.	1.2	1.7	1.8	1.8	1.8	1.2	1.2	1.2	3.0

Source: 2005–10: Dzanku and Aidam 2013; 2011–15: MOFA 2015.

Table 2.4. Annual Area Planted to Major Food Crops (hectares, thousands)

	Year									
Crop	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Maize	740	793	790	846	954	992	1,023	1,042	1,023	1,025
Rice	120	125	109	133	162	181	197	189	216	224
Cassava	750	790	801	840	886	875	889	869	875	889
Yam	300	325	324	348	379	385	204	426	422	428
Sorghum	305	320	208	276	267	253	243	231	226	227
Soybean	45	52	47	62	77	91	86	85	85	87
Millet	185	200	163	182	187	177	180	172	n.a.	n.a.
Cowpea	180	185	139	161	163	167	182	169	162	166

Source: MOFA 2014a.

OBJECTIVE 2: IMPROVED MANAGEMENT OF SOIL AND WATER RESOURCES

32. The aim was to enhance natural resource management by mainstreaming sustainable land management practices into agriculture sector planning and stimulating greater adoption of sustainable land management practices by farmers. The Agriculture Sustainable Land Management Strategy and Action Plan (2009–15) was adopted by MOFA in 2008 (a prior action). In 2010, a Strategic Investment Framework for Sustainable Land Management of the revised FASDEP was completed, which identified priority ecosystem target areas in which investments in land use and soil and watershed management were to be made.

33. However, little progress was made in achieving the expected outcome of a 3 percent increase in the number of farmers adopting soil and water conservation

technologies. A baseline survey undertaken at project closure found a high awareness among farmers of soil and water conservation technologies but a low adoption rate.

34. During the first two years of the series, the government focused on the preparation and dissemination of a manual on sustainable land management practices to all regional and district extension service providers and trainers. The manual was reportedly distributed widely, and various sustainable land management practices were said to be promoted as a result, but this did not result in high adoption rate of better soil and water practices. Dissemination of the manual was not followed up by improvements in agricultural extension and hands-on training, nor were there random checks on the take up and the reasons behind the low rate of adoption.

35. There has been little progress since closure. Although sustainable land management remains a pillar of agriculture policy, documents developed for the period 2011–15, implementation is lacking.[10] Implementation has been constrained by insufficient resources at the district level. There has been little sensitization to motivate behavior change. Resources are required to incentivize farmers to uptake sustainable land management practices. Uptake is also held back by the lack of sufficient land use security rights in the north of the country.

36. Achievement of objective 2 is rated **negligible.**

Policy Area Outcomes/Achievements

37. The policy areas relevant to achieving the first objective are: policy area 1: improved food security; policy area 2: improved income growth; policy area 3: increased competitiveness and market integration; policy area 4: sustainable management of land and the environment was most relevant to achieving objective two and has already been discussed above; policy area 5: science and technology; and policy area 6: institutional coordination. Progress made in each policy area is discussed below.

POLICY AREA 1: IMPROVED FOOD SECURITY AND EMERGENCY PREPAREDNESS

38. The prior actions in support of this policy area were the completion of a value chain postharvest loss survey and the incorporation of recommendations for reducing postharvest losses into MOFA's sector plan for FY2010-2015. This was expected to lead to a reduction in postharvest losses by 5 percentage points from the baseline that was to be determined after a survey (tentatively set at 30 percent). An additional target specified for this policy area was an increase in per capita production of key staple crops by 3 percent.

39. The ICR was not able to establish the extent to which the target was achieved because regular assessments of postharvest losses by the MOFA field staff were not implemented (World Bank 2011a). Methodological challenges of measuring actual losses were identified during a pilot phase that called for a different monitoring approach. At the time of the ICR's writing in 2011, an action plan for reducing postharvest losses in specific crops was being designed and was expected to be implemented in 2012, and in 2013 a survey was to be launched to track the impact of specific interventions. According

to the 2015 MOFA annual progress report, no current data is available on postharvest losses. MOFA attributes the lack of implementation of the postharvest loss assessment and implementation of the action plan to a lack of resources. This area was not taken up in the subsequent agriculture DPO series. According to MOFA these was no need to include further measures as prior actions because it was already an ongoing concern that the government intended to address.

POLICY AREA 2: INCREASED GROWTH OF INCOME, FOCUSING ON PARTICIPATION OF NONSTATE ACTORS

40. Actions in this policy area aimed to improve growth in incomes and reduce income variability. This policy goal was supported by prior actions in four areas: (i) irrigation management, (ii) development of FBOs, (iii) agriculture credit, and (iv) the management of fisheries resources.

41. **Irrigation management.** Support in this area sought to improve performance of irrigation systems through the implementation of a new irrigation policy and an increase in the management of irrigation facilities by water users. Prior actions included (i) the submission of a new irrigation policy to the cabinet, which was approved in 2010 and was seen as a critical first step in motivating and supporting a move away from public management of irrigation facilities to a higher degree of private (water user based) management to increase efficiency, ensure better maintenance, and promote higher levels of investment; (ii) the completion of a survey of both formal and informal irrigation facilities to establish a baseline of the number and performance of existing schemes; and (iii) adoption by MOFA of an action plan for joint irrigation service management activities for increasing the management of irrigation facilities by water user associations.

42. Transfer of irrigation management to water user associations was expected to lead to an improvement in irrigation performance, to be reflected in a 20 percent improvement in the overall land intensification ratio.[11] Progress has been made in expanding the number of formal irrigation schemes managed by water user associations, but the land use intensification ratio has remained low. The Independent Evaluation Group (IEG) mission was informed that management has been transferred to water user associations for 56 of the formal schemes in existence at the time of the assessment mission. However, the land use intensification ratio has shown only marginal improvement (see table 2.5). The ICR reported that the combined land use intensification over the time period of the DPO series, 2008 and 2010, had declined by 28 percent. It was noted that "the ratio for formal schemes under the government's "direct control increased but the combined drop is due to the large drop in informal schemes" (World Bank 2011a). Since the end of the series in 2010, the performance of formal schemes shows minimal improvement, but a more notable improvement in informal schemes. The ratio reached a high of 1.04 in 2013, dropping back to 0.88 in 2014 and 2015 (see table 2.5). Efficient use of the infrastructure would yield a ratio of 2.0, which represents full utilization of the scheme for double cropping (World Bank 2010). The Ghana Irrigation Development Authority informed the IEG mission that the low intensification ratio reflects the fact that irrigation schemes are still not used to their full potential due to various management and market constraints many water user associations face including the high cost of electricity tariffs (which are higher for irrigation than industry), lack of support services (in

particular, insufficient access to tractors to prepare for planting), and the high cost of fertilizers.

Table 2.5. Land Use Intensification Ratio

	Year								
Area	**2007** (baseline)	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Combined	0.80	0.65	0.57	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Formal irrigated area[a]	0.71	0.85	0.86	0.87	0.91	0.93	1.04	0.88	0.88
Informal irrigated area	n.a.	0.48	0.47	0.41	0.41	0.56	0.57	0.6	n.a

Sources: Years 2007–09: World Bank 2011a; years 2010–15: MOFA 2015.
Note: The land use intensification ratio is the area of cropped land divided by the area of irrigable land within a command area.
a. Formal irrigation facilities are those for which some form of permanent infrastructure has been put in place, usually funded by the public sector due to its capital intensive nature. Informal irrigation refers to those areas for which individuals or groups cultivate areas through the use of simple structures and equipment for water storage, conveyance, and distribution.

43. **Farmer-based organizations.** The objective for this policy area was to stimulate increased development of FBOs and their integration in markets and value chains. The prior actions supported upstream policy measures facilitating the legal formulation of FBOs through: (i) the preparation of a Cooperatives Bill and its submission to parliament and (ii) concluding a memorandum of understanding between MOFA and the Ministry of Local Government, Rural Development, and Environment that provides for district corporations regulation to enable the establishment and operation of FBOs as district corporations.[12] The DPO series aimed to complement ongoing efforts of CIDA, which supported strengthening the capacity of FBOs in the field. The draft Cooperatives Bill was prepared but its submission to parliament was delayed due to upcoming elections. It was expected to be resubmitted in 2010. However, since the end of the DPO series, there has been little additional progress on developing the legal framework for FBOs. IEG interviews with the Extension Services Directorate in 2016 indicate that approval of the Cooperatives Bill is still pending.[13]

44. Support in this area was expected to lead to an increase in FBO capacity for production, postharvest management and marketing, reflected in a 10 percent increase in (i) the number of functioning FBOs, (ii) the number of FBOs accessing financial services, and (iii) the number of FBOs accessing marketing information. Although these targets were exceeded by the end of the project, covering the period 2008-10, the ICR notes that a large part of the increase was attributable to the CIDA Agricultural Services Program, which operated in parallel (World Bank 2011a).

45. Using data obtained by the IEG mission, table 2.6 shows that, the number of functioning FBOs and those accessing financial services has declined since 2011.

Table 2.6. Farmer-Based Organizations Accessing Services (number)

	Year							
Criterion	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Functioning FBOs	4,369	5,039	5,309	6,434	7,116	6,755	5,780	6,679
Functioning FBOs accessing financial services	1,152	1,348	2,283	2,587	2,676	2,518	1,641	1,402
Functioning FBOs accessing marketing information	873	941	2,110	2,341	1,818	1,548	1,838	2,323

Sources: Years 2007–08: World Bank 2011a; years 2009–14: MOFA 2014a.

46. Moreover, the number of FBOs at a given point in time is not seen by many stakeholders as a reliable indicator of the state of FBO development or an accurate proxy of the extent to which smallholders are able to access to input, credit or participate in markets. Farmers groups form and dissolve regularly, in response to donor or nongovernmental organization-funded initiatives that require organizing as a group to participate in a project; they often dissolve shortly thereafter. Farmers can also join more than one group. Sustainability of FBOs was widely reported as problematic.

47. Most stakeholders interviewed by IEG believe that FBOs have not yet taken off in Ghana in a meaningful way.[14] MOFA's Extension Services informed the IEG mission that although the memorandum of understanding with local governments has alleviated some of the challenges in legal formation of an FBO,[15] the primary bottleneck to the development of FBOs remains mistrust among members.[16] Interviews with MOFA, the International Food Policy Research Institute, academia and other development partners active in the agriculture sector also indicated that often the leadership of umbrella FBOs in Ghana are not actual farmers.[17] MOFA is currently wrestling with finding different ways to represent true farmers. Creating trust between producers and private sector companies is also an area that needs strengthening.

48. **Agriculture credit.** The intention was to increase the share of credit going to agriculture from 5 percent to 8 percent. The prior action was the preparation by MOFEP and MOFA of a plan for improving access to agricultural credit. The ICR found that the share of credit to the agriculture sector provided by deposit money banks and rural community banks increased over the DPO time period but did not reach the 8 percent target. Official statistics available subsequent to 2009 only reflects the share of credit from deposit money banks. It indicates that the share of credit to the sector from this source peaked in 2010 and has steadily declined since (see table 2.7).[18] Insufficient access to credit remains a key constraint for the sector which is highlighted in the current literature on the current state of Ghana's agriculture sector. The link between the action plan and the volume of credit going to agriculture is unclear.

Table 2.7. Share of Outstanding Credit by Deposit Money Banks to Agriculture (percent)

	Year								
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Agriculture as percentage of total	6.47	5.97	6.29	7.27	6.71	5.77	4.26	3.92	3.66

Source: Years 2007–09: World Bank 2011a; Years 2010–15: MOFA 2015.

49. There is insufficient information to ascertain the causes of actual changes in credit to the sector overtime and the extent to which changes can be attributed to measures in the action plan. The action plan was to support the implementation of a policy framework to improve access to credit. While the action plan was prepared (meeting the prior action), the PPAR mission was not able to ascertain the extent to which it was actually implemented.

50. Interviews with MOFA staff indicated that this area was dropped from the subsequent DPO series because agriculture credit was expected to be increased through a rural finance project implemented by the Development Finance Unit in the Ministry of Finance (formerly known as the Micro Finance Unit). However, that project focused on improving the capacity of rural microcredit institutions in general, and did not specifically address agricultural credit constraints.[19] In its comments on this report, MOFA notes that capacity of rural finance institutions was one of the constraints limiting access to credit. Therefore, the rural finance project aimed to increase financial inclusion by enhancing microcredit institutions understanding of lending to agriculture and smallholders. “This was ultimately supposed to contribute to increased credit to rural enterprises and for that matter agricultural credit. Impact of such interventions which are affected by broader macroeconomic environment cannot be realized in the short term.”

51. **Fisheries management.** The aim was to strengthen governance in the fisheries sector through the introduction of supporting legislation and enhanced implementation capacity of the Fisheries Commission. Improving the income of small scale fishermen was a longer-term impact from improved governance of the sector. Regulations to the Fisheries Act were submitted to parliament, and subsequently passed, and the Fisheries and Aquaculture Policy was revised to articulate its approach to implementing the 2002 Fisheries Act.

52. The program target was to increase internally generated funds from the fisheries sector by 10 percent per annum. The target was exceeded. The ICR notes that between 2008 and 2010, revenues from the Fisheries Directorate increased by 80 percent, while revenues from the Fisheries Levy increased by over 350 percent” (World Bank 2011a). This was attributed to increased payments of levies by inshore vessels due to awareness campaigns combined with threats of high penalties, and increased licensing fees for fish exports. It is, however, not clear how the revised policy framework supported by the series contributed to the increase in revenues. It is also unclear to what extent the increased revenues have been retained by the Fisheries Commission and reinvested into enforcement and management activities. Effective enforcement of regulations in the

sector remains a challenge (see the Fisheries policy area section of the second DPO series).

53. Reforming the fisheries sector was also supported by the second DPO series.

POLICY AREA 3: INCREASED COMPETITIVENESS AND ENHANCED INTEGRATION INTO INTERNATIONAL AND DOMESTIC MARKETS

54. The program intended to diversify exports by strengthening value chains for key products while increasing the participation of smallholder farmers. Actions were to include (i) competitive recruitment of the management of the multipurpose fruit terminal at Tema port and its use on a commercial basis, and (ii) facilitation of contractual arrangements between smallholders and the private sector by maintaining and using a web-based database on out-growers.

55. Prior to the DPO series, the fruit terminal was not in use as financing and management was under debate. A public-private partnership arrangement was implemented, whereby the Ghana Ports and Harbor facility retained ownership but management transferred to a private sector company (a prior action). The PPAR mission found that this arrangement continues to operate, providing cold storage on a commercial basis for exported horticulture. However, the out- grower database was out of date and its continuity in question. Since the decentralization of extension services in 2013, the database information on FBOs at the district level has not been updated. No information was available on the extent to which the database has been used, the number of contractual agreements facilitated, or the extent to which smallholders have been integrated into markets.

56. Reforms were expected to lead to a 10 percent increase in the value of export of nontraditional agricultural commodities. However, the dollar value of exports, between 2007 and 2010, fell by 16 percent while volume fell by 5 percent.

57. Moreover, the link between the prior action and expected outcomes is unclear. While the cold storage facility facilitates more convenient sorting and packing, MOFA annual reports show that Ghana's nontraditional agriculture exports continue to have difficulty in meeting international standards.[20]

POLICY AREA 5: SCIENCE AND TECHNOLOGY APPLIED IN FOOD AND AGRICULTURE DEVELOPMENT

58. The series sought to strengthen research extension liaison committees (RELCs), which are mechanisms to make research more demand driven. However, the prior action for the first DPO operation is vague: "increased participation of farmer representatives in priority setting of adaptive research through RELCs." No information is provided in the program documents or ICR to demonstrate the extent to which participation had been increased.

59. The second operation called for conducting a baseline study on the adoption rate of technologies by farmers' participating in demonstrations to identify how to motivate behavioral change. This prior action was not met; the survey did not meet MOFA quality

standards and had to be redone. The project completion report notes that baseline survey eventually carried out in 2010, covering all technologies disseminated in the past 10 years, found that there was a very high level of awareness but low level of adoption.

60. The expected outcome was improved agricultural productivity, expressed as a 30 percent increase in adoption of new technologies over baseline levels. At closure, attainment of the adoption target could not be measured.[21] Support for the RELCs was carried over to the second DPO series (see para 130 below)

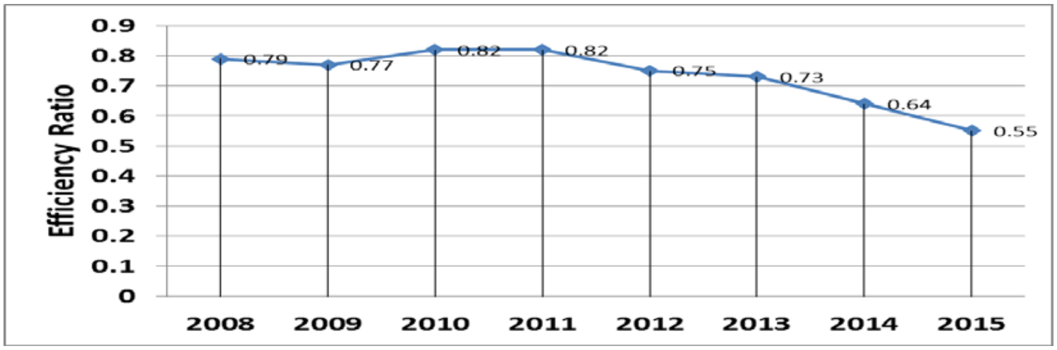
POLICY AREA 6: INSTITUTIONAL COORDINATION TO IMPROVE BUDGET ALLOCATION AND EXECUTION TO THE SECTOR AND WITHIN SECTOR

61. A key concern is the lack of timely budgetary releases, especially for services and investment spending, in line with the agricultural cycle. The series therefore attempted to improve the quality of budgetary processes, through improved budget allocation and execution and increased financial capacity and predictable financing to implement sector development plans.

62. Prior actions were (i) the approval of a strategic plan for 2008-2010, based on a medium-term expenditure framework, (ii) completion of a public expenditure and institutional review to inform institutional performance and reforms including areas for improvement in the short term, and (iii) the release of at least 80 percent of the committed 2008 MOFA national budget to items 3 (goods and services) and 4 (assets), and at least 60 percent of 2009 allocations released by the third quarter.

63. The ICR reported that MOFA's "budget release rate increased from 83 percent in 2007 to 112 percent in 2010." Budget execution rates for the investment/asset category using government funds increased from 50 percent in 2007 to 112 percent in 2010. Budget execution rates for resources from donors, over which government has no direct control, increased from 45 percent in 2007 to 57 percent in 2010. No information was reported on the timeliness of releases and whether the target for third quarter releases was met. The overall ratio of expenditure against releases improved from 93 percent in 2007 to 97 percent in 2010. However, the ministry's latest annual performance report indicates that the improvements in budgetary processes were short lived. For example, the implementation efficiency ratio, the ratio of number of activities planned and budgeted for against the number implemented and completed on schedule, increased from 78 percent in 2008 to 82 percent in 2010–11, thereafter it declined steadily, dropping to 55 percent in 2015 (figure 2.1). This declining performance was attributed partly to inadequate and late release of funds and increasing cost of goods and services which most often affect implementation of prioritized activities.

Figure 2.1. MOFA Budget Implementation Efficiency Ratio



Source: MOFA 2015.
Note: The implementation efficiency ratio is the number of activities planned and budgeted for against the number implemented and completed on schedule

Ratings

Outcome

64. The relevance of objectives is rated **substantial.** Relevance of design is **modest.** Its relevance was diminished by the vague formulation of objectives, and weaknesses in the results chain make it difficult to establish a plausible association between the broad development objectives and intended outcomes. The alignment of the chosen instrument with the World Bank's country partnership strategy also weakened over time. Efficacy of the first objective is rated **modest,** and that of the second **negligible.** Overall outcome rating for the series is **moderately unsatisfactory.**

Risk to Development Outcome

65. The development outcomes of this series face a number of significant risks. Ghana's economy remains vulnerable to external factors, including robustness of financial flows, global interest rates, world food price shocks, and price volatility of its export crops, gold, and oil. If international oil prices are favorable, growth of the oil sector may undermine agricultural competitiveness.

66. Fiscal risks also remain significant. Ghana has a history of high and persistent fiscal deficits, budgetary arrears, and expenditure escalation before elections. There is a high probability of debt distress and further fiscal destabilization.[22]

67. The government's willingness and ability to continue investing in agriculture reforms is also in question. MOFA's share of the national budget has been declining. The risk of fertilizer subsidy displacing other public expenditures in the sector also remains high.[23]

68. Environmental risks (including risks of exposure to natural disasters) also remain significant given the still very low share of irrigated land and high dependence of agricultural production and rural incomes on weather conditions. Rainfall has become increasingly erratic.

69. According to MOFA the following measures mitigation measures have been put in place to address some of the risks. In 2015, the government entered into a program with the International Monetary Fund as a measure to restore macroeconomic stability. The government is reviewing the fertilizer subsidy program “with the view of identifying best options to apply the resource.” Several climate change and sustainable soil and water management projects are in place to mitigate the climate change effects on rainfall.

70. Risk to development outcome is **significant.**

WORLD BANK PERFORMANCE

Quality at Entry

71. The World Bank showed strong engagement with MOFA and other development partners throughout the preparation process. Design of the series benefited from considerable technical knowledge and prior analytical work, including the 2006 public expenditure and financial accountability report and the 2009 draft assessment of the public financial management, the latter helped establishing an adequate fiduciary environment for the purpose of this series. Since this was the first agricultural sector DPO prepared by the World Bank in the Africa Region, the task team drew on lessons learned primarily from other investment operations carried out in Ghana. The lesson from these operations largely related to the identification of critical issues to be supported by the prior actions.

72. There were, however, significant shortcomings in World Bank quality at entry. The Poverty and Social Impact Assessment and gender analysis lacked sufficient detail. While the assessment contained statements of positive impact, it included no quantification nor a clear indication of the chain of causation. Key risks to the program were identified in the program documents, but some of the proposed mitigation measures were not insufficient.[24]

73. The series’ objectives were very broad, and the policy framework covered too many areas. A number of indicators could not be directly measured. This undermined both strategic relevance and operational approach. Monitoring and evaluation suffered from design weaknesses. In an effort to use country systems, the results framework was based on the MOFA’s own monitoring and evaluation framework. However, the World Bank could have done more to assess the adequacy of indicators in the government’s monitoring and evaluation framework. Moreover, the policy matrixes and the tracking of prior actions were not fully integrated into MOFA’s planning process. DPO-related planning thus added an extra task for MOFA directorates instead of blending into ongoing planning processes.

74. Quality at entry is rated **moderately unsatisfactory.**

Supervision

75. The task team leader was based in country, which facilitated strong engagement throughout the series with government officials and other development partners.

Supervision missions were carried out as part of the joint sector review process conducted by MOFA and all development partners engaged in the sector.

76. The World Bank proactively identified the threat to development impact and fiduciary environment for the second operation. Because of an escalating budget deficit and the inadequate fiscal and macroeconomic framework, the second operation was delayed for a year until a new program with the International Monetary Fund (IMF) was put in place. The World Bank team was also responsive to the evolving policy framework and flexible in agreeing to design a new series to better support the needs of the new sector investment plan.

77. However, more could have been done during supervision to improve the shortcomings in design. No adjustments were made to the overly ambitious and broadly stated objectives. The shortcomings in the results framework were not addressed and improvements were not made to the monitoring and evaluation indicators, which were taken from the government's monitoring and evaluation system for measuring results from the implementation of MOFA policies, but were too ambitious and inappropriate for measuring the DPO's objectives.

78. The World Bank's engagement was also too narrowly focused on the PPMED. Greater effort was needed to build capacity and ensure buy-in from all of the different directorates within MOFA and in other ministries responsible for implementing the reforms supported by the series. Interviews with MOFA officials indicate that, although other directorates were involved in the identification of prior actions and carried out the necessary measures to achieve them, many did not fully capture the distinction between budget support and traditional investment project operations, and the directorates took insufficient ownership in subsequent implementation of reforms.

79. The World Bank's supervision is rated **moderately satisfactory.**

80. Overall World Bank performance is rate **moderately unsatisfactory.**

BORROWER PERFORMANCE

81. The government demonstrated ownership and commitment to the program during design. Prior actions were rooted in the government's agricultural strategy, and their implementation was satisfactory (with one exception). However, the government fell short in ensuring the implementation of the strategies and policies prepared as prior actions. The joint sector review is reported to have been a useful forum for identifying bottlenecks to the implementation of sector policies and to generate agreement on actions for improvements, but follow-up action by MOFA has been consistently weak. In addition, MOFEP should have done more to ensure implementation of reforms under ministries and agencies outside MOFA's authority. As noted above, many of the MOFA directorates beyond PPMED and agencies outside of MOFA lacked sufficient ownership in implementing reforms. Most informed the IEG mission that they did not receive a budget for implementation. Inadequate coordination within MOFA and the weak leverage that MOFA had over other agencies hampered PPMED's capacity to track reform implementation beyond the prior actions.

82. Delays in internal Government of Ghana processing, partly caused by a long summer recess of parliament, also contributed to the delay in the disbursement of the AGDPO 2. In addition, some outcome indicators could not be measured because of weaknesses in the indicator baselines and the results framework, and delays in data collection, including baseline studies that were carried out too late to allow for assessment of some indicators.

83. Overall borrower performance is rate **moderately unsatisfactory.**

MONITORING AND EVALUATION

84. **Monitoring and evaluation design.** Design of the results framework for this programmatic series was organized around the FASDEP objectives and MOFA's monitoring and evaluation framework. Out of the 10 PDOs, performance of six objectives was tracked using existing data from the MOFA monitoring and evaluation system. Data for four objectives (improved irrigation scheme performance, improved food security through postharvest losses; environmental compliance through adoption of soil and water conservation technology adoption; and improved agricultural productivity through production technology adoption) were either partially or not at all covered and required modifications to the existing monitoring and evaluation system. As discussed in the section on relevance of design, many of the indicators linked weakly to the outcomes they were intended to assess. Several baseline studies critical to the quality of outcome indicators and their measurement were unavailable at entry. Many remained unavailable throughout the series or were of poor quality, undermining the assessment of the achievement of outcomes.

85. **Monitoring and evaluation implementation.** The monitoring and evaluation system was insufficient on its own for generating enough data to measure the programs performance. In several instances, baseline studies were not completed in time to allow direct assessment of achievements of outcomes. The International Food Policy Research Institute (IFPRI) made efforts to augment MOFA sector performance data with other analytical work under the joint sector review process and policy studies. Consequently, data were generated to report on many of the indicators, but the indicators themselves were not sufficient for establishing a plausible causal chain between the prior actions, expected outcomes, and the series objectives.

86. Adequacy of the macroeconomic framework throughout implementation was assessed by drawing on reports on macroeconomic developments assessed progress in implementing the macroeconomic framework agreed among the Government of Ghana, IMF, World Bank, and MDBS.

87. **Monitoring and evaluation use.** There is little indication that the monitoring and evaluation system was used to inform MOFA decision making.

88. Monitoring and evaluation is rated **negligible.**

3. Second Programmatic Series: Third and Fourth Agriculture Development Policy Operations

Objectives, Design, and Relevance

OBJECTIVES

89. The project development objective of the series was worded slightly differently in the program documents of the two operations. The first operation in the series (AGDPO 3) states that the objective is “to enhance the productivity and competitiveness of Ghanaian agriculture” (World Bank 2011b, 3). The second operation in the series (AGDPO 4) changed wording to “enhance productivity and market access among farmers, and to improve agriculture sector management” (World Bank 2012, 3).

90. This report uses the statement of objectives in the AGDPO 4 program document.

Relevance of Objectives

91. The objectives were relevant to the policy and program priorities set forth in the newly articulated FASDEP II and in the METASIP.[25]

92. The objectives were also relevant to Ghana’s agriculture sector priorities articulated in Ghana Shared Growth and Development Agenda for the period 2010–13. The policy agenda emphasized the need for achieving poverty reduction, particularly in the north, and ensuring that Ghana’s agriculture remained competitive and profitable. Achieving these goals would require increasing agriculture productivity, improving access to markets by farmers and firms, and enhancing management and support of the sector.

93. The series was approved in the context of other budget support organized under the MDBS framework. The World Bank’s contribution to the MDBS through the Economic Growth PRSC and the PRSC series (7–8) focused on cross-cutting issues, including public financial management and economic governance. To fully address budget needs at the sector level, a key objective of the new AGDPO series was to strengthen the government’s ability to plan sector wide resource allocation and implementation using its own budgetary resources.

94. The objectives were relevant to the World Bank’s goals outlined in the country assistance strategy for the period 2008–12, specifically the three pillars: (i) improving economic institutions; (ii) improving competitiveness and job creation; and (iii) protecting the poor and vulnerable. The series objectives remain relevant to the 2013–16 country partnership strategy, which emphasizes the need to improve the management of agricultural sector resources. However, budget support is no longer identified as the modality to achieve this.

95. Relevance of objectives is rated **substantial.**

DESIGN

Policy Areas

96. The DPO series was designed to complement investments by other development partners, using the METASIP as a single reference point. The program series supported reforms in five of the METASIP's policy areas:

- Policy area 1: Agricultural technology for improved on-farm productivity: improved research, extension services, skills training and education in agricultural sciences and farm management and adoption of agricultural input technology.
- Policy area 2: Market and value chain development: increased participation of smallholders, and improved performance of grain markets.
- Policy area 3: Irrigation and other infrastructure: improved irrigated agriculture.
- Policy area 4: Fisheries: improved management of the fisheries sector.
- Policy area 5: Sector management and coordination: enhanced delivery of agriculture sector investment program (World Bank 2011b).

Implementation Arrangements

97. MOFA was responsible for implementing policy reforms under the DPOs. Additional financial and contractual responsibilities were performed by the MOFEP.

Relevance of Design

98. The policy areas and prior actions were relevant to the objectives but lacked sufficient institutional depth to achieve the desired impact in the field. The objectives lacked selectivity and prioritization in the policy areas and prior actions. The policy framework was spread over too many policy areas. The policy areas and prior actions were selected to support the various METASIP programs, but METASIP is considered too broad to serve as a prioritization tool (Benin, Makombe, and Johnson 2014; NEPAD 2014; Kolavalli et al. 2015). Many prior actions constituted upstream legislative or policy decisions that were insufficiently tied to implementation. Consequently, prior actions, though achieved, had minimal effect in the field. Some prior actions were stated in vague terms; others were unclear in terms of whether they were actually the most critical required to achieve the intended outcome. The series objectives were also overly broad and ambitious relative to the size and time frame of the series.

99. The results matrix had a number of weaknesses. The causal chain from the policy actions and triggers to the intended outcomes, subobjectives, and objectives, as described in the policy matrix, was weak for many of the policy areas. A mismatch emerged between the prior actions, the expected outcomes, and the performance indicators and targets aimed at demonstrating the achievement of outcomes. Additionally, the program documents do not always articulate a clear theory of change. Many indicators measure outcomes on a national scale, whereas the prior actions supported outcomes of a more modest reach. Some expected outcomes, for example, in the seeds subsector, needed a

considerably longer time to materialize than the DPO series allowed. The program documents, however, do not indicate how results beyond the series time frame would be monitored.

100. The use of DPOs as instruments for achieving Ghana's agriculture goals became less relevant over time. Reflecting this, the series was reduced from three to two operations, as the Ministry of Finance's preference was for general rather than sectoral budget support.[26]

101. Relevance of design is assessed as **modest.**

IMPLEMENTATION

102. **Program financing and dates.** The series was designed to be implemented through three single-tranche operations. The first operation of this programmatic series (AGDPO 3), was approved on May 26, 2011, in the amount of SDR 36 million ($57 million equivalent). It became effective on September 16, 2011, and closed on schedule on November 24, 2012. The second operation in the series (AGDPO 4) was approved on May 15, 2012, in the amount of SDR 32.3 million ($50 million equivalent), made effective on September 12, 2012, and closed on schedule on November 15, 2012.

103. The planned third operation in the series was canceled at the request of MOFEP, which found sector budget support in general to be too cumbersome to monitor and preferred to have all budget support at the central level. This gave MOFEP greater flexibility and oversight over policy actions.

104. As with the earlier series, this series was designed and implemented in coordination with the CIDA budget support operation. The policy matrix included both World Bank–supported prior actions and CIDA triggers. World Bank supervision was aligned with MOFA's monitoring and evaluation system and the activities of other donors, focusing on annual reporting and the joint sector review process by all stakeholders.

105. The task leader of the DPO series also played a leadership role in the Agriculture Sector Working Group, which enhanced coordination and policy dialogue during implementation. The World Bank and CIDA shared their harmonized policy matrix with other external partners through this forum.

106. The World Bank's dialogue and engagement continued largely through counterparts in the MOFA's PPMED. The consequential lack of understanding of the budget support instrument among key stakeholders beyond PPMED, along with PPMED's limited capacity to track subsequent implementation—which had influenced the earlier series—also affected this series.

107. Many stakeholders did not fully understand the distinction between budget support operations and project support. They viewed budget support as merely meeting triggers and did not realize it could benefit their particular area beyond that. This then coupled with a lack of ownership in the implementation of reforms. Finally, poor

coordination within MOFA and the weak leverage PPMED had over other agencies linked to prior actions hampered PPMED's capacity to track subsequent implementation.

108. Synergies between the DPO series and World Bank–supported investment operations in the fisheries sector did not materialize as planned. A substantial holdup in the effectiveness of the Ghana West Africa Regional Fisheries Project caused delays in the implementation of reforms related to the reduction of trawler licenses.

109. Weak extension service delivery at the local level was a hindrance to the effectiveness of policy reforms at that level. Administrative bottlenecks were associated with the decentralization of resources directly to districts, which hampered the increased uptake of technologies by farmers. Effectiveness of the fertilizer subsidy program was undermined by limited extension services, low access to credit, and the insufficient availably of improved seeds.

110. **Safeguards issues**. In compliance with operational policy 8.60, the policy measures supported by the operation were not expected to have significant effects on the environment. Beneficial environmental effects were expected to arise from actions aimed at strengthening the management of land, soil, and water and the promotion of good agricultural practices. Policies to enhance fertilizer use combined with improved soil management offered the potential to contribute to the restoration of soils and the improvement of soil fertility. Measures to promote agricultural intensification could potentially reduce encroachment on forests.

111. Ghana's environmental institutional framework, in place when the series was designed, was deemed adequate for setting environmental management standards and seeks to reconcile economic development and natural resource conservation. The framework included (i) the 1991 National Environmental Policy, (ii) the 1992 National Environmental Action Plan, and (iii) the 1994 Environmental Protection Agency Act.

112. The reform agenda supported by the series also offered the potential to directly and indirectly benefit rural populations, including many households in the northern part of the country, through enhancements in the availability of improved agricultural input technology and improved market access.

113. **Fiduciary**. IEG's desk review of the series found that the overall fiduciary risk of the operation was modest, given the positive public financial management improvements coupled with the government's commitment to reforms as exemplified by its implementation of a government-led Public Finance Management Reform charter and the latest IMF safeguards assessment, which indicated that Ghana had implemented the necessary reforms at the World Bank of Ghana.

114. Ghana's public financial management was solid enough at the series design stage to warrant the continuation of DPOs. Analytical work undertaken by development partners in collaboration with the government highlighted the strong foundation being built toward strengthening public financial management in Ghana. Fiduciary issues remained regarding budget execution, but reforms were under way for an effective cash management system, the treasury single account, and the full reinstatement of

commitment controls in all ministries, departments, and agencies. These measures were to lower the risk of expenditure slippages and to support the predictability of resource flows to ministries, departments, and agencies.

115. There were no issues with the flow of funds related to the two development policy loan disbursements. In light of the positive assessment of the prevailing fiduciary conditions by the World Bank's financial management team, no audit was requested. No fiduciary concerns were reported the IEG assessment mission.

Achievement of Objectives

116. The two objectives—"[i]enhance productivity and market access among farmers, and [ii] to improve agriculture sector management" are assessed separately below (World Bank 2012, 3).

OBJECTIVE 1: ENHANCE PRODUCTIVITY AND MARKET ACCESS OF FARMERS

117. Achievements in modernizing the agriculture sector and boosting food crop productivity are limited. As shown in table 3.1, yields for most major staple crops have been relatively flat, with a large gap between potential and actual yields.[27] As noted earlier, historically increases in agriculture output in Ghana have been due to area expansion rather than productivity enhancement. There is little evidence to indicate that this has changed.[28]

Table 3.1. Yields of Major Staple Crops (metric tons per hectare)

	Year														
Crop	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Potential**
Maize	1.5	1.6	1.6	1.6	1.5	1.5	1.7	1.7	1.9	1.7	1.4	1.7	1.7	1.9	5
Rice (paddy)	2.3	2	2	1.9	2	1.7	2.3	2.4	2.7	2.4	2.5	2.6	2.7	2.7	6
Sorghum	0.8	1	1	1	1	0.7	1.2	1.3	1.3	1.2	1.2	1.1	1.1	1.2	2
Cowpea	n.a.	n.a.	n.a.	n.a.	0.8	0.9	1.2	1.7	1.8	1.8	1.8	1.2	1.2	1.2	3
Cassava	12.3	12.7	12.4	12.8	12.2	12.8	13.5	13.8	15.4	15.8	16.7	18.3	18.6	18.8	48.7
Yam	13	11.9	12.5	13	13.2	13.5	14.2	15.3	15.5	14.5	15.6	16.8	16.6	16.9	49

Sources: Dzanku and Aidam 2013; MOFA 2014a, 2015.

118. Various studies of Ghana's agriculture sector attribute the low productivity in the sector to a host of factors.[29] Many of the policy areas supported by this series were relevant to addressing a number of these constraining factors. However, many of the prior actions were upstream. They supported the preparation of strategies and policies, the implementation of which has been seriously under resourced.

119. The mission was informed that a significant proportion of the budgetary resources provided by both series was used to finance the national fertilizer subsidy program. There are a number of well-documented factors that limit the effectiveness of that program.

120. Impact at the farm level has also been hampered be inadequate extension service delivery. In 2012, administrative weaknesses associated with the decentralization of funds constrained resource flow to the district level so that district extension agents were unable to carry out their tasks. In 2013, the district agriculture units were ceded to the Ministry of Local Government and now report to the district assemblies. The IEG mission was informed that, due to fiscal constraints, extension services are not functioning because district assemblies allocate their scarce resources to other services considered to be of a higher priority. Reports indicate that inadequate extension services affect both uptake of technologies and the raising of producer awareness of shifts in demands for quality products.

121. Achievement of this objective is rated **modest.**

OBJECTIVE 2: IMPROVED MANAGEMENT OF THE AGRICULTURE SECTOR

122. The two dimensions of sector management that the DPO series aimed to influence were budget planning and processes and coordination across the various entities with work affecting the sector. Both remain weak and are an impediment to improving sector outcomes.

123. According to the program documents for this series, "a key objective of the new AGDPO series is to strengthen the government's ability to plan sector wide resource allocation and implement using its own budgetary resources" (World Bank 2011b, 5). There is little indication that this has been achieved. The government continues to rely on donor-financed projects to a large extent to meet nonsalary expenses. Since 2013, national oil revenues have been allocated to agriculture sector, which has increased the planned allocation of budget from government sources. However, the actual amounts released have fluctuated, and some observers noted that national oil revenue resources have substituted rather than complemented contributions from the national budget.

124. Studies of Ghana's agriculture sector suggest that MOFA's discretionary resources are poorly targeted. The Food and Agriculture Organization (2015) reports that 85 percent of MOFA's budget is devoted to its priority agriculture programs which have had mixed progress. Few are profitable and concerns have been expressed that they crowd out resourcing of other priorities, such as agriculture research and irrigation.

125. Recent studies also reflect weaknesses in MOFA's capacity to negotiate for resources in the national budget negotiation process, continued delays in releases, and lack of budget discipline. "Some stakeholders believe that agriculture is not a priority for the Finance Ministry, as evidenced by its more visible outputs on road construction and health. This contributes to a late (or nonexistent) release of funds compared with other sectors, which makes it difficult or impossible for MOFA to deliver on set targets" (NEPAD 2014, 32). MOFA's 2015 annual report notes that delayed releases continue to affect MOFA's expenditure efficiency; the percent of budget used has consistently

declined since 2011, with a sharp drop in recent years (see figure 2.1). Given the seasonal nature of the agriculture sector, late release of funds means that an entire season can be affected. “There is an ongoing disconnect between sector plans and available resources, with the situation becoming worse when there are cash flow difficulties” (NEPAD 2014, 32).

126. Cross-sectoral coordination remains a significant constraint. MOFA does not have sufficient authority over other ministries whose responsibilities influence the agricultural sector. The prior actions carried out in this DPO series did little to overcome this structural coordination issue. Coordination across directorates within MOFA is also weak. The World Bank’s key counterparts were in the project planning unit of MOFA’s PPMED, and insufficient emphasis was placed on sensitization and capacity building of other directorates (NEPAD 2014). The quality of data is poor, and the flow of information across the sector is weak.

127. The efficacy rating for the achievement of this objective is **negligible.**

Policy Area Outcomes/Achievements

128. The key policy areas for objective one were (i) agriculture technology for improved on-farm productivity, (ii) market and value chain development, (iii) irrigation and other infrastructure, and (iv) fisheries. Key policy areas for objective two were (v) Sector Management and Coordination.

POLICY AREA 1: AGRICULTURAL TECHNOLOGY FOR IMPROVED ON-FARM PRODUCTIVITY

129. The series aimed at: (i) improving research, extension services, skills training and education in agricultural sciences and farm management, through the support of RELCs and (ii) the adoption of agricultural input technology.

130. **Improved research, extension services, skills training and education in agricultural sciences and farm management.** Support RELCS, built on the earlier series, with the twin goals of making research more demand driven and improving coordination between research and extension functions (which are housed in two different ministries). The prior action was to reflect funding for agricultural research in the FY11 budget for disbursement based on research priorities identified by RELCs and MOFA. The project documents do not provide further details to explain the specifics of this prior action. The program document for the AGDPO3 notes that “this prior action ensures that funding is available to the Council for Scientific and Industrial Research for research and extension delivery in the near term, while coordination on resource allocation is expected to be improved in subsequent years under Policy Area 5 Sector Management” (World Bank 2011b, 47). But there is no discussion of the amount of resources that have been budgeted or the adequacy for funding the identified research priorities. The program document also notes that “this prior action is consistent with the 2010 trigger applied by CIDA (for their budget support program for the implementation of FASDEP II) that focuses on disbursement of funds for RELC-identified research”

(World Bank 2011b, 35). It is not clear how the DPO prior action differs from the CIDA trigger.

131. Over the course of the series, RELC planning sessions were held annually in each of the10 regions of Ghana to discuss agricultural actors' problems and identify and prioritize researchable problems. By closure, 48 demand-driven research priorities had been identified by the RELCs surpassing the target of 30. The research projects were to be financed by the World Bank–financed West Africa Regional Agriculture Productivity Project, and other CIDA-financed projects. Since the close of the DPO series, the RELCs have continued to operate, but the frequency of meetings and the number of problems researched and completed has diminished (see table 3.2). However, there is no evidence to assess the extent to which technologies emerging from RELCs are taken up by farmers. PPAR mission interviews with Council for Scientific and Industrial Research indicate that in some cases research has successfully developed technologies to address farmers needs but additional efforts, outside the realm of research, are required to make the technology available to farmers. For example, technology was developed for tractor parts to process cassava, but the technology needs to be commercially developed for farmers to access it. In other cases, technology has been released, but is unaffordable to individual farmers. The sustainability of the RELCs is also a concern. They have been heavily supported by the World Bank–financed West Africa Agriculture Productivity Program, and it is unclear how sustainability will be assured when that program closes.

Table 3.2. Research Extension Liaison Committee Activities

	Years			
Item	**2008**	**2009–10** (avg.)	**2011–14** (avg.)	**2015**
Number of RELC planning meetings	**81**	**88.5**	**32**	**10**
Participants (per planning meeting) (avg. no.)	46	76	63	59.2
Female participation (%)	27	6	58	45
Problems recommended during planning meeting (no.)	**428**	**304**	**127**	**20**
Number of problems researched and completed	0	—	13	0
Problems resulting from RELC researched (%)	**46**	**24.8**	**15**	**45**
Problems being researched (no.)	**198**	**75**	**19**	**9**
Level of participation by category in RELC meetings (%)				
Farmers	39	42	33	19
AEAs	21	28	27	39
Private sector	10.7	11	26	18
Nongovernmental organizations	7.7	8	8	7
Others	21.6	10	17	17
Total	100	100	100	100

Source: MOFA 2015.
Note: Avg. = average.

132. In 2010, Ghana’s cabinet approved the Science, Technology and Innovation Policy and Development Program (a second prior action) to promote (i) mainstreaming of agriculture science, technology and innovation; (ii) demand-driven agricultural research and innovation; and (iii) regional collaboration in agriculture research. This policy was intended to address the need for coordination and planning across various ministries, directorates, and agencies and to ensure that agriculture research and technology transfer priorities are reflected in budgets and programs, and are implemented. The IEG mission was informed that there has been little progress in implementation of the policy, because no budget has been allocated for its mainstreaming. A challenge has been the interministerial nature of research, and the inability to issue a cross ministry budget line item.

133. **Adoption of agricultural input technology.** Reforms to the legal and regulatory environment were expected to lead to: (i) greater and speedier availability of seed technologies; and (ii) enhanced effectiveness and efficiency of the private sector input distribution network. Prior actions were: (i) the approval by parliament of the Plant and Fertilizer Act (in 2010); and (ii) the establishment and funding of a Seed Council, Plant Protection Council, and Fertilizer Council.

134. Although the prior actions were met, greater and speedier availability of seed technologies has not materialized by June, 2016. The private sector’s response to date has been weak and has not translated into the expected increase in seed production. The number of registered seed growers temporarily increased during the period 2009-11, but it dropped significantly thereafter (table 3.3). Certified seed production has actually declined considerably since the early 2000s (table 3.4).

Table 3.3. Certified Seed Production from 2002 to 2015 (tons)

	Year													
Crop	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Maize	32,667	29,803	30,125	2,035	1,672	1,676	2,473	3,789	4,423	2,670	2,797	2,435	2,072	2,025
Cowpea	625	609	1043	30	34	57	38	16	27	14	24	73	53	52
Soybean	4,219	3,979	—	356	217	91	153	294	352	188	197	209	115	211
Sorghum	334	807	807	14.22	5.4	6.4	5.18	6.21	5	1	0	7.29	1.13	2.4
Rice	777	10,173	12,375	232	12902	334	575	2,377	3,907	2,367	2,370	1,303	542	578
Groundnuts	—	440	440	63	45.04	6.64	14	9.4	18.2	0	6.4	0.24	0.8	9.2
Total	38,622	48,013	44,790	2,730	14,876	2,173	3,259	6,484	8,732	5,240	5,396	4,028	2,785	2,880

Source: MOFA 2009, 2015.

Table 3.4 Registered Seed Growers in Ghana from 2001 to 2015 (number)

	Year														
Crop	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Maize	167	141	153	134	325	197	241	269	409	411	270	293	265	195	205
Cowpea	40	12	16	23	14	50	61	45	21	33	11	20	22	12	14
Soybean	50	16	63	16	40	76	53	38	56	90	67	62	37	19	49
Rice	24	44	16	30	39	40	19	42	248	453	518	300	36	60	39
Total	281	213	248	203	418	363	374	394	734	987	866	675	360	286	307

Source: MOFA 2009, 2015.

135. Implementing the new policies has been problematic and remains a key bottleneck to increasing both the production and uptake of improved seeds. Studies of Ghana's seed subsector, note that unlocking the potential to develop a local seed sector will not only require further regulatory reforms, but also enhanced administrative capacity to implement laws and regulations (Kuhlman and Zhou 2016; Tripp and Mensah-Bonsu 2013). There are insufficient fiscal resources for upgrading public facilities, strengthening field staff capacity, hiring additional extension agents, seed and fertilizer inspectors, and regulators (AGRA 2014). It is also reported that "there is inadequate funding for inspectors to visit often-remote certified seed production sites to maintain quality standards, which means smallholder producers often do not have access to quality seeds" (Norman et al. 2016). The level of awareness and adoption of new seed varieties is low, due in part to inadequate delivery systems (Kuhlman and Zhou 2016).

136. The PPAR mission found that the National Seed Council is under resourced to carry out its policy implementation responsibilities.[30] The Seed Council had only met once prior to June, 2016. This is a bottleneck to private sector engagement.

137. Development partners and other actors involved in the seed sector informed the PPAR mission that since passage of the Seed and Fertilizer Act, some international companies have attempted to introduce improved seeds to Ghana, but frustrated by informal barriers have withdrawn.

138. **Fertilizer.** Prior actions included: (i) the establishment of a public-private partnership arrangement between the fertilizer industry and the government that sets out operational modalities and roles and responsibilities, including a transparent methodology for determining fertilizer prices and subsidy levels; and, (ii) the development of implementation modalities for the 2012 agriculture input support program, which promotes fertilizer use in conjunction with certified seed. This was expected enhance the subsidy program's impact on yields beyond what can be achieved with the use of fertilizer alone.

139. The prior actions appear to have had minimum effect on the implementation of the availability of seeds or efficiency of a private sector input distribution network. Interviews with MOFA's Directorate of Crop Services indicate that the fertilizer subsidy program was broadened to cover improved seeds (following up on the prior action) but only for one year. Seeds were subsequently dropped from the program due to administrative challenges. In addition, the lag in reimbursement of the subsidy was found to be problematic for small seed companies that have less capital than large fertilizer importers.[31] Another challenge was that transport costs effectively canceled out the subsidy, because the low volume of seeds transported throughout the country is insufficient to create economy of scales in transporting.

140. The additionality of the prior action to establish operational modalities with the private sector is not clear. MOFA notes that the rationale for establishing operational modalities with the private sector was to have their input into the modalities and ensure that it was transparent. IEG interviews with stakeholders, indicate that the private sector had already been involved in the negotiation of fertilizer prices and subsidy levels since

the beginning of the program in 2008. Suggesting that a prior action was not needed to trigger this.

POLICY AREA 2: MARKET AND VALUE CHAIN DEVELOPMENT

141. There were two goals: (i) increased participation of smallholders in markets through value chain development, and (ii) improved performance of grain markets.

142. **Increased participation of smallholders**. Prior action included (i) establishment of an Outgrower and Value Chain Fund (OVCF), and (ii) incorporation of an investment window for agribusiness activities into the national export development bank. The prior actions were expected to lead to: an increased value of production of key cash crops, and increased agribusiness turnover and sector growth through enhanced financial liquidity and tax incentives.

143. The OVCF was established. The fund is operationalized through a German KfW-financed project, which was ongoing at the time of the IEG assessment mission. Under the OVCF, the World Bank of Ghana makes funds available to any participating bank that decides to lend to out-grower-related entities for a minimum of three and a maximum of seven years. As of the IEG assessment mission, the fund had committed €10 million to six out-grower schemes. The fund fills a gap in medium- to long-term financing for agricultural investments. According to the executors of the fund, without it banks would not lend to value chains. It currently operates through three commercial banks which on-lend to rural banks. An assessment of the fund's effectiveness was ongoing at the time of the IEG mission.

144. The Export Trade, Agricultural and Industrial, Development Fund (EDAIF) was established as another source of agricultural finance. It was created by broadening the scope of the previous national Export Development Fund to include the provision of financial resources for the development and promotion of the country's agriculture, relating to agro-processing and agro-processing industry. Credit under the window was available to projects that demonstrated export value. No information on the amount of credit that EDAIF provided to the agriculture sector was provided in the ICR (World Bank 2013c). At the time of the IEG assessment mission, EDAIF had been dissolved and its functions integrated into the recently established Ghana Export-Import Bank (EXIM Bank). Established in 2016, EXIM World Bank is a quasi-government institution that acts as an intermediary between national governments and exporters to issue export financing. Under EXIM World Bank, a dedicated window for agribusiness no longer exists, but officials informed IEG that there is still an "allocation for agribusiness." It is too early to assess the extent to which the needs of agri-business will be met through EXIM Bank.

145. The program targets for value of selected nontraditional export crops, and the share of total lending by banks to agriculture, forestry, and fisheries sectors were exceeded. The ICR reports that the value of nontraditional exports increased from $112.00 in 2010 to $271.35 in 2011 (versus target $154.35; World Bank 2013c). Lending from deposit banks to the agriculture sector increased from ₵472 million in 2010 to ₵519.2 million in 2011 (versus target ₵465.6). However, it is not clear to what extent these values, which are of a national scale and include all sources of finance (not only the

OVCF and EDAIF) can be attributed to the prior actions, which are relatively modest in scale. The OVCF is a positive initiative that is currently filling a key niche in the market, albeit on a small scale. However, it remains to be seen whether it will be sustainable once support from KfW comes to an end.

146. MOFA in its comments on this report notes that “attribution of the prior actions (noted above) to increases in lending to the agriculture sector is overestimated. The prior action was only to contribute to lending in the agricultural sector and we could only estimate by how much this increase was contributed by OVCF or related initiatives. It is important to add that at the time of the IEG work, the government had yet embarked on the design of another initiative called the Ghana Incentive-based Risk Sharing Agricultural Lending Scheme. This scheme aims at de-risking the agricultural sector by providing guarantee finance, advisory services, insurance etc. So the efforts diverse and ongoing and can only contribute to the objective of increasing agricultural finance.”

147. **Improved performance of grain markets.** Prior actions were (i) piloting of warehouse receipts program and (ii) publicizing or dissemination of the operational modalities of the National Food Buffer Stock Company. This was expected to lead to increased integration of smallholder farmers into grain markets.

148. Development of a warehouse receipt system (WRS) was conceived as a measure to increase private sector investment, improve market efficiency, and reduce price volatility. The WRS was expected to (i) provide a market place for farmers, (ii) encourage stockholding, (iii) stimulate trade, (iv) improve market transparency and price discovery, and (v) provide collateral to leverage commercial credit.

149. The WRS is implemented by the Ghana Grains Council, representing FBOs, traders, and processors. The pilot ran from 2011–15. A total of 7,600 farmers leveraged credit from banks against their grain stocks. The system was reported to be self-financing. At the time of the IEG assessment mission, piloting of the WRS had concluded and the decision had been taken to keep it as a permanent program but operations were on hold while a resolution framework to address disputes that had arisen between buyers and sellers was developed. Products were being accepted for storage but tradeable receipts were not being issued. To expand nationwide, the system also requires warehouse capacity beyond the current 90,000 tons.

150. The government of Ghana created the parastatal National Food Buffer Stock Company (NAFCO) in 2010 in response to the global food price crisis of 2008. The IEG mission confirmed that NAFCO’s operational modalities had been published on its website, but this measure has not been sufficient to prevent market distortions.[32]

151. Available storage capacity was used as a proxy for enhanced grain market performance resulting from the reforms. According to the ICR, 23,000 tons of warehouse capacity was constructed between 2010 and 2013 (World Bank 2013c).[33] It is argued that this represents additional demand, which is an indication of an improved policy environment. The logic behind this is unclear.

POLICY AREA 3: IRRIGATION AND OTHER INFRASTRUCTURE

152. Prior actions included (i) submission by MOFA of revised irrigation regulations, confirming joint responsibilities of operation and maintenance of irrigation schemes, and (ii) completion of the new irrigation sector Pre-Investment Reform Action Framework. The framework defines the operational approach for developing an investment pipeline for different irrigation business lines, recognizing the needs and roles of farmers, and private investors, along with particular irrigation needs and potential in geographical zones.

153. According to the policy matrix the aim of these reforms was to increase agriculture productivity and outputs by expanding the area under water management and the rural feeder road network. However, no prior actions were identified to address rural feeder roads.

154. By closure, the irrigation reform outcome targets were met or exceeded: joint management was practiced at 14 irrigation schemes, and two public-private partnerships for irrigation development were being developed, exceeding the targets of one scheme under joint management and one public-private partnership. By June 2016, all public irrigation schemes were managed by water user associations. However, the Ghana Irrigation and Development Authority informed the IEG mission that public-private partnerships for irrigation have not have not expanded much beyond what was in place at end of the project, though they did not give a specific number.

155. As noted in chapter 2, there has been little improvement in the performance of the irrigation schemes. Land use intensity remains low due to various management constraints. The area under formal irrigation schemes has only minimally expanded (table 3.5).

Table 3.5. Area of Irrigated Land
hectares

	Years					
Area	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Total irrigated areas developed (formal and informal)	27,879	28,304	28,304	28,324	29,508	—
Total formal irrigated area developed	10,243	10,243	10,668	10,688	10,688	10,688
Total formal irrigated area cropped	8,860	9,745	9,913	11,136	9,368	9,400
Total formal area irrigated with single annual crop	4,370	4,924	5,247	5,142	3543	5,215
Total formal area irrigated with double annual crop	4,490	4,822	4,666	4,785.50	5,825	4,269

Source: MOFA 2014a, 2015.

POLICY AREA 4: FISHERIES

156. The goal was to improve management of the fisheries sector to achieve increased incomes and productivity. Achievement was to be demonstrated by (i) restrictions on the

issuance of new licenses for industrial and (ii) a reduction in the total number of industrial trawlers with fishing licenses. There were two prior actions: (i) issuance of fisheries regulations enabling the implementation of the 2002 Fisheries Act, and (ii) updating the fishing license register for all existing industrial and semi-industrial fishing vessels, and the issuance of a moratorium on the issuance of new licenses in these subsectors.

157. In addition to the prior actions, the Ghana Fisheries and Aquaculture Sector Plan (2011–16) was approved by Ghana's cabinet in October 2011 with an overall objective of revitalizing the fisheries sector.[34] Additional amendments to the Fisheries Act were passed in 2014 and 2015. Ghana developed a National Plan of Action to Combat Illegal, Unreported, and Unregulated Fishing in 2015. However, effective implementation and enforcement of regulations is an ongoing challenge.

158. The DPO series was originally expected to be implemented in parallel with the World Bank–financed West Africa Regional Fisheries Management project, which aimed to strengthen the capacity of the Fisheries Commission to implement fisheries regulations and policies. Delays in the processing of this project meant it was implemented several years after the DPO series ended. It was ongoing at the time of the evaluation assessment mission.

159. According to the ICR, the goal of improved management of the fisheries sector had not been achieved by closure. Although new license restrictions were imposed, the number of licensed industrial trawlers had not been reduced due to the renewal of licenses for vessels that had been in dry-dock.[35] The evaluation mission was not provided with updated data from the Fisheries Commission on the size of the fishing fleet and number of licenses issued since the completion of the DPO series. Interviews with the West Africa Regional Fisheries project team indicate that there are questions regarding the reliability of data to show whether the moratorium is being implemented.[36]

POLICY AREA 5: SECTOR MANAGEMENT AND COORDINATION

160. Prior actions were: (i) the formation of a multistakeholder, MOFA-led governance structure to oversee implementation of the METASIP and (ii) establishing a methodology to identify agriculture sector spending for planning and budgeting purposes across ministries and its application to identify agriculture spending in the Ministries of Environment, Science and Technology and Trade and Industry for the 2012 budget.

161. The METASIP steering committee established in 2011, fulfilled the first prior action. However, IFPRI studies and IEG interviews indicate that this steering committee did not function as well as intended and made minimal to improvement sector planning.[37] The Mid Term Review of METATSIP's implementation concluded that "although there is a steering committee and secretariat to coordinate activities of various programs supporting METASIP, its effectiveness is questioned. There is need for improved capital and human resources to boost the effectiveness of the Secretariat" (MOFA 2013).

162. The second prior action was expected to promote greater interministry coordination on priority setting and budgeting and lead to enhanced coordination of

agriculture-related spending results in improved resource allocation for METASIP. Interviews with MOFA officials indicate that the methodology was used by MOFA and the Ministry of Roads in 2013, to jointly make a stronger case in the parliamentary budget discussion for addressing agriculture transport needs. But that was a one-off occasion. The mission was told that in absence of budget support there is not sufficient incentive to take on the additional effort in coordinating across ministries.

163. Achievement of the expected outcomes in this policy area were measured using indicators to assess the composition of MOFA budget and budget execution rates. [38] The causal link between the prior actions supported in this policy area and these specific budget indicators is not clear.

164. The ICR shows that the share of MOFA's annual budget devoted to goods and services and investment, increased from 24 percent in 2010 to 26.3 percent in 2012, exceeding the target of no decline. The performance in meeting budget execution rate targets was mixed.[39] Since the termination of World Bank and CIDA budget support, releases from the government consolidated fund to the goods and services and assets categories have declined.[40]

Ratings

OUTCOME

165. The series objectives were substantially relevant to the government's agriculture strategies and the World Bank's country assistance strategies, but formulation of objectives was too general. Relevance of design to achievement of objectives was modest. Achievement of the first objective was modest and of the second was negligible, resulting in an overall outcome rating of **moderately unsatisfactory.**

RISK TO DEVELOPMENT OUTCOME

166. The development outcomes of the second series face a number of significant risks. Ghana has an elevated likelihood of fiscal destabilization, with a high probability of debt distress. National elections, scheduled for the end of 2016, pose risks of further weakening the fiscal situation.

167. Questions have arisen concerning the government's commitment to investing in the agricultural sector. MOFA's share of national budget has been declining over the years. Although oil revenues have increased, the government's allocation to investment are largely allocated to finance the fertilizer subsidy and MOFA's other priority programs, crowding out productivity-enhancing investments such as agriculture research.[41] IFPRI has estimated that collectively these programs account for about 85 percent of the ministry's capital budget (Benin, Makombe, and Johnson 2014).

168. The early termination of the DPO series increased the risk of not attaining the expected outcome in areas in which the reforms still at an early stage. While external partners continue to support the agriculture sector, further progress in implementing reforms will require the identification of strong national counterparts. The IEG mission found that sensitization and capacity building of MOFA directorates beyond the key

counterparts in the Project Planning Directorate is lacking. Directorates outside of PPMED did not fully capture the role of budget support in catalyzing reform. Further, the high level of coordination and engagement among development partners and MOFA, which was attributed with playing a positive role in identifying synergies and creating momentum to sector reforms, has deteriorated significantly since 2013. Participation in the Agriculture Sector Working Group has declined, and the joint sector review was canceled in 2016. Collapse of the MDBS framework also played a role.

169. Insufficient access to extension services remains a key barrier to farmers' uptake and use of productivity-enhancing technologies. Local-level delivery of agriculture services has worsened in recent years, coinciding with the transfer of district units to the Ministry of Local Government. Ceding district extension agents to a different ministry has posed an additional challenge in terms of the linkage between technical staff at the local level and the Extension Directorate at MOFA.

170. The following mitigation measures have been put in place to address some of the risks. In 2015, the government entered into a program with the IMF as a measure to restore macroeconomic stability. MOFA notes that "the government is reviewing the fertilizer subsidy program with the view of identifying best options to apply the resource," though it is not clear what this entails. The government is also trying other methods of extension delivery such as e-extension to improve extension services. But it is too early to assess the effectiveness of this measure.

171. Risk to development outcome is **significant.**

WORLD BANK PERFORMANCE

Quality at Entry

172. Design of the second series involved participation and input from other external partners and domestic stakeholders to identify gaps and opportunities for support in the agricultural sector. Preparation drew on a robust body of analytical evidence, which was completed by the World Bank and other partners ahead of the DPO's launch. Support in several policy areas took into account potential synergies with other operations that were planned or being implemented to create a conducive environment for the agriculture sector. Coordination between the World Bank's and CIDA's budget support programs prevented duplication and contributed to sector planning and coordination. The World Bank and CIDA prepared a harmonized policy matrix that was used to jointly assess implementation.

173. The World Bank team used a participatory approach that included sector stakeholders in identifying priorities and risks mitigation. The World Bank maintained engagement with the IMF on macroeconomic management and technical assistance to improve financial management. Adequacy of the macroeconomic framework were based on reports on progress in implementing the macroeconomic framework agreed among the Government of Ghana, IMF, World Bank, and MDBS.

174. However, a number of quality-at-entry shortcoming of the earlier series were repeated. As noted in Relevance of Design section, there were a number of weaknesses in

the results chain of this programmatic series. The World Bank should have done more to assess the adequacy the government's monitoring and evaluation system for assessing the outcome and performance of the series. The monitoring and evaluation results framework was drawn from existing indicators to measure sector performance, many of which were not suitable for demonstrating expected outcomes and establishing a plausible casual chain between prior actions, expected outcomes, and the series objectives. It is also unclear how government ownership of the reforms was assessed. Ownership beyond the PPMED, the World Bank's main counterpart agency, has been weak.

175. Quality at entry is rates **moderately unsatisfactory.**

Quality of Supervision

176. World Bank supervision for the operations was carried out through joint sector review in conjunction with other development partners, MOFA, and other sector stakeholders. The joint sector review served as a forum for coordination and policy dialogue and focused on monitoring performance of the sector as a whole using the FASDEPII or METASIP framework as guiding structures. Implementation benefited from the presence of the task team leader in the World Bank's country office, as this facilitated intensive engagement in the sector policy dialogue. This also enabled a sustained interaction with government officials and development partners. The World Bank team played a leadership role in sector policy dialogue and in close monitoring of progress on prior actions and in the provision of technical assistance to the government. The task team worked closely and collaborated effectively with other development partners to ensure the operations' complementarity with other donor-supported programs. The task team leader was an effective cochair of the Agriculture Sector Working Group during the series implementation.

177. Efforts were made to revise the wording of the series objectives so that they were more clearly linked to the measures supported by the series. However, more could have been done to improve other design flaws. In particular, several of the indicators should have been revised to reflect outcomes associated with the prior actions. Broader engagement beyond PPMED was also required to build adequate ownership and capacity for implementing reforms by other directorates

178. Supervision is rated **moderately satisfactory.**

179. Overall World Bank performance is rated **moderately unsatisfactory.**

BORROWER PERFORMANCE

Government Performance

180. Responsibility for implementing policy reforms lay with MOFA, with additional financial and contractual responsibilities performed by directorates in MOFEP. Both ministries worked closely with the World Bank to effectively prepare the two programmatic operations. The government ensured consistency among the policies supported by the policy operations with the objectives of the METASIP and the Comprehensive African Agriculture Development Program framework.

181. However, more effort was required to ensure adequate implementation of reforms. Transfer of budget resources to MOFA was not sufficient to support the needed investment and technical assistance. The government experienced a fiscal deficit during program implementation, which hampered regular transfers of adequate resources to support investment in the agriculture sector. Moreover, the government could not establish realistic and actionable medium-term expenditure frameworks to facilitate transfer of resources to line ministries.

182. Various MOFA directorates and agencies outside of MOFA actively engaged in the identification of prior actions in their respective area of responsibility and execution of measures to ensure that prior actions were met. However, subsequent implementation of the reforms was less than satisfactory in many areas. MOFA did not do enough to ensure actual implementation of the policies and strategies approved through prior actions. As with the earlier series, the ability of PPMED—the implementing agency within MOFA—to track implementation of the policy reforms was hindered by inadequate coordination within MOFA and the insufficient leverage MOFA has over other ministries.

183. The government's decision to discontinue the series also negatively affected some policy objectives that still required consolidation to achieve positive results. Discontinuation of the series was at the request of MOFEP because of doubts about transferring budget resources to a sector ministry with a weak sector medium-term expenditure framework and was contested my MOFA.

184. Overall borrower performance is rated **moderately unsatisfactory.**

MONITORING AND EVALUATION

185. **Monitoring and evaluation design.** Monitoring and evaluation for this series continued to use MOFA's monitoring and evaluation system for measuring overall sector performance. Indicators were drawn from MOFA's existing monitoring and evaluation framework and assessed through the joint sector review process conducted annually with all development partners active in the sector. The results framework also required updating of baselines and the targets, which were to be released by the MOFA. Once baselines were established, the targets were calibrated to reflect the METASIP targets. The use of existing indicators was expected to reduce the risk of data unavailability. However, as with the earlier DPO series, many of the indicators were poorly matched to the expected outcome and prior actions, making it difficult to establish the impact of many prior actions.

186. **Monitoring and evaluation implementation.** Performance of the indicators was tracked using data from the MOFA monitoring and evaluation system and other frequently collected information. New analytical work under the joint sector review process, policy studies by other donors, and data collected from industry sources were used to expand MOFA's sector performance data. The indicator for the number of agriculture input dealers selling seed could not be determined, due to lack of available data.

187. **Monitoring and evaluation use.** Monitoring and evaluation arrangements, and the productive interaction among key participant, contributed to creating synergy among some of the multiple interventions supporting reforms in the agriculture sector. Design of the fourth AGDPO factored in all information on the reform program that was available when the third AGDPO was completed. However, the information generated by the monitoring and evaluation system did not serve as an effective tool for assessing the performance of the monitoring and evaluation series. The flawed results framework (discussed in the Relevance of Design section) and the lack of intermediate outcomes or output indicators made it difficult to establish the impact of several policy areas or link progress in some areas to the overall series objective. In addition, little evidence exists that the information generated by the DPO series results framework was used in MOFA decision making.

188. Monitoring and evaluation is rated **negligible.**

4. Lessons

189. The experience of these two programmatic DPO series provides the following lessons.

190. **In a sector such as agriculture, in which responsibilities are fragmented across many different directorates and agencies, impact could be heightened by broadening engagement beyond key counterparts in the leading ministry to other directorates charged with delivering program results.** In this case, the World Bank's dialogue and engagement was largely through counterparts in the MOFA's PPMED. Although other directorates participated in the selection and identification of prior actions, insufficient efforts were put in to sensitization and capacity building for implementation of reforms. There was a limited understanding of the budget support instrument among many key stakeholders beyond PPMED and lack of ownership in implementation of reforms. Weak coordination within MOFA and the weak leverage that PPMED had over other agencies linked to prior actions hampered PPMED's capacity to track subsequent implementation.

191. **Rigorous assessment of government commitment and ownership is needed not only at the design stage but throughout implementation**. In Ghana, the government engagement was high with respect to identifying and meeting prior actions but subsequent implementation of reforms was weak.

192. **Potential synergies between sector and general budget support operations could be enhanced by more effective coordination and monitoring and feedback between the two**. In these two agriculture DPOs, it was assumed at the design stage that the general public financial management reforms supported by PRSCs and economic governance DPOs would also benefit MOFA. However, public financial management reforms did not perform as expected. This illustrates the need for feedback to the sector operation so that measures can be taken to compensate. Additionally, in the agriculture sector, many reforms are needed beyond MOFA's jurisdiction, some of the cross-jurisdictional reforms may be best incorporated into national-level budget support. In the second series, MOFA was cautioned by MOFEP to only agree on budget support triggers

and targets over which MOFA had direct control. This makes sense from the standpoint of ensuring that targets are met in the short term, but it limits the utility of sector budget support in tackling critical bottlenecks in the sector that are covered by other ministries, directorates, and agencies. The completion reports of both series argue that actions beyond the jurisdictional mandate of the sector ministry would be better managed under MDBS. This too requires greater coordination and ongoing feedback and monitoring between sector and macro level teams. Prior actions that can improve coordination across ministries, directorates, and agencies should be considered.

193. **Defining DPO series objectives in concrete and measurable terms and scaling ambition down to what the actions in the operations can realistically be expected to influence can improve the demonstration of impact and enhance attribution.** In both of the series reviewed the overly general formulation of objectives made it difficult to connect to the outcomes of the various policy areas to the very ambitious series objectives. The results framework did not establish a clear causal chain between the prior actions and the overall series objectives. The mismatch between the identified outcomes and the prior actions and performance indicators added to the difficulty in establishing the contribution of the series prior actions to the series objectives. Prior actions geared toward policy implementation that can be quantified and linked more directly with outputs and outcomes have a greater chance of attribution, monitoring, measurement and impact.

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[1] Under the pillar for private sector competitiveness, the country assistance strategy includes: "To promote the productivity and diversification of agriculture and rural non-farm growth, G-JAS partners will support the development of a SWAP framework focusing on enhancing the productivity of crops, livestock and aquaculture and land resources, improving food security and expanding vital infrastructure including irrigation and supply chain development. To promote rural development more generally, partners are supporting sector reforms and investments in rural roads and energy and measures to promote microfinance institutions and the tourism sector. Analytical work relating to land tenure, biosafety regulations, capacity development of microfinance institutions and improving access to finance for micro, small, and medium enterprises will help guide work in this area. To sustain growth and poverty reduction, G-JAS partners will pursue opportunities to provide harmonized support to natural resources and environmental governance in line with emerging government priorities for fisheries, forestry and wildlife, mining and overall environmental protection" (World Bank 2007, 29).

"In Pillar 2, the CPS will focus on reducing absolute poverty and enhancing shared prosperity by promoting improved competitiveness and increased employment opportunities. World Bank Group support will promote a strengthened private sector, more efficient delivery of infrastructure services and increased efficiency, diversification and improved links to value chains in agriculture, especially for small scale fisheries and small scale subsistence farmers in the North" (World Bank 2013b, 26).

[2] COCOBOD, which is responsible for cocoa, coffee, and sheanuts, is under the Ministry of Finance and is another key responsible agency. The Ministry of Lands and Natural Resources is responsible for the forestry subsector. Another key sector institution is the Agricultural Research Institutes of the Council for Scientific and Industrial Research; other agencies in the National Agricultural Research System are responsible for agricultural research. Council for Scientific and Industrial Research is under the Ministry of Science and Technology, which supports the production of selected commodities for local markets and export. At the local level, the Ministry of Local Government and Rural Development supports agricultural activities through the metropolitan, municipal and district assemblies. At the time of the evaluation, Fisheries was separated from MOFA and was under a Ministry of its own, Ministry of Fisheries and Aquaculture.

[3] Until recently, MOFA has been made up of four line directorates, eight technical directorates, five subvented agencies, and one state-owned enterprise. The four line directorates are (i) Finance and Administration; (ii) Policy Planning, Monitoring and Evaluation; (iii) Human Resource Development and Management; and (iv) Statistics, Research, Information Management and Public Relations. The eight technical directorates are (i) Animal Production Directorate, (ii) Veterinary Services Directorate, (iii) Women in Agriculture Development; (iv) Plant Protection and Regulatory Services Directorate, (v) Agricultural Engineering Services Directorate, (vi) the Directorate of Agricultural Extension Services, (vii) the Directorate of Crop Services, and (viii) the Fisheries Directorate. The five subvented agencies are (i) the Ghana Irrigation Development Authority; (ii) the Grains and Legumes Development Board; (iii) the Irrigation Company of Upper Region; (iv) the Veterinary Council; and (v) the Fisheries Commission. The state-owned enterprise is the National Food Buffer Stock Company (World Bank 2013a).

[4] CIDA initiated budget support in 2004 and was joined for three years (2007–09) by the U.K. Department for International Development. Canada's budget support was provided through two operations: the Food and Agriculture Budget Support Program, implemented from 2004–08 ($85 million), with additional bridge financing ($20 million) provided in 2009, and the Support to Food and Agriculture Sector Development

Policy program, implemented from 2009–13 ($110 million). Canadian budget support disbursed on a ratio of 70 percent base payment and 30 percent performance payment assessed on the basis of agreed on triggers.

[5] The Comprehensive African Agricultural Development Program is a program of the New Partnership for Africa's Development. In aligning with this program, countries adopt the Maputo Declaration on Agriculture and Food Security, committing to allocate at least 10 percent of annual national budgets to investment in agriculture, which is expected to achieve a 6 percent growth in agriculture sector contribution to gross domestic product.

[6] The World Bank Report *Poverty Reduction in Ghana: Progress and Challenges* made the following observations: "Ghana's annual growth in gross domestic product (GDP) was steady, averaging between 4 and 5 percent in the 1990s, ultimately reaching a stable rate of nearly 8 percent after 2006. Ghana's rapid growth accelerated poverty reduction, cutting the poverty rate from 52.6 percent to 21.4 percent between 1991 and 2012. In 2012, Ghana's poverty rate was less than half the African average of 43 percent. Extreme poverty declined even more, dropping from 37.6 percent in 1991 to 9.6 percent in 2013. Although agriculture is still the main sector of employment, diversification of the economy beyond agriculture helped drive economic growth. The share of agriculture in GDP declined to 23 percent in 2012 as the service sector (23.9 percent of GDP growth) expanded" (Molini and Paci 2015).

[7] The share of maize production in northern, upper west, and upper east regions increased from 11 percent to 19 percent of national production, and the share of rice production increased from 49 percent to 67 percent of national production between 2007 and 2010.

[8] MOFA has made efforts over the years to reduce leakages. There is no assessment of the effectiveness of these measures. It is plausible that these measures have reduced the problem leakage remains a documented challenge in literature. The government also attempted to support use of seeds as accompanying input to improve yields. Subsidized seeds were included in the fertilizer subsidy program in 2013, fulfilling a prior action for the second AG DPO series but they were dropped from the program after one year.

[9] Likewise, the 2005–12 period was characterized by sustained public sector spending on infrastructure, including roads, electricity grids, and better sanitation. This contributed to the positive variation in the asset index because households started to have access to services and public goods that had previously been out of their reach (World Bank 2015).

[10] According to the midterm review assessment of the METASIP investment plan and IEG interviews with MOFA officials.

[11] This is the area of cropped land divided by the area of irrigable land within a command area.

[12] "The Cooperatives Bill and district corporate regulation will provide essential legal cover and regulatory guidance to FBOs as they increase their participation an investment in the sector" (World Bank 2010).

[13] Developing a cooperatives bill involved two ministries, MOFA and the Department for Cooperatives, under the Ministry of Employment. The bill was eventually revised by the Ministry of Employment to cover all community based organizations, not only FBOs. MOFA officials informed the mission that since then the bill has been in limbo. The reason why is unclear.

[14] This view was also shared by CIDA officials, who noted that their recent Ghana country program evaluation found that MOFA has yet to make sufficient progress in increasing the number of farmer-based organizations and bolstering their cohesiveness to improve access to services.

[15] Previously farmer groups had to travel to Accra to register as an organization.

[16] This view was shared by various stakeholders and is also reflected in the 2015 MOFA annual report, which notes that "a cumulative number of 10,149 FBOs have been strengthened from 2011 to 2015 to specifically access financial services and market information. Membership of these FBOs has declined by 14.5% over the period. Anecdotal evidence suggests that this is due to poor leadership, mistrust among members, high interest rate, and demand for collateral and inadequate rural financial institutions in the communities" (MOFA 2015, 39).

[17] In its comments on this report, MOFA notes that "this is because they are more of organizers and advocates and although may have farms, may be spending most of their time at the national level doing advocacy and mobilization/organization."

[18] The volume of credit to all sectors (including agriculture) has increased but the amount going to agriculture in relation to other sectors has decreased. A MOFA report noted, "The percentage of credit to agriculture, forestry &

fishing as a sector by deposit money banks in Ghana, over the years (2010–2012) averaged 5.5%. This is against about 12% of manufacturing and 23.7% of services. This affected the general investment to the sector hence affecting growth of the sector over the years. This might also account for the low contribution of the sector to GDP" (MOFA 2014b, 34).

[19] The program document for the AGDPO 2 notes that the amount of credit to the sector is not the only constraint; in addition, "more effort is needed to increase the relevant of financial products to farmers and to ensure appropriate access to finance on the right terms if productivity enhancing investments are to be made" (World Bank 2010). This suggests that the action plan should have also included measures to address interest rates in the sector. The 2015 MOFA annual report notes that both interest rates and the rate of default of agriculture loans have increased in recent years.

[20] The 2015 MOFA annual report found that horticultural export quantities declined by 50 percent from 2014 and the value dropped by 34 percent, due to the inability of some of the products to meet international standards. MOFA's 2012 annual progress report noted that horticulture exports declined by 5.2 percent between 2008 and 2012, due to the interceptions of Ghanaian exports for non-compliance with sanitary and phytosanitary requirements.

[21] In part because the baseline was to be established through the survey that was intended to be carried out in 2008 (prior action 2) but did not meet MOFA quality standards. The ICR also reported results of preliminary studies of the fertilizer subsidy program which showed that fertilizer consumption had increased over the pre subsidy period, contributing to an increase in the yield of select crops. This was presented as evidence that technology adoption had increased but no information is provided to indicate how this is tied to RELCs.

[22] See International Monetary Fund and World Bank assessments and IEG's evaluation of the Economic Governance and PRSC operations (World Bank 2016).

[23] The International Food Policy Research Institute has estimated that collectively MOFA's four key programs, including the fertilizer subsidy program, account for about 85 percent of the ministry's capital budget, leaving few resources to invest into activities such as agriculture research, which remains underfunded (IFPRI 2014).

[24] For example, in the AGDPO 2 operation, the proposed measure to mitigate the risk of the fertilizer subsidy dominating available investment funding was for development partners to provide technical assistance to improve the voucher system used to implement the subsidy and develop a long-term exit strategy. Although MOFA changed the type of system used to implement the program, at the time of the IEG evaluation, the fertilizer subsidy absorbed most of the government-provided resources for investment, and MOFA has yet to develop an exit strategy.

[25] METASIP is the investment plan for achieving FASDEP goals and represents the government-owned plan and policy to implement the Comprehensive African Agricultural Development Program.

[26] MOFEP officials interviewed by IEG noted that sector budget support had a higher transaction cost than expected. MOFEP officials also indicated their concern with MOFA's repeated petitioning for additional resources to cover tasks for which money had been released the previous year. Budget support in both the agriculture and health sector were pointed out as problematic from MOFEPs point of view. Several stakeholders informed the IEG mission that the cancellation of the third operation came as a surprise to MOFA and external partners supporting the sector. The ICR implies that this may have had an adverse effect on the momentum of some reforms.

[27] Where there has been improvement (for example, cassava and yam), it is due to the adoption of high-yielding and drought-tolerant varieties introduced under the World Bank–supported West Africa Agriculture Productivity and Root and Tuber Improvement and Marketing Programme rather than to the policy reforms supported by the DPO series (see MOFA 2015).

[28] The 2012 MOFA report notes that "though efforts towards yield improvement are vigorously being pursued, area expansion still accounts for a bigger portion of the country's food production increases. In year 2008 for example, maize occupied 22.49% of the total arable land, this increased to 25.65% in 2012 contributing 6.6% of total food production in 2012."

[29] These factors include low adoption of improved technologies; reliance on rain-fed agriculture, volatile and low-level rainfall, and relatively inefficient irrigated agriculture; the low level of mechanization in production and processing; high postharvest losses resulting from poor postharvest management; low-level and ineffective agricultural finance; poor extension services as a result of several institutional and structural inefficiencies; and lack

of ready markets and processing facilities, poor infrastructure or lack of marketing skills, inadequate product development for effective use of farm produce, and weak commodity value chains.

[30] The duties of the seed council include formulating seed policies, developing variety registration procedures, and designating the conduct and authority for seed certification.

[31] The subsidy program reimburses agriculture input dealers following sale to farmers at subsidized prices.

[32] A 2014 study by the Alliance for a Green Revolution in Africa found that "NAFCO operations compete with private sector operations in the grain trade and discourage investment in grain storage and trade. NAFCO sets purchase prices that are often high support prices above market clearing level. As the parastatal typically does not obtain funding to begin buying grain until midway or later in the marketing season, it cannot defend the support prices earlier in the marketing season, which creates uncertainty among producers and in the grain market" (46). The study also noted anecdotal report that operations continue to be perceived as non-transparent. The IEG mission received similar anecdotal accounts. NAFCO officials also reported to the IEG mission that insufficient warehouse capacity and the poor condition of their existing warehouse facilities is a key constraint to their operations. This was also reflected in the 2014 report.

[33] This included warehouses constructed under the auspices of the Ghana Grains Council for the WRS, community warehouses, and warehouses financed by individual private sector operatives, including Wienco.

[34] The plan would ensure that fish resources are managed in an environmentally sustainable, socially equitable and economically profitable manner. It also seeks to reduce illegal fishing through the strengthening of monitoring, control and surveillance of fisheries licenses and regulations, to increase the value added benefits from fish resources captured by the country.

[35] The number of industrial and semi-industrial fishing vessels registered (as renewals) declined from 17 in 2011 to 14 in 2012. The number of industrial trawlers with fishing licenses (which is a different vessel category from the industrial and semi-industrial fishing vessels) was to be maintained at 67 under AGDPO 3 and reduced to 63 under AGDPO 4. However, a total of 81 industrial trawlers licenses were issued in 2011 and 87 in 2012. The Fisheries Commission clarified that all licenses issues constituted renewals of existing licenses, that is, no new licenses were issued. The additional trawlers that appeared with licenses were in dry-dock and got operational during 2011, and had their existing licenses renewed for 2012. The baseline number of licenses of 63 did not include these dormant licenses that were renewed since that time. Although no new licenses were issued, no gradual reduction of trawler licenses has been pursued, which was the original intention.

[36] The government and the World Bank have agreed to undertake an independent audit to assess the number of active or licensed vessels.

[37] IFPRI studies have found that the METASIP steering committee along with other structures put in place for the Comprehensive African Agriculture Development Programme were not as effective as intended and have made a minimal contribution to improved sector planning (Kolavalli et al. 2010a, 2010b; Kolavalli, Birner, and Flaherty 2012; de Roquefeuil 2013). MOFA officials interviewed by the IEG mission team shared this view. Other studies note that enthusiasm of the METASIP steering committee diminished due to frustrations over the slow pace of implementation and political commitment to METASIP that was not as strong as expected. The politicians involved with the METASIP process have demonstrated variable commitment and the actions of some has been viewed as complete disregard of METASIP (Dittoh 2014).

[38] The goal was to improve the share of resources from government sources devoted to budget lines for goods and services and investments. Historically, government sources have been used primarily to fund salaries.

[39] The target for government resources was missed for the goods and services category (84.25 percent against 90.0 percent) but achieved for the assets category (97.2 percent against 95 percent). However, releases of government funds allocated to salaries exceeded the budgeted amount by 73 percent. The project aimed to improve budget release rates for budget categories 2 - goods and services, and 3 -investment assets. Historically, releases for salaries (budget category 1) met or exceeded the planned amounts, but release rates were low for budget categories 2 and 3.

[40] MOFA's financial reports show that in 2014 releases were 56.3 percent and 77.2 percent, respectively. In 2015, 59.4 percent of goods and services were released. No government resources were allocated to assets in that year.

[41] MOFA's implements for national-level programs: the National Fertilizer Subsidy Program, the Block Farming Program, agricultural mechanization centers, and the National Buffer Stock Company.

Appendix A. Basic Data Sheet

AGRICULTURE DPO 1 (LOAN 0000-AA)

Key Project Data (US$, millions)

	Appraisal estimate	**Actual or current estimate**	**Actual as % of appraisal estimate**
Total project costs	25.00	25.00	100
Loan amount	25.00	25.00	100
Cofinancing	—	—	—
Cancellation	n.a.	n.a.	n.a.

AGRICULTURE DPO 2 (LOAN 0000-AA)

Key Project Data (US$, millions)

	Appraisal estimate	**Actual or current estimate**	**Actual as % of appraisal estimate**
Total project costs	25.00	25.00	100
Loan amount	25.00	25.00	100
Cofinancing	—	—	—
Cancellation	n.a.	n.a.	n.a.

AGRICULTURE DPO 3 (LOAN 0000-AA)

Key Project Data (US$, millions)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	57.00	56.00	98
Loan amount	57.00	56.00	98
Cofinancing	—	—	—
Cancellation	n.a.	n.a.	n.a.

*difference due to exchange rate changes.

AGRICULTURE DPO 4 (LOAN 0000-AA)

Key Project Data (US$, millions)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	50.00	50.00	100
Loan amount	50.00	50.00	100
Cofinancing	—	—	—
Cancellation	n.a.	n.a.	n.a.

Project Dates (AGDPO 1)

	Original	Actual
Initiating memorandum		09/11/2007
Negotiations		02/04/2008
Board approval		06/30/2008
Signing		n.a.
Effectiveness		08/05/2008
Closing date	06/30/2009	06/30/2009

Project Dates (AGDPO 2)

	Original	Actual
Initiating memorandum	12/12/2008	04/22/2009
Negotiations		04/21/2010
Board approval	01/22/2009	06/03/2010
Signing		n.a.
Effectiveness		12/07/2010
Closing date	07/12/2010	06/30/2011

Project Dates (AGDPO 3)

	Original	Actual
Initiating memorandum	08/16/2010	01/31/2011
Negotiations	09/13/2010	03/10/2011
Board approval	12/22/2010	05/26/2011
Signing		
Effectiveness	09/22/2011	09/16/2011
Closing date	11/24/2011	11/24/2011

Project Dates (AGDPO 4)

	Original	Actual
Initiating memorandum	11/18/2011	11/21/2011
Negotiations	02/27/2012	02/27/2012
Board approval	05/15/2012	05/15/2012
Signing		
Effectiveness		
Closing date	11/15/2012	11/15/2012

P102675 - Ghana Agriculture DPL		
Stage	**Staff Time and Cost (Bank Budget Only)**	
	No. of Staff Weeks	**US$ 000s (including travel and consultant costs)**
Lending		
FY07	0	0.37
FY08	34	200.83
Total:	34	201.20
Supervision		
FY09	23	0.62
Total:	23	0.00

P110147 - Ghana Second Agriculture Development Policy Operation		
Stage	**Staff Time and Cost (Bank Budget Only)**	
	No. of Staff Weeks	**US$ 000s (including travel and consultant costs)**
Lending		
FY09	1.35	16.14
Total:	1.35	16.14
Supervision		
FY10	45.17	178.85
Total:	45.17	178.85

P122796 - Ghana Third Agriculture Development Policy Operation		
Stage	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US$ 000s (including travel and consultant costs)
Lending		
FY11	21.80	98.57
Total:	21.80	98.57
Supervision		
FY12	26.97	129.14
	0.00	(3.27)
Total:	26.97	125.87
Grand Total	**48.77**	**224.44**

P122808 - Ghana Fourth Agriculture Development Policy Operation		
Stage	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US$ 000s (including travel and consultant costs)
Lending		
FY12	0.70	12.72
Total:	0.70	12.72
Supervision		
FY12	33.56	157.81
Total:	33.56	157.81
Grand Total	**34.26**	**170.53**

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Appendix B. Prior Actions

AGDPO 1

Prior Action	Why is this prior action critical?	Status
Sector Objective 1: Food security and emergency preparedness		
1. Value Chain focused post-harvest loss survey completed by MoFA in accordance with Food security objective	Post harvest losses in Ghana are reported to range between 10-50% depending on the commodity – low for the grains and high for the perishable commodities. As efforts are made to increase agricultural production, distribution, processing and storage to obtain a year-round supply, post-harvest loss prevention technology is necessary. It is therefore critical to update and measure the value of loss within the value chain from harvesting through transportation, handling, storage, processing and marketing, and to establish a regular monitoring system with the objective of mitigating post harvest loss in the food system.	Met, report submitted
Sector Objective 2: Increased Growth in income		
2. Submission of the Irrigation policy to Cabinet .	The irrigation policy marks a new beginning for irrigation development in Ghana where less than 2% of the land is under formal irrigation. Under the Ghana Poverty Reduction Strategy (GPRS), irrigation development is expected to play a key role in achieving national food security, alleviating rural poverty and contributing to equitable economic development. The development of a practical and comprehensive irrigation policy is a critical step to sound management of water resources and irrigation facilities. Based on this policy, which emphasizes the role of private, non-state actors in the management of irrigation schemes, irrigation is expected to play a pivotal role in increasing productivity and supporting agricultural development in Ghana.	Met. Irrigation policy submitted to Cabinet, revised based on Sub-Committee comments and re-submitted for final review.
3. Develop a legal framework to support the development of farmer based organizations through, *inter alia*: (a) preparing a draft cooperatives bill, and (b) concluding a memorandum of understanding between the Recipient's Ministry of Food and Agriculture and Ministry of Local Government, Rural Development and Environment providing for the implementation of	The agricultural extension policy of MoFA highlights service delivery through farmers' groups as a dominant strategy for a more cost effective and rapid diffusion of technology to small-scale farmers. These small scale farmers face diseconomies of scale in accessing inputs, credit and markets for their outputs. Organizing farmers into groups enables them to engage more effectively in input markets and in value chains as economic agents. The cooperatives bill and the district corporation regulation will provide essential legal cover and regulatory guidance to these organizations as they increase their participation and investments in the sector, thereby providing a more sustainable institutional framework for cooperatives, for-profit and not-for-profit farmer and civil society	Met. The Cooperative bill is revised and will be submitted to Cabinet as a prior action for DPO2. The legislations are complete and an MOU between MLGRDE and MoFA establishes the next steps of implementing the District Corporation Regulations

Prior Action	Why is this prior action critical?	Status
the Recipient's District Corporation Regulation, for the purpose of enabling the establishment and operation of farmer based organizations as district corporations	organizations engaged in farming or agro-processing activities.	
4. Submit fisheries regulations LI 1832 to Parliament to strengthen governance in the sector	The fisheries sector is important for both export earnings and for livelihoods, in particular as a source of protein for many poor households. The Fisheries Act of 1992 requires the elaboration of certain regulations governing the use of fishing technologies. These regulations have been developed and submitted to Parliament and are critical for improving compliance with good fishing practices in the sector which is showing severe signs of stress due to over-fishing and the use of harmful and illegal technologies.	Met, copies made available
Sector Objective 3: Increased competitiveness and enhanced integration into domestic and international markets		
5. Export diversification supported through improvements in value chains, especially through a) issuing a request for expressions of interest to transfer management of "Shed 9 Multipurpose Fruit Terminal" at Tema to the private sector with the aim to improve efficient management of the cold chain facility and encourage private sector participation;	The fruit terminal at Tema (Shed 9) has been upgraded to a cold storage facility. Ownership remains with the Ghana Ports and Harbor Authority. Given that the structure presents an opportunity for higher exports of fruits from Ghana, the private management of the structure is the most efficient option for the Government to achieve its objectives of facilitating higher levels of private sector activity in the sub-sector of horticultural production. The Government therefore intends to transfer the facility through a transparent, competitive process, to the private sector under an industry ownership or a private-public partnership arrangement.	Met, advertisement copy made available
b) inclusion of small holders in export value chains through improved organization and access to improved technologies	Small holders have been organized and integrated into the value chain of pineapple. These small holders are critical to the survival of the horticulture industry in Ghana, especially pineapple where 40% of supply comes from small holders.	Met, Small holders inclusion started with capacity building for 106 farmer groups who have established 106 nurseries for generating MD2.
Sector objective 5: Science and technology applied in food and agriculture development		
6. Increased participation of farmer representatives in priority setting of adaptive research through Research Extension Liaison Committees	The RELCs provide an opportunity for farmers to voice their constraints and indicate their preferences for research. It is expected that by increased participation, the priority constraints of farmers are to a large extent what becomes the focus of research and extension. This is a	Met, report submitted

Prior Action	Why is this prior action critical?	Status
(RELCs)	necessary step towards making research more relevant to farmer needs and motivating higher adoption of improved technologies and increasing agricultural productivity over the medium term.	
Sector objective 6: Improved Institutional Coordination		
7. Approval of Strategic Plan 2008-2010 that is based on Medium term Expenditure Framework	The Medium Term Expenditure Framework is a budgeting tool used in preparing three year rolling budgets by MDAs. The preparation of the 2008-2010 Strategic Plan and 2008 work plan and budget of the Ministry are based on the MTEF. This is a necessary step towards improved and strategic planning and budget execution in the sector.	Met. Strategic plan and 2008 workplan submitted

AGDPO 2

Prior Action	Why is this prior action critical?	Status
Sector Objective 1: Food Security and Emergency Preparedness		
1. **Incorporate recommendations on reducing post-harvest losses in MoFA's Sector Plan (2010 – 2015), thereby insuring these actions will be funded.** (no change in Prior Action)	Post harvest losses in Ghana are reported to range between 10-50 percent depending on the commodity – low for the grains and high for the perishable commodities. As efforts are made to increase agricultural production, distribution, processing and storage to obtain a year-round supply, post-harvest loss prevention technology is necessary. It is therefore critical to update and measure the value of loss within the value chain from harvesting through transportation, handling, storage, processing and marketing, and to establish a regular monitoring system with the objective of mitigating post harvest loss in the food system.	**Met.** The Sector Plan incorporates priority recommendations of the Post Harvest Study.
Sector Objective 2: Increased Growth in Income		
2. **Implementation of the irrigation policy through:** **a) a survey of irrigation facilities, formal and informal to establish baseline** **b) an action plan for increasing management of irrigation facilities by WUAs adopted by MoFA** (no change in Prior Action)	The irrigation policy marks a new beginning for irrigation development in Ghana where less than 2 percent of the land is under formal irrigation. Under the GPRS, irrigation development is expected to play a key role in achieving national food security, alleviating rural poverty and contributing to equitable economic development. The development of a practical and comprehensive irrigation policy is a critical step to sound management of water resources and irrigation facilities. Based on this policy, which emphasizes the role of private, non-state actors in the management of irrigation schemes, irrigation is expected to play a pivotal role in increasing productivity and supporting agricultural development in Ghana.	**Met.** The survey of all ten administrative regions has been completed. **Met.** The Action Plan for JISM has been adopted and activities are captured in the 2009 annual budget and work plan of GIDA.
Cooperative Bill submitted to Parliament (no change in Prior Action)	The agricultural extension policy of MoFA highlights service delivery through farmers' groups as a dominant strategy for a more cost effective and rapid diffusion of technology to small-scale farmers. These small scale farmers face diseconomies of scale in accessing inputs, credit and markets for their outputs. Organizing farmers into groups enables them to engage more effectively in input markets and in value chains as economic agents. The Cooperatives Bill and the district corporation regulation will provide essential legal cover and regulatory guidance to these organizations as they increase their participation and investments in the sector, thereby providing a more sustainable institutional framework for cooperatives, for-profit and not-for-profit farmer and civil society organizations engaged in farming or agro-processing activities.	**Not met.** Submission of the Bill was delayed due to hiatus of new legislation pre-election. The Bill has been submitted to Cabinet and GoG have confirmed that the Bill will be resubmitted by in 2010.
Action plan for improving access to agricultural credit (revised Prior Action).	Credit to agriculture remains at less than 10 percent and more effort is needed to increase the relevant of financial products to farmers and to ensure appropriate access to finance on the right terms if productivity enhancing investments are to be made.	**Met.** The AFSAP has been prepared by stakeholders including MoFA and MoFEP.

Sector objective 6: Improved Institutional Coordination		
MOFA completes PEIR to inform institutional performance and reforms, including the identification of areas for improvements in the short and medium term (no change in Prior Action) **Released at least 80 percent of the committed 2008 MoFA national budget to Items 3 and 4 and released at least 60 percent of 2009 allocations by the third quarter 2009.** (clarification in wording but no substantive change in Prior Action)	The PEIR is the first robust diagnostic tool for documenting weaknesses in PFM and in the capability of MoFA. To be effective, the study needs to solicit a clear management response on how the recommendations will be taken forward by MoFA management. Previous ERPFMs and the PEIR document partial and late expenditure releases for investment projects. This undermines the usefulness of activities by providing only part-funding and risks missing the planting season.	**Met.** Final report submitted and MoFA management action plan has been prepared. **Met.** Data for releases for 2008 and up to Q3 in 2009 have been provided.

AGDPO 3

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 1: Agricultural Technology for Improved On-Farm Productivity		
FY2011 funding for agricultural research reflected in budget for disbursement based on research priorities identified by Research Extension Liaison Committees and MoFA.	Development and uptake of relevant technology by smallholder farmers is a major challenge. Research and technology development efforts have not always been demand-driven and research and extension functions are housed in two different ministries. Coordination on programs and funding requirements among them is weak, resulting in inadequate resource allocation. This prior action ensures that funding is available to the Council for Scientific and Industrial Research (CSIR) for research and extension delivery in the near term, while coordination on resource allocation is improved in subsequent years under Policy Area 5.	**Met** **MoV:** 2011 MoFA Investment Budget, line item 7, and RELC research priority list from CSIR.
Plants and Fertilizer Act approved by Parliament.	The availability and use of certified seed among smallholder farmers in Ghana is extremely low. The passing of the new Plants Bill will allow for the implementation of the 2008 ECOWAS regional seed harmonization regulation (C/REG.4/05/2008), which will facilitate the development and release of new crop varieties, involving the private sector. The new law will also accommodate the WTO Sanitary and Phyto-Sanitary Agreement, and the International Plant Protection Convention. Enactment and implementation of the law may attract significant investment by seed companies that would ultimately contribute to improved availability of seed technology to farmers and result in substantial yield improvements.	**Met** **MoV:** Copy of the Plants and Fertilizer Act, 2010 (Act 803).
Public-Private Partnership arrangement between fertilizer industry and GoG setting out operational modalities, roles and responsibilities, including a methodology for determining fertilizer prices and subsidy levels.	To achieve technology-driven productivity gains at the national level, efficient input markets need to be developed where seed, fertilizer and agrochemicals are offered to farmers. The ongoing fertilizer subsidy program involves the public and private sector and requires joint planning. In order to achieve this, the public-private partnership arrangement requires guidelines in which 2011 program modalities, roles and responsibilities, and pricing modalities are jointly determined.	**Met** **MoV:** 2011 Fertilizer Subsidy Program Implementation Modalities Guidelines developed by MoFA and agreed with the fertilizer industry.

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 2: Market and Value Chain Development		
MoFA Out-grower Value Chain Fund established.	The provision of commercial finance for investments in agriculture remains a key constraint. Commercial lending is mostly short-term and features interest rates that are prohibitively high, all of which reflects the high perceived risk of lending to the sector. In response to these constraints, MoFA, with financial assistance from KfW, is in the process of establishing an Out-grower Value Chain Fund, aimed at supporting out-grower activities and expanding processing and/or marketing capability. A key feature of the fund, that distinguishes it from commercial banks, is that it meets the needs of agricultural investors who require medium to long term credit for plantation development, irrigation infrastructure, pack houses, storage facilities, roads, and processing plants.	**Met** **MoV:** Letter from MoFA to KfW confirming selection of Fund Manager and legal instrument establishing the fund.
Warehouse Receipt System (WRS) pilot launched.	To increase private sector investment, improve market efficiency and reduce price volatility in grain markets, a Warehouse Receipt System (WRS) pilot program will be launched that will: (a) provide a market place for farmers, (b) encourage stockholding, (c) stimulate trade, (d) improve market transparency and price discovery, and (e) provide collateral to leverage commercial credit. The WRS is driven by the private sector, represented by the recently established Ghana Grains Council (GGC), representing FBOs, traders, and processors. Government's endorsement, facilitation and support are provided through its membership in the WRS Joint Monitoring Committee that will monitor the implementation of the pilot and plan for future scale-up. The WRS Pilot will be defined and declared effective during the first meeting of the WRS Joint Monitoring Committee.	**Met** **MoV:** Minutes of first WRS Joint Monitoring Committee meeting of 9 March 2011.
Policy Area 3: Irrigation and Other Infrastructure		
Revised irrigation regulations submitted by the Minister of Food and Agriculture to replace existing regulations, confirming joint responsibilities of operation and maintenance of irrigation schemes.	The irrigation policy that was finally approved in May 2010 marks a new beginning for irrigation development in Ghana. The policy emphasizes the role of private, non-state actors in the management of irrigation schemes, which is important if irrigation is expected to play a pivotal role in increasing productivity and supporting agricultural development in Ghana. The creation of PPPs in large scale, capital intensive irrigation ventures will further enhance private investments in agriculture, such as the ones envisaged for the Commercial Agriculture Program. The issuance of revised regulations by the Minister of Food and Agriculture on the shared responsibilities of operation and maintenance of irrigation schemes to Parliament is an important prior action.	**Met** **MoV:** Revised regulations sent by Minister of Food and Agriculture to the Ministry of Justice and Attorney General for legal drafting, publication, and submission to Parliament.

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 4: Fisheries		
Fisheries Regulations enabling the implementation of the 2002 Fisheries Act issued.	The fisheries sector has the potential to be a major sustainable source of wealth if managed appropriately. This requires effective and appropriate fisheries management and clear institutional roles and functions among various relevant bodies. Despite the fact that the Fisheries Act was passed in 2002, no regulations have been issued to implement the Act. There is a need to define regulatory measures, define offenses, and identify enforcement modalities. A first set of Fisheries Regulations is required that can form the basis for the regulatory framework needed to improve the management of the fisheries sector. Further refinement of the regulations, including due regard to implementation capacities, will be necessary in order to ensure full implementation of the Fisheries and Aquaculture Sector Development Plan. The Ghana Fisheries Project may contribute towards this process of refining the Regulations in the context of the broader review of the legal framework for fisheries. With the new regulations in place, the new Ghana Fisheries and Aquaculture Sector Development Plan can be implemented to strengthen governance and management of the sector to control access and reduce overfishing, and thereby begin to restore profitability.	**Met** **MoV:** Confirmation that new legislation (Legislative Instrument No. 1968, Fisheries Regulations, 2010) was issued and came into force on 3 August 2010).
Policy Area 5: Agriculture Sector Management		
Multi-stakeholder, MoFA-led governance structure formed to oversee implementation of METASIP.	To implement the sector investment program, sector-wide coordination efforts need to be strengthened. A multi-stakeholder governance structure is required whose oversight function is informed by a consultative process and underpinned by an analytical capability. The governance structure at the national level is aligned with the continental structure of the CAADP process as facilitated by the Africa Union, and is referred to as the CAADP Country Team, although in Ghana it is known as the METASIP Steering Committee. In addition to stakeholder consultation and coordination, it will also facilitate inter-ministerial coordination on priority setting and budgeting.	**Met** **MoV:** Minutes of the Agriculture Sector Working Group meeting held on February 16, 2011, at which the METASIP Steering Committee was inaugurated.

AGDPO 4

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 1: Agricultural Technology for Improved On-Farm Productivity		
Science, Technology and Innovation Policy and Development Program approved by Cabinet that promotes (i) the mainstreaming of agriculture STI, (ii) demand-driven nature of agricultural research and innovation, (iii) regional collaboration in agriculture research.	Coordination and planning is required to ensure that agriculture research and technology transfer priorities are reflected in budgets and programs, and are implemented. The new Science, Technology and Innovation (STI) Policy and the STI Development Program, developed by the Ministry of Environment, Science and Technology, reflect an increased focus by Government on mainstreaming STI into agriculture sector programs and budgets. Its operational value lies in its multi-sector approach which can be applied to the new program-based budgeting system (see policy objective Agriculture Sector Management), thus feeding directly into METASIP. The policy focuses on improving the science advisory system, improving applied research infrastructure, and training and skills development in science and technology institutions. The policy is also linked to the ECOWAS treaty on STI that promotes regional cooperation, and the NEPAD S&T Consolidated Plan of Action.	**Status: Met.** The policy and development program have been approved by Cabinet in October 2011. **MoV:** Communication from MoFA with (1) a copy of policy and program document, and (2) a copy of Cabinet approval letter.
National Seed Council, Plant Protection Advisory Council and National Fertilizer Council constituted and funded.	Implementation of the new Plants and Fertilizer Act is underway with the formation of three Councils covering the areas of seed, plant protection, and fertilizer. These Councils will oversee the development of a new technical regulatory framework that will change the current structure of the seed industry dramatically. Whereas foundation seed is currently produced by the Grains and Legumes Board and breeder seed is produced by CSIR, both as virtual monopolies, private companies will have to be able to obtain licenses to perform these functions. The roles of the Grains and Legumes Board, and CSIR will therefore change, and this will eventually be reflected in their institutional structure. The Plant Protection and Regulatory Services Department (PPRSD) at MoFA will provide a secretariat function to all three Councils and will need to make adjustments to its structure to accommodate these new responsibilities.	**Status: Met.** Council members have been appointed by the Office of the President. Funding for the three councils has been incorporated in the 2012 budget. **MoV:** (1) Communication from the Office of the President confirming appointment of council members. (2) Communication from MoFA confirming funding for the councils in 2012.
Agriculture input support program implementation modalities for 2012 developed.	Building on a strengthened fertilizer subsidy program, as supported by the previous operation, MoFA has developed a program that promotes fertilizer use in conjunction with certified seed. The design incorporates lessons learned from the recently completed reviews of the 2010 and 2011 fertilizer subsidy programs, such as the inclusion of certified seed in the program, a monitoring system at the retail level, and speedier reimbursement to participating firms.	**Status: Met.** Fertilizer and seed support program modalities have been prepared. **MoV:** Communication from MoFA confirming the 2012 fertilizer and seed support program modalities with a copy of these modalities

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 2: Market and Value Chain Development		
Export Development and Investment Fund (EDIF) adapted to become the Export Development and Agricultural Investment Fund (EDAIF), incorporating an investment fund window for agriculture, and guidelines for the operation of this investment fund window developed.	The provision of long term commercial finance for investments in agriculture remains a key constraint. Commercial lending is mostly short-term and features interest rates that are prohibitively high, all of which reflects the high perceived risk of lending to the sector. The Export Development Investment Fund (EDIF) has been amended and renamed Export Development and Agricultural Investment Fund (EDAIF). It will incorporate an Agricultural Development and Credit Account for the provision of funds to promote agriculture and agro-processing, and provide credit, refinancing and credit guarantees through financial institutions.	**Status: Met.** The EDIF Amendment Bill was submitted to Cabinet (and subsequently passed by Parliament in June 2011). Fund guidelines and modalities for agriculture have been submitted by MoFA to the Ministry of Trade and Industry. **MoV:** (1) Copy of EDIF Amendment Act, 2011 (in lieu of copy of submission of the Bill to Cabinet). (2) Communication from MoFA, including fund guidelines and modalities.
Operational modalities of National Food Buffer Stock Company activities disseminated widely.	In support of private sector development in grain markets, transparency has been provided by disseminating the operational modalities of the National Food Buffer Stock Company, outlining the modalities for buffer stock purchases and sales, including the determination of buying and selling prices. As in the previous season, buffer stock purchase prices and quantities for 2012 are unlikely to cause market distortions. However, there is a need for a rule-based system of interventions, and a clarification of the objectives of buffer stock operations, which will be supported under AgDPO5.	**Status: Met.** Buffer stock program implementation modalities have been posted on the NAFCO website and published in the press **MoV:** (1) Copy of relevant pages on the MoFA-NAFCO website. (2) Copies of newspapers announcing maize and other commodity prices.
Policy Area 3: Irrigation and Other Infrastructure		
New irrigation sector Pre-investment Reform Action Framework completed, outlining investment priorities, institutional reforms, and implementation within METASIP.	GIDA has taken the initiative to introduce a new approach to irrigation sector planning that provides for a demand-driven and prioritized investment framework, catering for different irrigation users (this investment approach was co-developed by the World Bank). Its operational value lies in its utility for annual implementation purposes as it allows for a rolling investment plan that feeds directly into METASIP. The Pre-investment Framework will include an operational approach for developing an investment pipeline for different irrigation business lines. It will make recommendations on the restructuring of the Ghana Irrigation Development Authority (GIDA), recognizing the role of farmers, private investors, and specific irrigation needs and potential in geographical zones, notably the North.	**Status: Met.** Pre-investment Reform Action Framework has been completed. **MoV:** Communication from MoFA confirming completion of the pre-investment framework with a copy of this framework.

Prior Action	Why is this prior action critical?	Status, Means of Verification
Policy Area 4: Fisheries		
Commenced updating the fishing license register for all existing industrial and semi-industrial fishing vessels commenced, and imposed a suspension on issuing new licenses in these sub sectors.	Licensing and registration of the industrial and semi-industrial fleet is the first and most essential step in closing access to the resources and restoring profitability and sustainability to the sector. Updating the industrial and semi-industrial license register and imposing a suspension on issuing new licenses have been identified as prior actions. Further enforcement of the fisheries law, health and safety laws, is expected to curtail any illegal operation of trawl vessels by revoking or not renewing licenses among vessels that are not in compliance.	**Status: Met.** Update of license register commenced, and 61 vessels identified for removal from license register. Minister of Food and Agriculture effected a suspension for issuing of new licenses. **MoV:** Communication from MoFA confirming progress on updating license register, and providing a copy of the directive issued by the Minister of Food and Agriculture suspending the issuing of new licenses.
Policy Area 5: Agriculture Sector Management		
Methodology established to identify agriculture sector spending for planning and budgeting purposes across Ministries, and applied to identify agriculture spending in the Ministries of Environment, Science and Technology, and Trade and Industry for the 2012 Budget.	A methodology is required that provides a standard for identifying agriculture expenditure across government ministries and agencies. This will feed into an agriculture expenditure budget and tracking system that will not only introduce consistency in accounting, it will also provide a mechanism that promotes greater inter-MDA coordination on priority setting and budgeting. A program-based budgeting system is currently being developed by MoFEP, which will support this policy area. Technical support will be provided by the Bank-administered NEPAD PER exercise that supports the CAADP implementation process.	**Status: Met.** A technical report outlining the methodology and system for agriculture sector planning and budgeting has been completed. **MoV:** Communication from MoFA submitting a copy of the report outlining the methodology for identifying agriculture expenditure.

Appendix C. List of Persons Met

NAME	ORGANIZATION	POSITION
World Bank		
Anders Jensen	World Bank	Senior Monitoring and Evaluation Specialist
Beatrix Allah-Mensah	World Bank	Senior Country Operations Officer
Berengere Prince	World Bank	Task Team Leader, West Africa Regional Fisheries Program
Jan Joost Nijhoff	World Bank	Economist (Task Team Leader, second series; ICR Team Lead, first series)
Jingjie Chu	World Bank	Country Task Team Leader, West Africa Regional Fisheries Program
Martien Van Nieuwkoop	World Bank	Economist (Sector Manager)
Sebastien Dessus	World Bank	Economist
Stephen Mink	World Bank, retiree	AGDPO Peer Reviewer
Felix Oppong	World Bank; former Ghana Ministry of Finance and Economic Policy	Economist
Kadir Osman Gyasi	World Bank	Senior Agriculture Economist (ICR Team Lead, series 2)
Government or other implementing entities		
Gladys Ghartey	Ministry of Finance	Head, UN System Unit, (Former Head, World Bank Desk)
Angela Dannson	Ministry of Food and Agriculture	Projects Coordination Unit, Director
Augustine Mensah	Ministry of Food and Agriculture	Plant Protection and Regulatory Services Directorate, Pesticides and Fertilizer Regulatory Division
Christopher Gaitu	Ministry of Food and Agriculture	Plant Protection and Regulatory Services Directorate, Crops Pests and Disease Control, Assistant Director
Daniel Ohemeng-Boateng	Ministry of Food and Agriculture	Policy, Planning and Budget Directorate, Director
Dr. Kwame Amezah	Ministry of Food and Agriculture	Directorate of Agricultural Extension Services, Director
Dr. Solomon Gyan Ansah	Ministry of Food and Agriculture	Directorate of Crop Services, Seeds Office
Emmanuel Asante-Krobea	Ministry of Food and Agriculture	Directorate of Crop Services, Director
Eric Bentsil Quaye	Ministry of Food and Agriculture	Plant Protection and Regulatory Services Directorate, Seeds Officer

Gabriel Owusu	Ministry of Food and Agriculture	Directorate of Agricultural Extension Services, Assistant Director and FBO/Private Sector Extension Coordinator
George Harrison Opoku	Ministry of Food and Agriculture	Statistics, Research and Information Directorate, Director
Godsway Banini	Ministry of Food and Agriculture	Statistics, Research and Information Directorate, Senior Statistician
Kingsley Kwako Amoako	Ministry of Food and Agriculture	Directorate of Crop Services, Environment Land and Water Management Unit
Kofi Darko	Ministry of Food and Agriculture	Statistics, Research and Information Directorate, Assistant Director
Kwesi Korboe	Ministry of Food and Agriculture	Technical Adviser to the Minister
Lambert Abuasah	Ministry of Food and Agriculture	Policy, Planning, Monitoring and Evaluation Directorate, Director
Michael Owusu	Ministry of Food and Agriculture	Directorate of Crop Services, Fertilizer Subsidy Program, Crop Division
Ebenezer Aboagye	Ministry of Food and Agriculture	Plant Protection and Regulatory Services Directorate, Acting Director
Mr. Aryeetey	Ministry of Food and Agriculture	Statistics, Research and Information Directorate
Phyllis Mends	Ministry of Food and Agriculture	Statistics, Research and Information Directorate, Deputy Director
Prospera Anku Okrah	Ministry of Food and Agriculture	Directorate of Agricultural Extension Services, Assistant Director (RELCs)
Theophilus Osei Owusu	Ministry of Food and Agriculture	Directorate of Agricultural Extension Services, Deputy Director
Kwesi Asare Mintah	Ghana Irrigation Development Authority	Director of Planning, Monitoring and Evaluation
Chris K. Feruta-Benee	Ghana Irrigation Development Authority	Director, Operations
Emmanuel Aryee	Fisheries Commission	Head, Inland Fisheries and Aquaculture Division
Godfrey Baidoo- Tsibu	Fisheries Commission	Head of Division, MSC
Matilda Quist	Fisheries Commission	Head, Marine Fisheries Management Division
Nemorius N. Peng-Yir	Fisheries Commission	Head, Administration and Operations Division
Samuel D. Manu	Fisheries Commission	Head, Postharvest Unit

Samuel Quaatey	Fisheries Commission	Director
Thomas Insaidoo	Fisheries Commission	Deputy Director, Project Management Unit
Charles Oware-Tweneboah	Council for Scientific and Industrial Research	Administrator, Research Extension Liaison Committees
Edward Decker	Council for Scientific and Industrial Research	PA-Director-General
Victor Kwame Agyeman	Council for Scientific and Industrial Research	Director-General
Abdul- Baaki Kadri	Export Development and Agricultural Investment Fund	Agricultural Manager
Sulemana Ibrahim	Export Development and Agricultural Investment Fund	Director, Finance and Administration
Kenneth Acquaye	National Food Buffer Stock Company	Director of Operations
John A. Poku	Outgrower and Value Chain Fund	Assistant Fund Manager
Michael Kpormegbe	Outgrower and Value Chain Fund	Monitoring and Evaluation Officer
Mark Owusuansah	Outgrower and Value Chain Fund	Fund Manager
Gideon Aboagye	Ghana Grains Council	Managing Director
Other development partners		
Francois-Xavier Sorba	Agence Francaise De Développment	Project Officer, Agriculture, Rural Development and Environment
Xavier Muron	Agence Francaise De Développment	Deputy Resident Manager, Agriculture, Rural Development and Environment
Jannine Cocker	Canadian International Development Agency	Task Team Leader of Canadian International Development Agency Agriculture Budget Support
Nana O. Koranteng	Canadian International Development Agency	Senior Adviser, Food Security and Agriculture
Nevin Orange	Canadian International Development Agency	First Secretary (Development)
Dr. Florent-Dirk Thies	GIZ	Market Oriented Agricultural Programme, Programme Manager
Ulac Demirag	International Fund for Agricultural Development	Country Program Manager and Former Chair of Sector Working

		Group / Agriculture Development Partner Group
Atta Agyepong	KfW	
Brain S. Conklin	U.S. Agency for International Development	Deputy Office Director/Agriculture Team Leader, Office of Economic Growth
Fenton Sands	U.S. Agency for International Development	Former representative during agriculture development policy operation implementation
Shashi Kolavalli	International Food Policy Research Institute	Senior Research Fellow
Academia		
Dr. Amegashie	University of Ghana, Legon	Department of Agriculture Economics and Agriculture Business, School of Agriculture
Dr. Akwasi Mensah-Bonsu	University of Ghana, Legon	Department of Agriculture Economics and Agriculture Business, School of Agriculture
Prof. Daniel Bruce Sarpong	University of Ghana, Legon	Associate Professor, Head of Department, Department of Agriculture Economics and Agriculture Business, School of Agriculture
Prof. Edward Onumah	University of Ghana, Legon	Department of Agriculture Economics and Agriculture Business, School of Agriculture
Prof. Kwasi Asare	University of Ghana, Legon	Department of Agriculture Economics and Agriculture Business, School of Agriculture
Prof. Ramatu Mahama Al-Hassan	University of Ghana, Legon	Associate Professor, Department of Agriculture Economics and Agriculture Business, School of Agriculture
Prof. Wayo Seini	University of Ghana, Legon	Associate Professor, Department of Agriculture Economics and Agriculture Business, School of Agriculture
Private sector/other		
Kwasi Ampofo	Alliance for a Green Revolution in Africa	Country Head, Ghana
Djimasbe Ngaradoum	International Fertilizer Development Center	Deputy Chief of Party, West Africa Fertilizer Program
Japhet Lartey	International Fertilizer Development Center	Market Information System; Information and Communication Technology Applications Specialist

Isaac Kwadwo Asare	African Fertilizer and Agribusiness Partnership	Country Manager, Ghana
Pierre Brunache Jr.	African Fertilizer and Agribusiness Partnership	Regional Director, West Africa
Gregory Amprofi	Chemico Ltd.	Business Development Manager
Wilfred Tse	Chemico Ltd.	

Appendix D. Borrower Comments

In case of reply the number and date of this letter should be

Our Ref.: **RSD/AGAAB/01/17**
Your Ref.:

REPUBLIC OF GHANA

MINISTRY OF FINANCE
P. O. BOX MB 40 ACCRA
JANUARY, 2017

RE: PROJECT PERFORMANCE ASSESSMENT OF WORLD BANK–FINANCED DEVELOPMENT POLICY OPERATIONS IN THE AGRICULTURE SECTOR

1. We refer to your e-mail ***(folio)*** sent on the 12th December , 2016, with the attached cover letter and report ***(folio2&3)*** on the above subject.

2. This is a Project Performance Assessment Report (PPAR) that assesses the outcome and sustainability of two consecutive World Bank–financed programmatic series of Development Policy Operations in the Agriculture sector in Ghana.

3. The Ministry of Finance, after a careful review of the document recommend that the under listed strategies which were used during the implementation of this project and other similar projects to be undertaken should be revised. These includes:

   a. Many prior actions, involving upstream adoption of legislative or government decisions, plans and policies whose outcomes are frequently difficult to establish and are insufficiently tied to implementation.

   b. Objectives should be made specific, measurable instead of it being over simplified, making it difficult to relate to specific policy reform areas and results.

   c. The need for the prior actions and performance indicators to match with the identified outcomes instead of a mismatch.

   d. The need to have intermediate outcomes and outputs that will help track the progress of the project, thus not weakened the linkages between prior actions and the overall series objectives.

4. Counting on your usual cooperation.

FRIMPONG KWATENG-AMANING
DIRECTOR, REAL SECTOR DIVISION
***For:* MINISTER**

Ministry of Food and Agriculture: Comments on AGDPO Assessment January 5, 2016

A. GENERAL COMMENTS

1. The Independent Evaluation Group (IEG) is commended for conducting the performance assessment of the Agriculture Development Policy Operation (AGDPO) series implemented by the Ministry of Food and Agriculture (MOFA) from 2008 to 2013.

2. Although the observations and findings stated in the report are true to a large extent, the report was weak in providing the context and explanation for some findings. For example, the statement "However, as with the earlier [development policy operation] series, many of the indicators were poorly matched to the expected outcome and prior actions, making it difficult to establish the impact of many prior actions" found in paragraph 188 showed that the study Team did not quite understand the context in which the AGDPO was implemented. The AGDPO was meant to support the government in implementing the Food and Agriculture Sector Development Policy (FASDEP) and the Comprehensive Africa Agriculture Development Program country investment plan, the Medium Term Agriculture Sector Investment Plan (METASIP). So the prior actions were to contribute to the expected outcomes which were to contribute to the broad policy outcomes of the METASIP. So linkage of prior actions to indicators of policy objectives were remote nevertheless they were related.

3. The AGDPO as a lending instrument was also novel to Ghana and so the implementers had to go through a learning curve. In the first series we were more focused on meeting prior actions to ensure disbursement of funds. But by the third series there was better understanding of the AGDPO framework. This was seen in MOFA's own efforts to develop a sector policy matrix for implementation whether there was budget support or not. So, the conclusion that MOFA had no capacity to implement the AGDPO is not justifiable and very weak.

4. Again the conclusion of weak implementation of the series because of failure to implement the policy actions and following-through to ensure results were achieved is not correct. The failures to follow-through prior actions were mainly due to budgetary constraints and early termination of the series.

5. The financing for the four operations was all used for the input subsidy program because that was the priority of the sector. As the report rightly states, the first AGDPO was about finalized when the triple global crisis of food, oil and finance plagued the world and some of the domestic policies included subsidies to mitigate the financial burden of citizens. Fertilizer prices doubled and this was going to worsen the food security situation. Fertilizer use in the Ghana was estimated to be one of the lowest (8 kg/ha), so the fertilizer and later seed subsidies were intended to increase input use to contribute to higher productivity and profitability. Once this was demonstrated the subsidies will be progressively be removed.

6. Observations about directors only associating the AGDPO series to the subsidy and meeting prior actions is questionable. The overall policy reform context of the AGDPO was gradual and would been well integrated into the planning and budgeting process with time.

7. It is a fact that the World Bank's dialogue and engagement was largely through counterparts in MOFA's project planning department (PPMED) but we do not agree with the assessment that it led to limited understanding of the budget support instrument among many other key

stakeholders. PPMED is responsible for policy planning and budgeting, monitoring and evaluation and coordination of projects and works with other directorates in doing this. So PPMED played the lead role in facilitating and coordinating the design and implementation of the prior actions with the relevant directorates.

8. On risks to development outcomes, IEG failed to acknowledge mitigation measures being put in place to address some of the risks they identified in the report. For example, the International Monetary Fund program with the government since 2015 is a measure to restore macroeconomic stability. Several climate change and sustainable soil and water management projects are in place and the efforts to expand and intensify irrigation is to mitigate the climate change effects on rainfall. The government is also trying other methods of extension delivery such as e-extension, which with improved skills would improve extension services. Finally, the government is reviewing the fertilizer subsidy program with the view of identifying best options to apply the resource.

Borrower Performance

9. IEG attributed delays in disbursement of the second operation of the first series due to delays in internal government processes. But the report itself attributed the delay to have been caused by a long recess by parliament. That was normal parliamentary practice and the Executive arm of Government could not avert it.

10. As indicated in paragraph 4 above, we agree to the conclusion that the early termination of the second series impacted negatively on some policy objectives that still required consolidation. The Ministry of Food and Agriculture, the implementing agency, foresaw this and formally wrote to the Ministry of Finance not to terminate the series but our plea was ignored.

11. The statement regarding inadequacy of the government's monitoring and evaluation system and inappropriateness of the indicators under Borrower performance is too general. As already explained in paragraph 2 above, the AGDPO was to contribute to general sector objectives as expressed in the METASIP, that why the METASIP results matrix was used.

12. From the fore-going, the MOFA is of the view that the ratings for the series should be reviewed.

B. SPECIFIC COMMENTS

1. Paragraph 14, footnote.

Response: COCOBOD is in charge of cocoa, coffee and sheanuts not peanuts. You may also add that at the time of the evaluation, Fisheries was separated from MOFA and was a ministry on its own called Ministry of Fisheries and Aquaculture.

2. Paragraph 16: The prior actions were clearly defined and rooted in the government's agriculture policy and ongoing legislative and policy dialogue. However, in several areas they lacked sufficient institutional depth to achieve stated objectives. Many prior actions involve upstream adoption of legislative or government decisions (for example, submission of an irrigation policy to cabinet, a postharvest loss survey, legal framework for farmer-based organizations), action plans and policies (for example, irrigation policy action plan and action

plan for management of irrigation facilities, and draft fisheries and aquaculture policy) not closely tied to implementation.

Response: The policy and legislative frameworks were necessary for implementation and so ensuring that they were adopted or were in place was to create the enabling environment for smooth operations in the area of irrigation for example, or effective functioning of farmer organizations.

As a new program, there was need for learning and consolidation. Resources did not flow as envisaged and that negatively affected the outcomes. The lesson is that projects should have long gestation periods to allow room for learning and consolidation.

3. Paragraph 17: No clear theory of change was outlined in the project documents.

Response: The instrument was to support the policy agenda of the sector, the FASDEP. The results framework was therefore built around the FASDEP pillars. Each financing instrument was supported by a letter of Development Policy of the Government which continued to highlight the policy priorities consistent with the FASDEP. So the emphasis was on the ultimate outcomes the prior actions were going to contribute to.

4. Paragraph 16: The World Bank's dialogue and engagement was largely through counterparts in MOFA's Policy Planning and Monitoring Directorate (PPMED). Although, other Directorates were involved in the selection and identification of prior actions, insufficient efforts were put in to sensitization and capacity building for implementation of reforms. PPAR mission interviews with MOFA officials suggest there was a limited understanding of the budget support instrument among many key stakeholders beyond PPMED. Many did not fully capture the distinction between budget support operations versus project support. They viewed budget support as merely meeting triggers and did not capture how it could benefit their particular area beyond budget resources provided. There was also a lack of ownership in implementation of reforms. Weak coordination within MOFA and the weak leverage that PPMED had over other agencies linked to prior actions hampered PPMED's capacity to track subsequent implementation.

Response: Weak coordination within MOFA is a systemic problem and efforts are being made to address through weekly meetings of Directors, establishment of the Projects coordination Unit, platforms such as the Agriculture Sector Working Group and the Joint Sector Reviews. The report indicated that there was strong engagement and ownership in the design of the series and identification of prior actions. How could there be lack of ownership in the implementation of the reforms? PPMED is a line Directorate of the Chief Director's office and therefore had leverage over the other Directorates in terms of facilitating and coordinating the implementation of series. Failure to track subsequent implementation was due to lack of resources to implement the reforms.

5. Paragraph 29: The ICR argued that between 2008 and 2010, "disproportionately high food production and productivity increases were achieved in the northern regions" compared with the rest of the country and attributes this to MOFA's fertilizer subsidy program which was financed with the financial transfers from the DPO series. Other evidence indicates that this is far from certain, and that rainfall may have played a more significant role.

Response: Four factors— water, seed, soil amendments and good agricultural practices— contribute to higher yields. We could not rule out contribution of fertilizer since there is evidence that fertilizer use increased over presubsidy level.

6. The effectiveness of the subsidy program is hampered by leakages and other factors. The impact of fertilizer use on yields is constrained by the lack of availability of improved seeds.

Response: The mission should mention the efforts made severally to reduce the leakages and also allude to the fact that the government made efforts to support use of seeds as accompanying input to improve yields.

7. Paragraph 30: With regard to the series' contribution to poverty reduction, data from the last two Ghana Living Standards Surveys indicate that overall poverty rates in Ghana declined from 29 percent in 2006 to 21.4 percent in 2012. However, there is insufficient information to establish whether the agricultural sector has contributed to this.

Response: If we doubt the attribution of poverty reduction to the contribution of Agriculture then we also bring into contention the consensus that we can only have broad-based poverty reduction through agriculture because majority of the population depend directly or indirectly on agriculture. Increased infrastructure benefits agriculture more than any other sector in terms of markets for both inputs and outputs and energy for processing.

8. One of the key counterparts in MOFA reported to the PPAR mission that progress in this area was constrained by coordination with other line agencies, which MOFA could not ensure. This area was not taken up in the subsequent agriculture DPO series, in part because the guidance provided by the Ministry of Finance was to limit prior actions to areas for which MOFA had full control.

Response: The Agricultural Engineering Services Directorate, is a technical directorate of MOFA, and was the lead agency responsible for the implementation of the action plan on postharvest loss management. The lack of implementation of the regular postharvest loss assessment and implementation of the action plan was rather due to lack of resources. The area was not taken up in subsequent series because it was a going concern which was to be addressed in subsequent years and did not have to be a prior action.

9. Paragraph 42: The ICR reported that the combined land use intensification over the time period of the DPO series, 2008 and 2010, had declined by 28 percent. It was noted that "the ratio for formal schemes under the government's direct control increased but the combined drop is due to the large drop in informal schemes." Since the end of the series in 2010, there has been minimal improvement in the performance of formal schemes, but a more notable improvement in informal schemes

Response: The conclusion about minimal improvement in formal schemes and notable improvement in informal schemes appears to be inconsistent with the statement that the combined drop is coming from informal schemes.

Improvement in irrigation expansion, management and efficiency have been on the agenda of the Ghana Irrigation Development Authority. Some of these objectives are being implemented under the Ghana Commercial Agriculture Programme.

10. Paragraph 42: Support in this area was expected to lead to an increase in FBO capacity for production, postharvest management and marketing, reflected in a 10 percent increase in (i) the number of functioning FBOs, (ii) the number of FBOs accessing financial services, and (iii) the number of FBOs accessing marketing information. Although these targets were exceeded by the end of the project, covering the period 2008-2010, the ICR notes that a large part of the increase was attributable to the Canadian International Development Agency Agricultural Services Program, which operated in parallel

Response: The last attribution could be right but that should have been the case for all other activities for which directorates identified as priority. While the AGDPO resources were used for the fertilizer subsidy because it was disbursed in bulk, the other budgetary resources from Government of Ghana or other sources were to be used to support the implementation of METASIP according to priorities identified by directorates.

11. Paragraph 47: Interviews with MOFA, the International Food Policy Research Institute, academia, and other development partners active in the agriculture sector also indicated that often the leadership of FBOs in Ghana are not actual farmers.

Response: The underlined should be stated as the “leadership of Umbrella FBOs in Ghana.” Of course, this is because they are more of organizers and advocates and although may have farms, may be spending most of their time at the national level doing advocacy and mobilization/organization.

12. Paragraph 48: The link between the action plan and the volume of credit going to agriculture is unclear.

Response: The action plan was to support the implementation of a policy framework designed to improve access to credit. The Rural and Agricultural Finance Project was one of the projects developed from the action plan to operationalize the policy.

13. Paragraph 50: Interviews with MOFA staff indicated that this area was dropped from the subsequent DPO series because agriculture credit was expected to be increased through a rural finance project implemented by the microcredit unit in the Ministry of Finance. However, that project focused on improving the capacity of rural microcredit institutions in general, and did not specifically address agricultural credit constraints.

Response: The Name of the Unit was Micro Finance Unit. It is now called Development Finance Unit of the Financial Sector Division of the Ministry of Finance. The capacity of the rural finance institutions was one of the constraints limiting access to credit. So the project sought to build the capacity of the institutions to understand lending to agriculture and smallholders to increase financial inclusion. This was ultimately supposed to contribute to increased credit to rural enterprises and for that matter agricultural credit. Impact of such interventions which are affected by broader macroeconomic environment cannot be realized in the short term.

14. Paragraph 141: The additionality of the prior action to establish operational modalities with the private sector is not clear. IEG interviews with stakeholders, indicate that the private sector has been involved in the negotiation of fertilizer prices and subsidy levels since the beginning of the program in 2008.

Response: Establishing operational modalities with the private sector was to have their input into the modalities and ensure that it was transparent.

15. Paragraph 146: The program targets for value of selected nontraditional export crops, and the share of total lending by banks to agriculture, forestry and fisheries sectors were exceeded. The ICR reports that the value of nontraditional exports increased from $112.00 in 2010 to $271.35 in 2011 (versus target $154.35). Lending from deposit banks to the agriculture sector increased from GHC 472m in 2010 to GHC 519.2m in 2011 (versus target 465.6). However, it is not clear to what extent these values, which are of a national scale and include all sources of finance (not only the Outgrower and Value Chain Fund [OVCF] and Export Trade, Agricultural and Industrial, Development Fund) can be attributed to the prior actions, which are relatively modest in scale. The OVCF is a positive initiative that is currently meeting filling a key niche in the market, albeit on a small scale. But it remains to be seen whether it will be sustainable once support from KfW comes to an end.

Response: Attribution of the prior actions to increases in lending to the agriculture sector is overestimated. The prior action was only to contribute to lending in the agricultural sector and we could only estimate by how much this increase was contributed by OVCF or related initiatives. It is important to add that at the time of the IEG work, the government had yet embarked on the design of another initiative called the Ghana Incentive-based Risk Sharing Agricultural Lending scheme. This scheme aims at de-risking the agricultural sector by providing guarantee finance, advisory services, insurance etc. So the efforts diverse and ongoing and can only contribute to the objective of increasing agricultural finance.

16. Paragraphs 152 and 154: Logic in 23,000 MT warehousing capacity being additional demand and representing an improved policy environment.

Response: The deduction is that the WRS was to improve grain market trade through improved storage, access to finance, better grain price, improved quality of grain etc. So if the mission concludes that addition capacity of more than 90,000 MT of storage space would be required to expand nationwide, then it means the policy environment for WRS is supportive of the initiative.