Ghana Compact

June 22, 2017

MILLENNIUM
CHALLENGE CORPORATION
UNITED STATES OF AMERICA

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Introduction

In August 2006, MCC and the Government of Ghana signed a five-year, $547 million compact to reduce poverty by raising farmers' incomes through private sector-led agribusiness development and major public works projects in the capital of Accra. The compact consisted of a three-pronged series of investments in 30 districts across the country. The Agriculture Project was designed to enhance returns from staple food and horticulture crops produced by low-income smallholder farmers as well as to support the expansion of higher-value commercial agriculture through improved delivery of business and technical services. The Transportation Project was designed to reduce costs related to agricultural commerce at local and regional levels. And the Rural Development Project was designed to strengthen rural institutions providing complementary and supportive services for agricultural and agribusiness development.

This report provides a summary of the tangible outputs of the compact program, documentation of changes in compact activities and the reasons for them, the available information on progress against targets in the monitoring plan, and the status of independent evaluations undertaken. Given the delivery later in 2017 or in 2018 of some of the evaluations for compact activities, this report will be updated to include that information once the evaluations are final.

Under this compact, MCC and the Government of Ghana completed the construction of a major highway through the center of Accra, delivered commercial skills training to nearly 1,200 farmer based organizations and 67,000 farmers, irrigated more than 500 hectares, and built or rehabilitated 250 classroom blocks [1] in 204 communities. Approximately 98 percent of all compact funds were disbursed by compact closure in February 2012. In addition, all policy requirements related to reform of land administration and land management, national plant protection, and road maintenance expenditures were met on time.

Nonetheless, Ghana faced some difficulties in meeting the intended compact objectives. Because of the larger than average number of activities under each project, MCC's 5-year time limit on disbursements, and MCC's refusal to increase the total amount of the compact, significant changes and trade-offs in some of the project activities were unavoidable. These re-scopings and reallocations made for a stronger compact, but also made evaluating economic rates of return and performance measurements against original targets difficult. Recalculating estimated economic rates of return (ERRs) at the compact's end date for instance, was not feasible for those projects where the original design assumption no longer applied after program changes were made.

Country Context

Ghana is an emerging economy and a trade hub for much of West Africa, and agriculture is a mainstay of its economy. At the time of compact signing in 2006, the agricultural sector accounted for about 40 percent of the country's gross domestic product and directly employed between 60-70 percent of its workforce. Owing to its ability to produce a wide variety of tropical and sub-tropical crops, Ghana appeared to have the potential to become an important supplier of fruit and vegetable products to both its neighbors in Africa and the European Union. Small farm operations, however, accounted for about 80 percent of total agricultural production and were largely dominated by rain-fed production of crops for local consumption. The average farm size was small (less than 1.2 hectares), and agricultural productivity was limited by low cropping intensity, few market linkages, and limited use of fertilizers, insecticides, high yielding varieties, or irrigation-based techniques. Additionally, high transport costs restricted access to major domestic and international markets, and poor access to basic services in rural communities reduced the ability to attract and retain entrepreneurs or workers.

To address the issues hindering the agribusiness sector in Ghana, MCC and the Government of Ghana signed a five-year, $547 million compact in August 2006 with the overall goal to reduce poverty through economic growth led by agricultural transformation. To achieve this goal, the program pursued two objectives: (a) to increase production and productivity of high-value cash and food crops in the intervention zones in Ghana, and (b) to enhance the competitiveness of Ghanaian high-value cash and food crops in local and international markets. These objectives were addressed through a set of investments in agriculture, rural development, and transportation implemented by the Millennium Development Authority, or MiDA, established by the Government of Ghana as a condition of the MCC grant. [4]

The compact program built on Ghana's Poverty Reduction Strategy and reflected input from broad and inclusive consultations. Projects were carried out in three Intervention Zones: the Northern Agricultural Zone, the centrally located Afram Basin Zone, and the Southern Horticultural Zone. The zones were selected for their high incidence of poverty and their potential as agricultural production centers.

- Original Amount at Compact Signing:
  $547,009,000
- Amount spent:
  $536,288,968

- Signed:
  August 1, 2006
- Entry Into Force:
  February 16, 2007
- Closed:
  February 16, 2012

- 1,217,000Estimated beneficiaries over 20 years

MCC considers beneficiaries of projects to be those individuals who realize improved standards of living, primarily through higher incomes, as a result of economic gains generated by MCC-funded projects.

- $671,800,000Estimated net benefits over 20 years

  "Estimated Net Benefits" is the sum of all projected net benefits accruing over the life of the project, typically 20 years, evaluated at a 10% discount rate. Estimates are reported in millions of US dollars in the year that the ERR analysis was completed.

- Compact Agreement
- M&E Plan

Agriculture Project

- $240,984,000Original Compact Project Amount
- $188,731,530Total Disbursed

Estimated Benefits

	Time of calculation	Estimated Economic Rate of Return over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years ($ millions)
Commercial Training, Irrigation, Land and Credit Activities	At the time of signing	22.0%	298,882	$105.7
Irrigation Activity	At the time of signing	15.0%	49,247	$8.5
Post-Harvest Activity	At the time of signing	42.0%	126,035	$69.1
Feeder Roads Activity	At the time of signing	18.0%	878,121	$26.8

The Commercial Training, Irrigation, Land, and Credit Activities were originally conceived as a tightly integrated project at the time of compact signing and are represented by one ERR. Only the benefit streams for the irrigation activity can be broken out separately.

MCC policy does not allow for a compact funding envelope to be increased, but MCC's programming flexibility does allow the partner country and the agency to determine best use of compact funds even after a compact has been signed. The Ghana Compact took advantage of this flexibility as the timeline and budgetary pressures made it clear that certain activities, especially in the Agriculture Project, should not continue for reasons stated below, and that other compact projects needed additional funding. MCC policy is to update ERR information whenever new, important information on costs or progress against targets makes that an informative exercise or necessary for re-scoping. However, because the original ERR assumptions for this project no longer applied at the end of the compact, and because the necessary data to update them following closure is not available, ERRs for the Agriculture Project activities will not be updated. The final evaluation report will provide a post-compact ERR for the Feeder Roads Activity.

Project Description

At the time of investment, farming in Ghana was largely dominated by rain-fed production of crops for local consumption by smallholder farmers using rudimentary technology. Inconsistency in both the

supply and quality of crops hampered Ghana's ability to compete against other countries to supply regional and EU markets. Other barriers included poor connectivity to markets, limited access to credit, and insecure land tenure. The Agriculture Project was designed to enhance returns from staple food and horticulture crops produced by low-income smallholder farmers and improve delivery of business and technical services to support the expansion of higher value commercial agriculture in the Northern Agricultural Zone, Afram Basin Zone, and Southern Horticultural Zone through the following activities:

- **Commercial Training Activity**

  The objective of the Commercial Training Activity was to accelerate the development of commercial skills and capacity among farmer-based organizations (FBOs) by providing training in management, business planning, technology applications, and marketing. To provide farmers with start-up capital and an incentive to participate in the training, each farmer was given a starter kit that contained fertilizer and seeds for one acre, protective equipment and a small amount of cash to facilitate land clearing. As a result of the training and starter kit, FBOs were expected to be more efficient in production, gain scale efficiencies in purchasing inputs, and competitively respond to commercial demands with necessary volume and quality.

- **Land Tenure Facilitation Activity**

  The Land Title Facilitation Activity (LTF) was designed to increase investment and productivity by strengthening property rights. With a focus on the Northern and Southern Zones, the activity sought to improve tenure security for existing land users and facilitate access to land for commercial crops through systematic provision of titles. The activity was designed as a pilot to be executed in phases depending on the performance of the initial phase; however, limited funding and time, as well as local land disputes, led to the activity's reduction in scope. More information on the re-scoping can be found below.

- **Post-Harvest Activity**

  The goal of the Post-Harvest Activity was to make the Ghanaian horticulture export industry a significant supplier of fruits and vegetables to the European Union (EU) and other export markets. The activity included the improvement of public sector capacity to meet International Plant Protection Convention (IPPC) standards, as well as a series of related investments that were designed to develop post-harvest handling capacity that maintains the quality of product from the farm to the market.

  The Small-Scale Post-Harvest Infrastructure sub-activity was designed to provide small grants to small-holder farmers for the purchase of agricultural storage facilities. Based on experience however, MiDA and MCC later determined that the small-holder farmers would not be able to manage this equipment in a sustainable way. Instead, private sector businesses interested in grain and pulses storage were procured to partner with FBOs to set up Agricultural Business Centers (ABCs) that were sustainable over the long-term.

The Public Packhouse sub-activity funded construction of three public packhouses – two for pineapples and one for mangoes – to serve the needs of small-holder farmers who do not produce enough to justify having their own packhouses.

The Post-Harvest Activity also directly targeted Ghana's pineapple exporters through the Sea Freight Pineapple Exporters' Association of Ghana (SPEG) loan program. The program sought to increase the association's competitiveness in overseas markets by facilitating the purchase and installation of post-harvest facilities and equipment that help improve handling of their export pineapples to achieve better product quality in their targeted markets. The loan was later converted to a one-time grant that would serve as revolving credit to SPEG's members.

The construction of the Perishable Cargo Center (PCC) facility at Kotoka International Airport is the final link of an integrated cold chain for the horticultural sub-sector that begins at the packhouses where products are initially cooled. By facilitating the air shipment of high-quality produce to overseas markets, the Center was expected to help generate higher market prices and increased volumes for its normal fruit and vegetable exports.

- **Feeder Roads Activity**

The Feeder Roads Activity sought to rehabilitate or reconstruct up to 950 km of feeder roads to promote development in the agricultural sector. The intended outcomes were to reduce transportation costs and time, and thereby increase access to major domestic and international markets. It also aimed to facilitate transportation linkages from rural areas to social service networks including hospitals, clinics and schools. Due to escalating construction costs, upgraded design standards and competing needs of other investments, the scope of the activity was changed and MCC rehabilitated or reconstructed 357 km of rural roads and provided designs for 329 km more for future investment.

- **Credit Activity**

The Credit Activity was intended to improve credit services for on-farm and value chain investments and was anchored by the Agricultural Credit Program (ACP) Fund. It was supported by sub-activities aimed at expediting the flow of credit to identified value chain activities, including building the capacity of bank officials in agricultural credit. In late 2009, it became clear that the ACP faced serious challenges, and a comprehensive review undertaken by MiDA and MCC revealed significant implementation issues. Despite implementing a series of remedial measures aimed at improving performance, the activity was canceled in 2011 for the following reasons:

  - The ACP loans were not being repaid by the beneficiaries.
  - Management and oversight by the Bank of Ghana did not meet MCC standards.
  - The Private Financial Institutions had poor capacity and poor internal controls over their loan portfolios.

As a result, MCC required the Government of Ghana to refund back to the U.S. Government all

MCC funding disbursed, minus amounts repaid and reallocated under the compact, amounting to roughly $6.7 million. More information can be found in the section below on compact changes.

- **Irrigation Activity**

Originally, the Irrigation Activity was conceived as a way to invest in a limited number of retention ponds and weirs (a low dam built across a river to raise the level of water or regulate its flow) as requested by the local FBOs in their business plans, where access to water was critical to their business success. It was estimated that this activity would cover up to 5000 ha. With additional information and cost estimates, this objective was changed to rehabilitate existing irrigation infrastructure and construct a new irrigation scheme. The newly defined project was designed to bring a total of 2,290 ha of land under irrigation, and was expected to improve the success rate of farmers who need water for their routine farming activities. This updated project scope also aimed to ensure sustainable management of all irrigation infrastructure funded by the compact. To do so, it introduced anchor farmers, large commercial farms that would provide continued technical assistance and ready markets for the FBOs, in the catchment areas.

At the end of the compact, MCC funded training for 66,930 farmers in 1,242 farmer-based organizations. The compact also funded construction of 10 Agricultural Business Centers for grain storage, processing and marketing and three public packhouses for mangos and pineapples, as well as the construction of a cargo center to store perishable agricultural goods for shipment at the Kotoka International Airport in Accra. Approximately 360 km of roads connecting farmers to markets in rural areas were rehabilitated or upgraded, and two irrigation systems covering over 500 hectares were rehabilitated or constructed. Construction of a third irrigation system covering approximately 450 hectares designed by the compact was completed following compact closure using Government of Ghana funding and oversight.

Evaluation Findings

Commercial Training Activity

This impact evaluation, completed in 2014, was designed to evaluate the extent to which the training and starter kit provided by the compact led to increases in total land cultivated and increased labor hours for farm activities, or the use of higher-quality inputs. It also asked whether the activity changed the value or source of loans obtained by farmers and whether it increased crop income and yields for the farmers.

Although most operational targets, such as outputs and outcomes, were met or exceeded, the independent impact evaluation found mixed results in terms of income increases that could be attributed solely to MCC funded interventions in the three regions where the Commercial Training Activity was implemented. The evaluation did not find evidence of impact on yields or crop incomes on average across the three regions. However, statistically significant effects were detected in the northern region, where farmers' annual crop income increased 80 percent relative to the control group, and a statistically significant decline of 75 percent in the southern region. (No significant impact could be measured in the

Afram Basin Zone.)

The evaluation also indicated that:

- Trained farmers were more likely to obtain loans from formal sources than farmers in the control group;
- An estimated increase in the use of improved seeds and fertilizers was driven by the free seeds provided in the starter kit. However, the value of improved seed use was never greater than the value provided free by the project, suggesting that the farmers may be unwilling to buy improved seeds at their real cost on an ongoing basis;
- No impact on land under cultivation; and
- No impact detected on labor hours for farm activities.

There are several factors that may contribute to these findings. First, the evaluation only captured impacts after one year, even though the original program logic assumed two crop cycles would be necessary to observe and measure a change in outcomes. This was due to delays in implementation, which caused the time interval between the delivery of training to the treatment group and the control group to be reduced from two years to one year. Second, training activities may not have been tailored appropriately to the regional differences in farmer capacity and crops.

Status of the evaluation

Component	Status
Final Evaluation	Questionnaires are public. Final evaluation completed in 2014.

Land Tenure Facilitation Activity

The World Bank began an impact evaluation for the Land Title Facilitation Activity in 2011, seeking to assess the effect of land title registration on perceived tenure security, on investments in land, on access to credit, on the choice of cash vs. subsistence crops, and on land markets in the Awufu-Effutu-Senya District in Ghana.

Status of the evaluation

Component	Status
Baseline	Completed in 2011. Report and de-identified data are public.
Midline	Completed. Questionnaires are public.
Endline	Questionnaires are public. Final results expected in 2017.

Feeder Roads Activity

A performance evaluation of the Feeder Roads Activity will assess changes in prices of goods in local markets that are transported on the roads improved by the Activity over time. It will also examine changes in fees to transport goods and passengers to markets served by the feeder roads.

Status of the evaluation

Component	Status
Baseline	Completed in 2010. Report and questionnaires are public.
Endline	Final results expected in 2018.

Credit Activity

MCC planned to use an impact evaluation to measure the effect of increased access to credit. However, MCC cancelled the evaluation of this activity. [5]

Status of the evaluation:

Canceled.

Irrigation Activity

A performance evaluation of this activity was conducted to determine the effectiveness of the irrigation schemes for farmers in rural Ghana constructed with compact funding. The three main research questions this evaluation intended to answer were: i) did the new irrigation schemes raise production from 2 to 3 crop cycles per year? ii) did irrigation result in diversification of crops and potentially higher yields? and iii) did irrigation increase labor requirements?

Status of the evaluation

Component	Status
Baseline	Completed in 2013. Report is public.
Endline	The final assessment is expected in 2017.

Post-Harvest Activity

Agribusiness Center (ABC) Sub-Activity

The evaluation is designed to provide a financial and social analysis of the 10 Agricultural Business Centers and services provided to their affiliated smallholder farmers. It examines what a viable business model looks like for an ABC, whether the ABCs are working with the anchor investor and FBO farmers as intended, what factors limit their use, and what benefits farmers derive from the ABCs.

Status of the evaluation

Component	Status
Baseline	Completed in 2013. Report is public.
Endline	The final assessment is expected in 2017.

Perishable Cargo Center Sub-Activity

A performance evaluation was conducted on the construction and equipping of a perishable cargo center at Accra's Kotoka International Airport to support increased exports of fresh fruit and vegetables from Ghana. The objective of the evaluation was to analyze the performance of the Perishable Cargo Center since it began commercial operations and to determine its likely sustainability, impact, and effectiveness.

Status of the evaluation

Component	Status
Endline	The final assessment is expected in 2017.

SPEG Loan Sub-Activity

A performance evaluation was conducted of the sub-activity providing grant financing to SPEG.

Status of the evaluation

Component	Status
Endline	The final assessment is expected in 2017.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Jun 2012)	Percent Compact Target Satisfied (as of Jun 2012)
Commercial	Farmers trained in	0	50,00	66,930	134%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Jun 2012)	Percent Compact Target Satisfied (as of Jun 2012)
Training Activity	Commercial Agriculture		0		
	Hectares under production with MCC support	0	53,060	58,568.1	110%
Credit Activity	Portfolio-at-risk of Agriculture Loan Fund (%)	0	20	87.54	-338%
	Value of loans disbursed to clients from agricultural loan funds	0	26,000,000	16,740,762	64%
Feeder Roads Activity	Kilometers of feeder road completed	0	357.44	357.44	100%
Irrigation Activity	Additional hectares irrigated with MCC support	0	4,200	513.6	12%
Land Tenure Activity	Land parcels registered in the Pilot Land Registration Areas	0	3,500	1,481	42%
	Parcels surveyed in the Pilot Land Registration	0	4,800	5,729	119%
Post-Harvest Activity	Cooling facilities installed	0	12	10	83%
	Volume of products passing through post-harvest treatments (metric tons)	0	385,120	36,641.3	10%

Explanation of Results

While the irrigation systems funded by the Irrigation Activity in the Northern Zone were operational by the end of the compact and the irrigation system in the Southern Zone was completed with Government

of Ghana funding in 2016, the activity was not complete at compact closure. This was due to delays in starting construction of the irrigation systems, challenges in coming to agreement on appropriate management structures, and poor contractor performance.

In the Land and Post-Harvest Activities, performance indicators show lower than expected achievement because targets were not updated to reflect the re-scoped activities. The Agricultural Credit Program under the Credit Activity was not implemented as planned and MCC therefore, claimed a refund from the Government of Ghana in May 2012 for the full amount disbursed.

Rural Development Project

- $101,288,000Original Compact Project Amount
- $76,030,565Total Disbursed

Estimated Benefits

While the original compact budget for this project was $101 million, funds were shifted to other important projects during implementation. Estimated benefits correspond to $42.3 million of project funds, where cost-benefit analysis was conducted. This excludes the Procurement Capacity Activity and Financial Services Activity.

Estimated Benefits for Activities and Sub-Activities

Activity and Sub-Activity		Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
Community Services Activity	Education Sub-Activity	At the time of signing	12.1 percent	149,456	$10,900,000
	Electrification Sub-Activity	At the time of signing	20 percent	149,456	$49,600,000
	Water & Sanitation Sub-Activity	At the time of signing	20.5 percent	356,296	$3,300,000
Financial Services Activity		At the time of signing	N/A	N/A	N/A
Procurement Capacity Activity		At the time of signing	N/A	N/A	N/A

No ERR was calculated for the Procurement Capacity or Financial Services Activities. The Procurement Capacity Activity was so small relative to the rest of the project ($2.3 million at signing) that MCC decided not to move forward with a separate ERR. The Financial Services Activity does not have an ERR due to the high cost of the analysis relative to the size of the investment.

Original ERRs for the Rural Development Project were not updated following re-scoping of activities. Some activity or sub-activity-level ERRs may be updated using data from evaluations currently underway.

Project Description

Rural farmers in Ghana have spotty and often poor access to basic community services such as drinkable

water, safe school infrastructure, electricity, and efficient financial services. This limits the economic potential of rural communities, making it difficult to reinforce entrepreneurial growth and retain skilled workers. The Rural Development Project was designed to strengthen rural institutions that provide services complementary to and supportive of agricultural and agribusiness development. The Project consisted of three activities:

- **Procurement Capacity Activity**

  The objective of the Procurement Capacity Activity was to strengthen the capacity of public sector entities to carry out transparent and competitive procurements at all levels of government. Investments included the establishment of a career path system for procurement practitioners, strengthening of local training institutions with curricula, modules and provision of textbooks, and the creation of an internship program for procurement students and graduates.

- **Community Services Activity**

  The Community Services Activity was designed to complement the Agriculture Project by providing educational, water and sanitation, and rural electrification infrastructure in the Intervention Zones and enhancing the capacity of local governments to deliver related services. These interventions were part of a larger effort by the Government of Ghana to expand the provision of basic community services throughout the country, and were specifically expected to enhance the sustainability of the Agriculture Project by providing the necessary infrastructure to improve health of communities, enhance skill development through access to education, and facilitate small-scale post-harvest processing of agricultural products. The Activity included:

  Education Sub-Activity: This sub-activity sought to improve education delivery in beneficiary communities consistent with Ghana Government policy and support the compact's agriculture investments in these communities. It included construction and rehabilitation of school infrastructure and ancillary facilities in farming communities.

  Water and Sanitation Sub-Activity: The water and sanitation component of the Community Services Activity was designed to provide improved water systems to selected communities. The objective was to improve water systems in districts participating in the compact so that the households' economic productivity and income would increase, and households would reduce unproductive time spent caring for the sick, and/or collecting water.

  Rural Electrification Sub-Activity: The rural electrification component was designed to promote economic activities in crop storage, agricultural processing, and other agricultural cottage industries through the provision of electricity.

  The scope of the Community Services Activity was reduced following a compact-wide restructuring (see details below). The Rural Electrification component was re-scoped to focus on linking post-harvest facilities to the national electrical grid, and the number of planned education facilities and water supply points were also reduced.

- **Financial Services Activity**

  The Financial Services Activity was aimed at improving financial service delivery, operations, and access to information at rural banks to enhance the depth and value of rural financial services and widen access to savings services and cash transfers. It improved the efficiency of the National Payments and Settlement System through the establishment of an electronic payment system and established a computerized networking system between rural banks and the Apex Bank Server.

At the end of the compact, the project funded the creation of curricula and training for instructors in the procurement sector, as well as placement of nearly 1,300 students in procurement internships to reduce leakage, misuse, and suboptimal use of public resources in local communities. It also funded the construction and rehabilitation of 250 classroom blocks in 204 communities – making them more accessible for all students and teachers – the construction of water and sanitation facilities in 26 communities, and the electrification of farms and packhouses in rural areas. Finally, the project strengthened rural financial services, automating and connecting rural banks and providing other improvements intended to bring a large number of unserved community members into the financial system.

Evaluation Findings

Procurement Capacity Activity

The Procurement Capacity Activity's evaluation was canceled. An assessment determined that the evaluation would not provide additional insights into accountability or learning in a cost effective way given the limitations of existing pre-project data for this limited investment.

Status of the evaluation: The evaluation has been canceled.

Community Services Activity

Education Sub-Activity

The evaluation of the Education Sub-Activity is designed to investigate the following hypothesis: an investment in education infrastructure to improve access and the learning environment would result in increased enrollment, reduced dropout rates, and higher completion rates. These intermediate outcomes could then be linked to the overarching programmatic objective of an increase in long-term earnings by increasing the education level of individuals in the community.

Status of the evaluation

Component	Status
Endline	The final evaluation is expected in 2018.

Water and Sanitation Sub-Activity

Since the investment aimed to improve the quality of water for selected communities, the hypothesis was that the prevalence of illness, particularly diarrhea, would be reduced and overall health status for members of the communities would improve. In addition, this sub-activity could help shift time formerly reserved for collecting water to income producing activities. An impact evaluation of the improved water and sanitation facilities will seek to determine if the intervention led to a decline in the incidence of diarrhea, a decline in time devoted to acquiring water, lower prices for drinking water, higher consumption of water by households, and an overall increase in household consumption expenditures.

Status of the evaluation

Component	Status
Baseline	Completed in 2011. Report is public.
Midline	A qualitative analysis was completed and results are expected in 2017.
Endline	The final evaluation is expected in 2017.

Financial Services Activity

This intervention intended to improve the efficiency of financial transactions at rural banks and make it more attractive for people to use the banking system. The computerization of operations and connectivity for the rural banks are expected to have the following effects, which will be tested during the evaluation:

- Improvement in the speed and reliability of transactions
- Improvement in accuracy and availability of accounts information
- Reduction in check clearing times

Status of the evaluation

Component	Status
Endline	The final evaluation is expected in 2017.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Jun 2012)	Percent Compact Target Satisfied (as of Jun 2012)
Community Services Activity	Additional female students enrolled in schools affected by Education Sub-Activity	0	2,665	2,166	81%
	Agricultural facilities in target districts with electricity du to Rural Electrification Sub-Activity	0	12	13	108%
	Distance to collect water (meters)	1,190	500	522	97%
	Households with access to improved water	0	21,800	27,407	126%
	Kilometers of electricity lines identified and diligenced	0	230	99	43%
	School blocks rehabilitated and constructed	0	288	250	87%
	Students enrolled in schools affected by Education Sub-Activity	37,733	43,393	41,019	95%
	Water points constructed	0	377	392	104%
Financial Services Activity	Inter-bank transactions	516,565	1,475,900	3,286,179	289%
	Rural banks automated under the Financial Services Activity	0	121	130	107%
	Rural banks connected to the Wide Area	0	121	134	111%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Jun 2012)	Percent Compact Target Satisfied (as of Jun 2012)
	Network (WAN)				
Procurement Capacity Activity	Individuals completing internships at Ministries, Departments and Agencies and Metropolitan, Municipal and District Assemblies	0	1,250	1,274	102%

The Community Services Activity was re-scoped to focus on extending electricity to processing plants, post-harvest infrastructure, packhouses and irrigation facilities as opposed to communities, which rendered original targets irrelevant. As a result, the number of electricity lines identified and assessed for feasibility under the activity was significantly lower than the target.

Transportation Project

- $143,104,000Original Compact Project Amount
- $227,710,512Total Disbursed

Estimated Benefits

Estimated benefits correspond to $134.5 million of project funds, where cost-benefit analysis was conducted. That corresponds to the original compact amount for the Project, with funds used for M&E and administration activities removed.

Estimated Benefits for Activities

Activity	Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
Ferry Activity	At the time of signing	N/A	5,464	N/A
N1 Highway Activity	At the time of signing	36 percent	216,584	$232,900,000
	At compact closure	32.7 percent	216,584	$313,400,000
Trunk Roads Activity	At the time of signing	17 percent	92,321	N/A

ERRs for the Ferry and Trunk Roads Activities will be updated as part of investment evaluations.

Project Description

Farmers in Ghana face high transportation costs when moving their goods to market – a trip that is almost always made on Ghana's 60,000 km national road network. The Transportation Project, which supported the Government's long-term Road Sector Development Program, was designed to promote access to social services and support expansion of Ghana's export-directed horticulture base by reducing the cost of getting agricultural products to market. The project included three activities:

- **N1 Highway Activity**

  This major public works project significantly upgraded a 14 km stretch of highway between two major junctions outside of the capital of Accra in order to reduce the bottleneck in accessing the International Airport and the city's primary shipping port. The activity supported an expansion of

Ghana's export-directed horticulture base.

- **Ferry Activity**

  The Ferry Activity was funded in order to facilitate growth of the agricultural sector in the Afram Basin Zone by improving the ferry service of Volta Lake Transport Company that connects Adawso on the southern shore to Ekye Amanfrom on the northern shore. The compact provided for the construction of two roll-on/roll-off ferries, two ferry terminals, two landing stages, and the rehabilitation of the floating dock at Akosombo Port.

- **Trunk Roads Activity**

  This activity was included to facilitate the growth of agriculture and access to social services by improving up to 230 km of trunk roads, important major routes used for long-distance travel. Feasibility studies, designs and preparation of bidding documents were carried out on 243.71 km of roads. As a result of funding constraints, only 75.21 km were improved under the compact, with the remaining 168.5 km falling to the responsibility of the Government of Ghana to finish upon availability of funding.

At compact end, the project redesigned and funded construction of a key 14 km section of the N1 Highway, the major urban highway connecting horticulture production areas to the west of Accra through the city to a deep-water sea-freight port in Tema; rebuilt or upgraded 75 km of trunk roads throughout the compact intervention zones; and upgraded ferry services on Lake Volta to facilitate growth of the agricultural sector in the Afram Basin Zone.

The rehabilitation and construction of a critical section of the N1 Highway was one of the most significant infrastructure projects in the country. Handling up to 30,000 vehicles per day, this stretch of the N1—a two-lane undivided road—was often congested and lacked the operational capacity required to serve such high volumes of national, transnational and local traffic. Following the completion of the compact, the highway was transformed into a six-lane, divided road with four overpasses, one elevated circle interchange, street lighting, drainage, bus stops, extra-wide sidewalks with graded ramps, pedestrian walkovers, and stoplights at all major intersections. The new highway reduced peak travel time from one hour to less than 20 minutes on the new 14 km stretch and increased average daily traffic from about 27,000 vehicles per day to over 51,000.

While the project activities were largely complete at the end of the compact, the Government of Ghana funded and supervised completion of some outstanding works following compact closure, including the construction of two landing docks, one ferry, and a floating dock.

Evaluation Findings

Transportation Project

The evaluation looks at all three project activities. The performance evaluation includes HDM-4 analysis.[2]

Status of the evaluation

Component	Status
Endline	The final evaluation is expected in 2018.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Jun 2012)	Percent Compact Target Satisfied (as of Jun 2012)
Ferry Activity	Annualized average daily traffic (passengers)	620	651	Pending	Pending
	Annualized average daily traffic (vehicles)	58	63.8	Pending	Pending
N1 Highway Activity	Annualized average daily traffic	27,737	36,530	51,055	265%
	Kilometers of road completed: N1	0	14.13	13.6	97%
	Travel Time at peak hours: N1 (minutes)	60	20	19	103%
	Vehicles per hour at peak hours	4,021	4,254	4,078	24%
Trunk Roads Activity	Annualized average daily traffic	221.5	258.5	440.34	591%
	Kilometers of trunk roads completed	0	75.2	75.2	100%
	Roughness	9 – 12	3.5	3.4	102%

Updated data on traffic on the N1 Highway and Ferry is expected as part of the evaluation and survey

results in 2018.

Compact Changes

The Ghana Compact created more than 1,200 farmer based organizations (FBOs), trained nearly 66,930 farmers in commercial agriculture, enhanced rural credit and banking services, and constructed new roads and post-harvest facilities. As originally proposed and signed, the compact consisted of 3 large projects broken down into 12 activities and more than 20 discrete activity components. The size and complexity of the compact made successful implementation challenging, especially since the compact moved quickly [3] from the development process to implementation. Additionally, many major contracts were signed after the global financial crisis drove up the cost of both services and works in 2008. As a result of these factors, the compact saw several major restructurings following signing in order to maximize the effectiveness of the defined budget envelope.

- In January 2009, Ghana and MCC reallocated $31.2 million across project activities to account for increased costs related to construction work and changes made to the original design of some projects. Major changes included cutting the budget for Irrigation Development under the Agriculture Project by 22.4 percent following a shift in design. The original plan was to irrigate 5,060 hectares with new community irrigation structures (i.e., small dams and retention ponds), the need for which would be determined by the business plans developed by local farmer organizations known as FBOs. However, delays meant that waiting for FBOs to identify the structures, undertake the necessary preparatory assessments and design, and contract to construct the structures, would prevent the structures from being completed within the compact period. Therefore, MCC and the Government of Ghana opted to rehabilitate existing irrigation structures in the Intervention Zones rather than create new structures.

  At the same time, funding for the scalable investments under the Community Services Activity was reduced by approximately 20 percent to accommodate escalating costs elsewhere in the compact. The number of kilometers of feeder roads to be rehabilitated under the compact was decreased from 945 to approximately 360; however, the budget still had to be increased by 20.4 percent due to both higher construction costs and upgrading the design standards for many of the feeder roads. The budget for upgrading the N1 Highway under the Transportation Project was increased by approximately 30 percent to accommodate higher costs of construction inputs like steel and concrete and changes in design, and the number of kilometers of trunk roads improved under the compact was reduced from 230 to 75 after many of the targeted road segments were improved with financing from other sources.

- In January 2010, Ghana and MCC reallocated $39.7 million from other compact activities to accommodate higher-than-expected construction costs for upgrading the urban N1 Highway and trunk and feeder roads as well as improving the Lake Volta ferry service. The changes were made to ensure activities already underway could be completed within the compact period while those that were designed to be easily scalable were reduced in scope. Decisions about which programs to scale back were also made based on plans from other development partners to increase their interventions in certain areas.
- The Land Activity experienced several re-scoping exercises throughout the course of implementation. The original budget of $10.69 million supported:
  1. pilot land title registration of rural lands;
  2. helping the Ghana Judicial Services reduce the backlog of land-related court cases;

3. a training and public awareness campaign focused on land tenure issues and property laws; and
4. acquisition of technical equipment and physical infrastructure to support the Ghana Lands Commission.

In 2009 and in 2010, the Land Activity budget was reduced to $3.43 million. To accommodate this reduction, the scope of the land title registration of rural lands was reduced from nine pilot title registration areas to two. A few minor reallocations later increased the budget slightly to $3.8 million. The Land Activity experienced one last change in scope in September 2011, when the Government of Ghana requested and received approval from MCC to terminate the land title registration activities in the community of Tuunayili of the Savelugu-Nanton District due to a land tenure dispute between neighboring communities and threats of violence that arose thereafter.

- In January 2011, the Government of Ghana and MCC made the decision to move forward with construction of only two irrigation systems out of three with completed feasibility studies in the Agriculture Project. This reduced the total number of irrigated hectares funded under the compact from 5,060 to 2,360. This re-scoping was the result of delays in starting construction of the irrigation systems, challenges in coming to agreement on appropriate management structures among a diverse set of stakeholders, poor contractor performance, and increasing construction costs.
- The Credit Activity was originally programmed as a $58.4 million activity under the Agriculture Project and was subsequently reduced to $31 million during the 2009 re-scoping. Of that total amount, $22 million was available to financial institutions, with the compact funding 100 percent of the loans they then made with those funds to farmers on a 50/50 risk sharing basis with Participating Financial Institutions (PFIs). As lending started in October 2009, concerns arose about the ability of the Bank of Ghana, which was implementing the program, and the PFIs to manage the program effectively. Follow up reviews and audits revealed weaknesses in institutional oversight and program management, leading MCC to stop further disbursements for the activity. Implementation of the activity did not meet MCC standards which led MCC require a refund of the amount disbursed for the program, minus amounts repaid or recovered and reallocated to other compact projects, which totaled $6.7 million.

Coordination and Partnerships

MCC and the Government of Ghana worked closely with other U.S. Government agencies and international donors to increase the compact's impact. USAID, for instance, trained teachers to be based in schools rehabilitated or constructed through the compact's Community Development Activity and also funded construction of toilet facilities at some of the schools. USAID also took on construction of some of the feeder roads that had to be cut from the compact due to cost limitations. The Peace Corps built on MCC's investments by placing volunteers to teach in the schools constructed or rehabilitated with compact funds and support farmers trained under the compact to further develop their agribusinesses.

Compact activities were also well integrated with other donors' efforts. MCC built on the work of the Carter Center to help sustain the eradication of the Guinea worm in northern Ghana by promoting awareness of the disease, training water and sanitation officers, and expanding access to potable water in rural areas. The activities were part of the compact's $6 million Tamale Water Extension investment under the Rural Development Project, which supplied safe drinking water to 26 communities, including many historically afflicted with Guinea worm.

MCC and the Alliance for a Green Revolution in Africa (AGRA) successfully engaged the Government of Ghana in policy dialogue that resulted in much-needed reform to Ghana's outdated seed policy. MCC and AGRA also agreed to work together in 23 of the 30 compact intervention districts, created integrated soil fertility management practices, and explored innovative financing mechanisms for seed companies and agro-dealers.

In April 2012, the World Bank approved a $72 million loan for the second phase of the Government of Ghana's Land Administration Project. The project specifically includes an investment continuing the MCC-funded rural systematic land title registration effort in the Ejisu traditional area, as well as strengthening the administration services of the Lands Commission.

Additionally, MCC, the Government of Ghana and the World Food Programme (WFP) identified opportunities for MCC-funded farmers to be potential suppliers for WFP's Purchase for Progress initiative, which is designed to respond to food security needs in developing countries by providing a structured market for smallholders as they transition to commercial agriculture. WFP is purchasing grain from compact-trained farmers via grain buyers linked to the compact program to be used in school and emergency feeding programs.

Conditions Precedent

Key Conditions Precedent

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
Agriculture Project	**Agriculture Project** Prior to any MCC disbursement for the Land Activity on or after the commencement of Quarter 1 of Year 3: MiDA has submitted evidence demonstrating that the Government has taken effective measures to implement the recommendations for legal and institutional reforms for land administration, land management and land tenure as proposed in a memorandum submitted by the Minister of Lands, Forests and Mines to the Cabinet and approved by the Cabinet on February 9, 2007.	Met on Time
Agriculture Project	**Agriculture Project** Prior to any MCC disbursement for the Land Activity on or after the commencement of Quarter 1 of Year 4: MiDA has submitted evidence demonstrating that Government has harmonized the relevant land legislation and regulations with the constitutional mandate related to public taking of land for the public good.	Met on Time
Agriculture Project	**Agriculture Project** Prior to any MCC disbursement for the Post-Harvest Activity on or after the Commencement of Quarter 4 of year 1: MiDA has submitted evidence demonstrating that the Government has adopted an Amendment making the National Plant Protection legislation	Met on Time

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
	compliant with IPPC 1997.	
Transportation Project	**Transportation Project** Prior to each MCC disbursement for the Transportation Project covering Quarter 1 of each Year: MiDA has submitted evidence demonstrating that: (a) the amounts budgeted for routine and periodic maintenance of the maintainable road network for the previous fiscal year (other than fiscal year 2006) have been substantially expended for the intended purpose, and (b) the Government has budgeted funds sufficient to ensure that routine and periodic maintenance works are carried out in accordance with Ghana's Road Maintenance Standards for the maintainable road network for the current fiscal year.	Met on Time

Lessons Learned

The key lesson from the Ghana Compact is that programs must be more fully designed at compact signing, balancing aspirational objectives, MCC investment considerations, and the mandated implementation timeline. The Agriculture Project in Ghana included six distinct activities that together were intended to transform the sector. The six activities were implemented in 30 non-contiguous districts, making supervision challenging and diffusing any potential impact. The investment would have been more effective with greater focus on fewer integrated activities and with greater geographic proximity in order to affect greater change. This approach could have provided greater learning opportunities for scaling up in untreated districts or for replicating successful elements in other compacts.

In addition, a wide range of challenges during implementation, such as design delays and budget shortfalls meant less could be funded by MCC and required the Government of Ghana to take up the completion of some components after the end of the compact. In more recent compacts, MCC is designing compacts more fully, focusing compact investments in a way that leverages other donor and government initiatives, and increasing its emphasis on effective management for complex projects.

Drawing from experiences in Ghana and several other early compacts with irrigated agriculture projects, MCC published a Principles into Practice paper detailing lessons in implementing irrigated agriculture projects a few months after the Ghana Compact closed.

One lesson applicable to the entire compact is the need to be adaptable as unanticipated cost escalations and delays may often require scope changes during implementation. In Ghana, and other early compacts, much of the detailed project preparation work essential for finalizing budgets and timelines, including feasibility and design studies and environmental and social impact assessments, was completed after compact signing. As programs progressed to detailed design and contract bidding and external factors like exchange rate fluctuations took effect, costs became more clearly defined, and some original objectives had to be scaled back. In such cases, as in Ghana, MCC worked with implementing partners to revise projects to meet as many original objectives as possible with tighter budgets. While some re-scoping is inevitable, MCC now conducts more rigorous design, cost estimation and budgeting prior to finalizing a compact, and where possible, ensures that projects are easily scalable so that adjustments can be made more seamlessly when needed. [4] This, however, has led to increased time needed to develop compact proposals.

Endnotes

1. A school block is a group of three classrooms.
2. The Highway Development and Maintenance (HDM-4) and Road Economic Decision (RED) models are MCC's standard tools to evaluate roads. Both models take into account vehicle operating cost savings and time savings as part of a decision making tool for road investments.
3. The Ghana Compact was signed in August 2006 and entered into force in February 2007 – a timeline of 6 months. This was not unusual for compacts developed at that time. However, on average, MCC's compacts now include a preparatory period of about a year to 18 months between signing and the beginning of implementation.
4. More details on this can be found in another Principles into Practice paper on the topic of MCC's Results Framework

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