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MILLENNIUM
CHALLENGE
CORPORATION

Compacts in Cape
Verde and Honduras
Achieved Reduced
Targets

U.S. Government Accountability Office



YEARS

1921-2011

ACCOUNTABILITY ★ INTEGRITY ★ RELIABILITY

Why GAO Did This Study

The Millennium Challenge Corporation (MCC) was established in 2004 to help developing countries reduce poverty and stimulate economic growth through multiyear compact agreements. As of June 2011, MCC had signed compacts with 23 countries totaling approximately \$8.2 billion in assistance. MCC asks countries to develop compacts with a focus on results and effective monitoring and evaluation. MCC sets targets, which may be revised, to measure the compact results. In late 2010, the Cape Verde and Honduras compacts reached the end of the 5-year implementation period. This report, prepared in response to a congressional mandate to review compact results, examines the extent to which MCC has (1) achieved performance targets and sustainability for projects in Cape Verde and Honduras and (2) assessed progress toward the goal of income growth and poverty reduction. GAO analyzed MCC documents and interviewed MCC officials and stakeholders in Washington, D.C., Cape Verde, and Honduras.

What GAO Recommends

GAO recommends that MCC (1) work with countries to make decisions that reduce long-term maintenance needs, (2) ensure updated economic analyses are documented and consistent with monitoring targets, and (3) develop guidance for updating economic analyses following compact completion. MCC agreed with the intent of all three recommendations.

View [GAO-11-728](#) or key components. For more information, contact David Gootnick at (202) 512-3149 or gootnickd@gao.gov.

MILLENNIUM CHALLENGE CORPORATION

Compacts in Cape Verde and Honduras Achieved Reduced Targets

What GAO Found

In its first two completed compacts, Cape Verde and Honduras, MCC met some key original targets and many final targets, but the sustainability of some activities is uncertain. In Cape Verde, MCC altered the scope of its three projects, meeting some key original targets and many final targets by the compact's end. For example, an activity to upgrade and expand a major port in Cape Verde, which represented almost 50 percent of the \$110.1 million compact at signature, faced inaccurate early planning assumptions and increased costs. As a result, MCC split the port activity into two phases, funding the completion of the first phase—which covered about one-third of total expected costs for the port activity. In Honduras, MCC met a key original target and most final targets by the end of the \$205 million compact. For example, MCC constructed approximately half of the planned highway and all rescope secondary roads. In addition, several compact activities in Cape Verde and Honduras face challenges to long-term sustainability. Although MCC took steps to provide for sustainability, the governments of both Cape Verde and Honduras may have difficulty maintaining the infrastructure projects in the long term due to lack of funding, among other challenges. For example, MCC included privatization of port operations and road maintenance funding as conditions of the Cape Verde compact. However, the government has had difficulty meeting these requirements, calling into question the long-term sustainability of some projects. In Honduras, both uncertain government funding for road maintenance and design decisions on construction projects may jeopardize the sustainability of MCC-funded roads.

MCC impact evaluations for the Cape Verde and Honduras compacts are ongoing but delayed, and updated economic rate of return (ERR) analyses of the largest compact projects have not been well documented or linked to revised targets. MCC has taken steps to modify impact evaluation designs in response to implementation challenges and delays. For example, challenges in implementing the original evaluation design for the farmer training and development activity in Honduras led MCC to enhance the methodology by adding a supplemental design. Furthermore, updated ERR analyses of projects representing over 50 percent of compact funds have not been well documented or supported. For example, MCC updated its ERR analysis for the Honduras transportation project, but documentation for the underlying quantitative analysis supporting the updated ERR is not available. Additionally, ERR analyses updated in response to rescoping compact activities were not consistently linked to revised targets and indicators. For example, MCC updated the ERR analysis for the watershed management and agricultural support project in Cape Verde, but the analysis does not reflect the values and numerical ranges of key revised targets. In addition, although original ERRs are estimated for a 20-year period, MCC has not developed guidance for updating ERRs following compact completion. Re-estimated end-of-compact ERRs will likely be lower than predicted at compact signature.

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Abbreviations

CABEI	Central American Bank for Economic Integration
CEO	chief executive officer
ERR	economic rate of return
IRI	International Roughness Index
ISO	International Organization for Standardization
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MFI	microfinance institution

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G A O

Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

July 25, 2011

The Honorable Patrick Leahy
Chairman
The Honorable Lindsey Graham
Ranking Member
Subcommittee on the Department of State,
Foreign Operations,
and Related Programs
Committee on Appropriations
United States Senate

The Honorable Kay Granger
Chairwoman
The Honorable Nita Lowey
Ranking Member
Subcommittee on State, Foreign Operations,
and Related Programs
Committee on Appropriations
House of Representatives

The Millennium Challenge Corporation (MCC) was established in 2004 to provide aid to developing countries that have demonstrated a commitment to ruling justly, encouraging economic freedom, and investing in people. MCC provides assistance to eligible countries through multiyear compact agreements to fund specific programs targeted at reducing poverty and stimulating economic growth. MCC compacts may not be longer than 5 years.¹ As of June 2011, MCC had signed compacts with 23 countries, committing a total of approximately \$8.2 billion.² The President has requested approximately \$1.1 billion in additional funds for MCC for fiscal year 2012.

¹22 U.S.C. § 7708(j).

²MCC commits funding when a compact is signed and obligates funds after the compact enters into force. As of June 2011, MCC had signed compacts with, in order of signature, Madagascar, Honduras, Cape Verde, Nicaragua, Georgia, Benin, Vanuatu, Armenia, Ghana, Mali, El Salvador, Mozambique, Lesotho, Morocco, Mongolia, Tanzania, Burkina Faso, Namibia, Senegal, Moldova, the Philippines, Jordan, and Malawi.

Cape Verde and Honduras were among the first countries selected by MCC for a compact. In the fiscal year 2008 Consolidated Appropriations Act, Congress directed GAO to review the results achieved by MCC compacts.³ In late 2010, the compacts for Cape Verde and Honduras were the first to reach the end of the 5-year implementation period.⁴ This report examines the extent to which MCC has (1) achieved performance targets and longer-term sustainability for projects in the Cape Verde and Honduras compacts and (2) assessed progress toward the two compacts' goals of income growth and poverty reduction.

To assess the results achieved by MCC's compacts in Cape Verde and Honduras, we analyzed U.S. agency documents, interviewed MCC officials and stakeholders, and observed project results in both countries. We reviewed MCC guidance and policy documents, as well as the compacts and monitoring and evaluation plans for each country, to identify criteria for our assessment. We interviewed MCC officials in Washington, D.C., as well as MCC and Millennium Challenge Account (MCA) officials in Cape Verde and Honduras, regarding the results of each compact activity, including the quality and sustainability of the projects. We also visited compact projects in both countries and met with contractors, construction supervisors, grantees, and beneficiaries.

We focused our review more heavily on activities that represent a higher proportion of compact funds in both countries. In assessing and reporting MCC's results, we compared actual results achieved at the end of the compact for select performance indicators to both the original and, in some cases, revised targets associated with each indicator. We considered the original target to be that which was first documented for each performance indicator, and the final target to be the target last documented in MCC monitoring documents. Given that MCC tracked several performance indicators for each compact project, we reported on

³Consolidated Appropriations Act, 2008, Pub. L. No. 110-161, § 668(d)(1)(A). The act also required us to examine the financial control and procurement practices of MCC and its accountable entities. We responded to this requirement separately in GAO, *Millennium Challenge Corporation: MCC Has Addressed a Number of Implementation Challenges, but Needs to Improve Financial Controls and Infrastructure Planning*, [GAO-10-52](#) (Washington, D.C.: Nov. 6, 2009).

⁴We did not include the Madagascar compact in this review because, as the result of a pattern of actions inconsistent with MCC policy, MCC formally terminated the compact effective August 31, 2009. Protests and instability in Madagascar in January 2009 ultimately led to the forced resignation of the country's elected president.

key indicators that most closely represented the goal of each compact activity and also considered which indicators MCC reports in its public communications. Additionally, we reviewed the monitoring information collected by MCC and MCA and interviewed officials and contractors about the quality of the data. In reviewing the extent to which MCC has assessed progress toward the compacts' goals, we reviewed planned evaluation designs and interviewed officials from MCC and MCA, as well as impact evaluators. MCC enters into a legal relationship with partner country governments, which vest responsibility for day-to-day management of compact project implementation to the MCA, including monitoring and evaluation activities such as setting and revising targets, but such MCA actions require MCC's direct oversight and approval. Therefore, throughout this report, we attribute all decisions related to project rescoping and compact targets to MCC. (See app. I for further details of our objectives, scope, and methodology.)

We conducted this performance audit from September 2010 to July 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Management of MCC Programs

MCC, a government corporation, is managed by a chief executive officer (CEO), whom the President appoints with the advice and consent of the Senate, and is overseen by a Board of Directors. The Secretary of State serves as board chair, and the Secretary of the Treasury serves as vice-chair.⁵ MCC's model is based on a set of core principles deemed essential for effective development assistance, including good governance, country ownership, focus on results, and transparency. According to MCC, country ownership of an MCC compact occurs when a

⁵Other board members are the U.S. Trade Representative, the Administrator of the U.S. Agency for International Development, the CEO of MCC, and up to four Senate-confirmed nongovernmental members who are appointed by the President from lists of individuals submitted by congressional leadership.

country's national government controls the prioritization process during compact development, is responsible for implementation, and is accountable to its domestic stakeholders for both decision making and results.

In keeping with the MCC principle of country ownership, MCC enters into a legal relationship with partner country governments. During the 5-year compact implementation period the partner government vests responsibility for day-to-day management, including monitoring and evaluation of the progress of compact projects, to accountable entities in recipient countries (the entities' name is usually formed from "MCA" plus the country's name—for example, MCA-Cape Verde). MCC provides the frameworks and guidance for compact implementation, monitoring, and evaluation that MCAs are to use in implementing compact projects.

To promote transparency, MCC makes information available on its Web site throughout the life of a compact, such as project budgets and descriptions, projected outcomes, and quarterly updates on financial and program progress. This transparency enables stakeholders to review the information that contributed to MCC investment decisions, track program progress against targets, and, once programs reach completion, see clearly which programs did or did not achieve their goals.

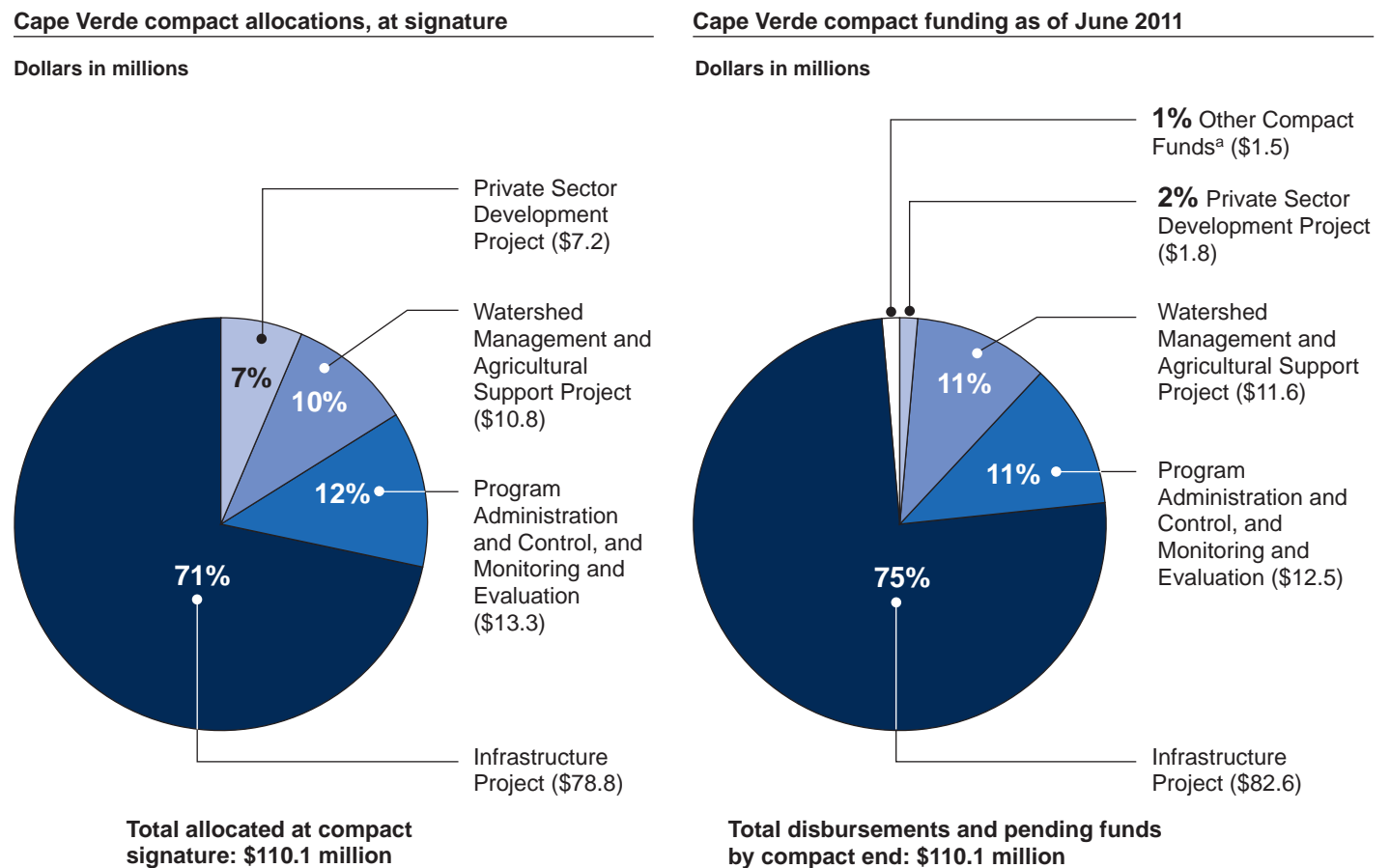
MCC Compacts in Cape Verde and Honduras

The Cape Verde and Honduras compacts were among the first countries that MCC selected as eligible for assistance and the first to reach the end of the 5-year implementation period. The two compacts varied in the type and size of projects funded, but each devoted more than half of compact funds to infrastructure projects such as roads and ports. Each compact also included a smaller agricultural development project such as farmer training or construction of agricultural infrastructure.

Cape Verde Compact

MCC and the government of Cape Verde signed a 5-year compact in July 2005, which entered into force in October 2005 and ended in October 2010. The compact, for which MCC committed \$110.1 million in funding at compact signature, consisted of three projects. Figure 1 shows Cape Verde compact funding by project at signature and compact end.

Figure 1: Cape Verde Compact Funding at Signature and Compact End



Source: GAO analysis of Millennium Challenge Corporation data.

^aAccording to MCC, approximately \$1.5 million of compact funds were not disbursed, and following final payments and audits the remaining compact funds will be deobligated.

Table 1 shows the Cape Verde projects' planned activities and funding allocations at compact signature.

Table 1: Cape Verde Compact Structure and Funding, at Signature

Dollars in millions

Planned projects and activities	Funding allocation
Infrastructure project	78.8
Port activity	53.7
Roads and bridges activity	25.0
Watershed management and agricultural support project	10.8
Water management and soil conservation activity	6.8
Agribusiness development services activity	3.6
Access to credit activity	0.5
Private sector development project	7.2
Partnership to mobilize investment activity	5.0
Financial sector reform activity	2.2
Program administration and monitoring and evaluation	13.3
Program administration	8.4
Monitoring and evaluation	4.9
Compact total	110.1

Source: GAO analysis of Millennium Challenge Corporation data.

Note: The sum of activity funding may not equal total project funding due to rounding.

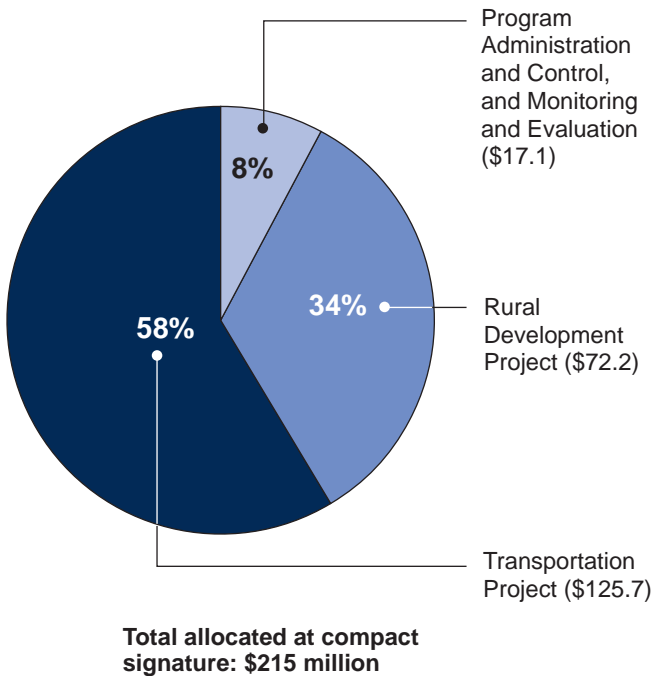
Honduras compact

MCC and the government of Honduras signed a 5-year compact in June 2005, which entered into force in September 2005 and ended in September 2010. The compact, for which MCC committed \$215 million in funding at compact signature, consisted of two projects. Figure 2 shows Honduras compact funding by project at signature and compact end.

Figure 2: Honduras Compact Funding at Signature and Compact End

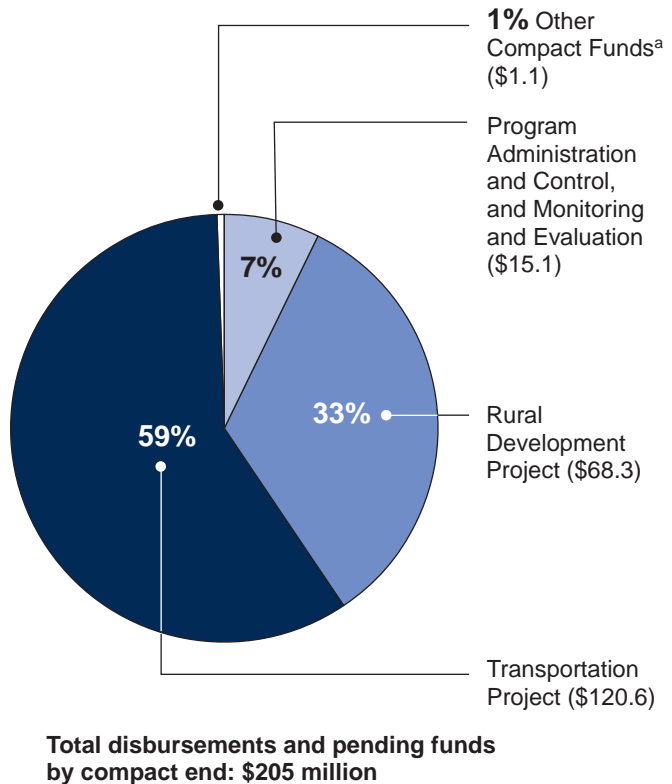
Honduras compact allocations, at signature

Dollars in millions



Honduras compact funding as of June 2011

Dollars in millions



Source: GAO analysis of Millennium Challenge Corporation data.

^aAccording to MCC, approximately \$1.1 million of compact funds were not disbursed, and following final payments and audits the remaining compact funds will be deobligated.

Table 2 shows the Honduras projects' planned activities and funding allocations at compact signature.

Table 2: Honduras Compact Structure and Funding, at Signature

Dollars in millions	
Planned projects and activities	Funding allocation
Transportation project	125.7
Highway CA-5 activity	96.4
Secondary road activity	21.3
Weight control system activity	4.7
Transportation project manager	3.3
Rural development project	72.2
Farmer training and development activity	27.4
Farm-to-market roads activity	21.5
Farmer access to credit activity	13.8
Agricultural public goods grant facility activity	8.0
Rural development project manager	1.5
Program administration and monitoring and evaluation	17.1
Program administration	12.1
Monitoring and evaluation	5.0
Compact total	215.0

Source: GAO analysis of Millennium Challenge Corporation data.

Note: The sum of activity funding may not equal total project funding due to rounding.

MCC Compact Development

Each fiscal year, MCC identifies countries that are candidates for assistance. MCC uses per capita income data to identify two pools of candidate countries: low-income and lower-middle-income countries.⁶ MCC's Board of Directors then uses quantitative indicators to assess a candidate country's policy performance to determine eligibility.⁷ If the

⁶Candidate countries must not be statutorily barred from receiving U.S. assistance.

⁷To be eligible for MCA assistance, a country must pass the indicator for control of corruption and at least one-half of the indicators in each of the following three categories: ruling justly, investing in people, and encouraging economic freedom. To pass an indicator test, a country must score better than at least one-half of the other candidates (above the median) in its income group.

policy performance of a country declines during implementation of a compact, the board can suspend or terminate the compact.

After MCC selects a country as eligible, the country begins a four-phase process that can lead to a compact's entry into force: (1) the eligible country develops and submits a compact proposal; (2) MCC conducts a due diligence review of the proposed projects; (3) MCC and the country negotiate and sign the compact after MCC board approval; (4) MCC and the country complete preparations, including developing disbursement plans, for the compact to enter into force. After the compact enters into force, compact implementation begins, and funds are obligated and disbursed. Following MCC's internal reorganization in October 2007, MCC revamped its compact development process to include greater initial engagement with eligible countries and assistance to countries in conducting needed studies and establishing management structures.⁸

Sustainability

MCC compacts are to be designed so that projects are sustainable over 20 years. During the compact development process, MCC is to assess the mechanisms in place to enhance sustainability, including the policies and practices that will enable MCC investments to continue to provide benefits. For instance, as part of compact proposals submitted to MCC, partner countries are required to identify risks to project sustainability and describe measures needed to ensure that project benefits can be sustained beyond the period of MCC financing. Partner countries are to consider a number of issues affecting sustainability, including environmental sustainability; institutional capacity for operations and maintenance; and for proposed infrastructure projects, recent funding, performance, and expected expenses for operations and maintenance. Furthermore, during compact implementation, MCC tracks progress against key policy reforms and institutional improvements that were included in the compact to enhance project impact and sustainability.

⁸In our November 2009 report on MCC's compact development and implementation processes for infrastructure projects, we recommended that MCC (1) improve fiscal accountability plans and ensure comprehensive policies for all MCA expenses, (2) reinforce MCC's price reasonableness analysis guidance, and (3) improve project design reviews and cost estimates prior to issuing contract solicitations. MCC has implemented the second of these recommendations and has indicated that it has taken steps to implement the remaining recommendations where applicable. See [GAO-10-52](#).

MCC Monitoring and Evaluation Framework and Economic Rate of Return Analysis

For each compact, countries are required to create a monitoring and evaluation plan, which is one aspect of MCC's efforts to assess a compact's results. MCC developed guidelines in 2006 to assist eligible countries in the preparation of the monitoring and evaluation plan and issued an updated policy in 2009. According to MCC's 2009 monitoring and evaluation policy, the policy applies to new or revised monitoring and evaluation plans developed after issuance of the policy in May 2009.

Monitoring

According to MCC's 2006 guidelines for monitoring and evaluation plans, performance monitoring helps track progress toward compact goals and objectives, as well as serves as a management tool. In addition, according to MCC's 2009 monitoring and evaluation policy, the plan's monitoring component outlines the performance indicators by which compact results will be measured.⁹ The plan's monitoring component also establishes a performance target for each indicator and the expected time the target will be achieved.¹⁰ For example, the number of kilometers completed may be an indicator for road construction projects and a numeric target is set to be completed by compact end.

Revisions to Compact Projects, Indicators, and Targets

In response to MCC's experiences with early compacts, MCC has learned that plans may change during compact implementation and that it may be necessary to modify programs after the execution of a compact agreement. Recognizing that MCC has a responsibility to ensure that program modifications are promptly and transparently assessed based on adequate due diligence and consultation, in August 2010, MCC adopted a policy to establish a single process for evaluating and approving such modifications. The agency updated this policy in March 2011.

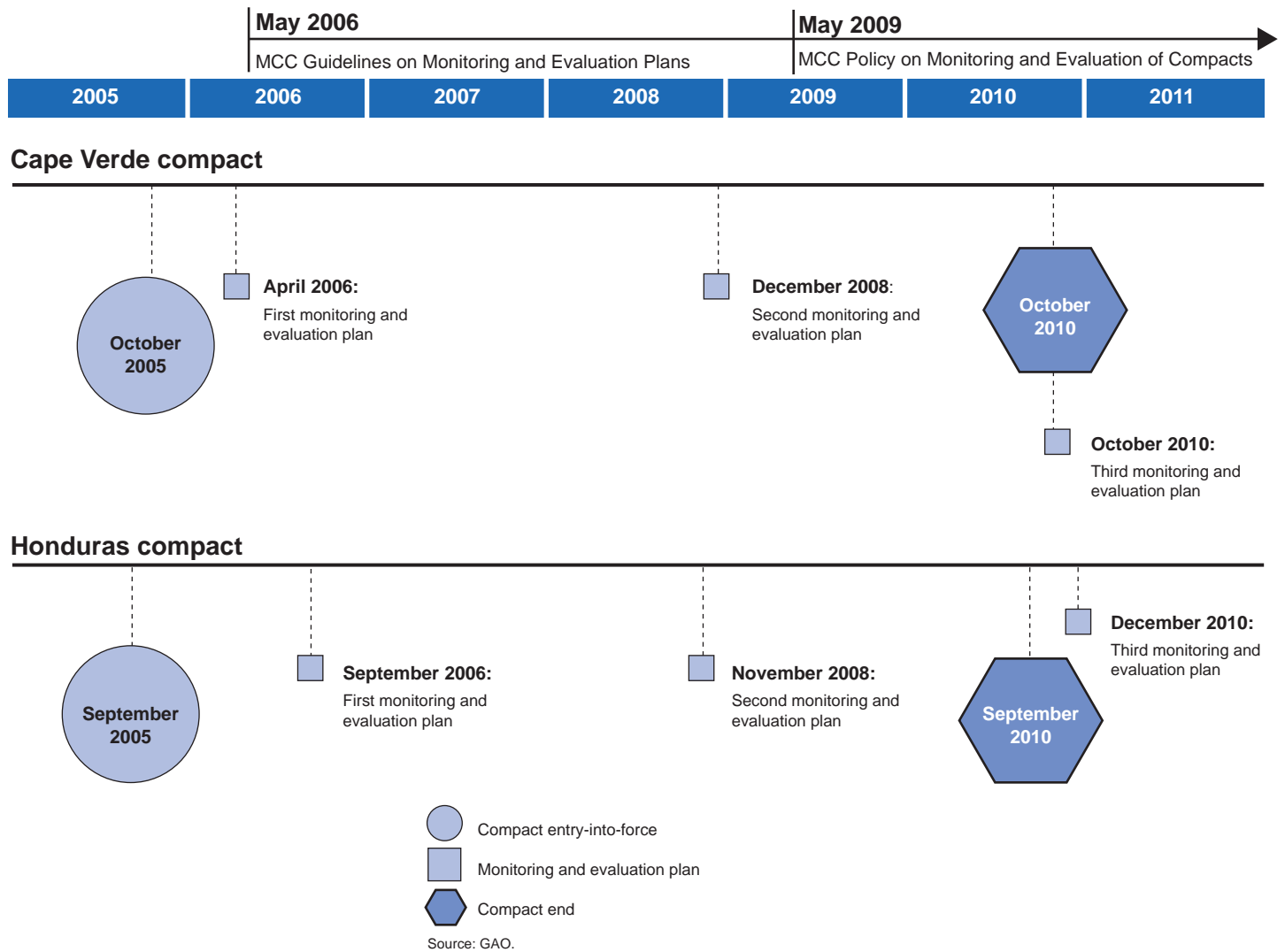
⁹There are four types of indicators, including (1) goal indicators, which measure the economic growth and poverty reduction changes that occur during or after compact implementation; (2) objective indicators, which measure the intermediate and long-term effects of an activity or set of activities and are related to output indicators; (3) output indicators, which measure, describe, and quantify the goods and services produced by the activity; and (4) process milestone indicators, which measure progress toward the completion of project activities.

¹⁰MCC and MCAs monitor the progress of compact activities using an indicator tracking table, which is a reporting tool that displays targets and tracks progress against them. The tracking table is designed to help MCC and MCAs track interim progress toward compact goals. MCA staff in Cape Verde and Honduras conducted periodic checks to ensure that data used to track compact results were valid, reliable, and timely. In addition, MCC also hired independent evaluators to review the reliability of data collected by contractors in both countries.

A rescope compact project or activity refers to any change in the scope or substance of a compact program, including the modification, addition or elimination of a project, activity or subactivity that may entail potential alterations to the intended beneficiary group. In response to such changes, MCC allows for modifications to associated indicators and targets. According to MCC policy issued in 2009, indicators in the monitoring and evaluation plan can be modified by (1) adding a new indicator, (2) removing an existing indicator, or (3) changing a descriptive quality of an existing indicator. The policy also outlines several reasons for adding or changing indicators. For instance, an indicator may be removed because a change to the project renders the indicator irrelevant or the cost of collecting data for an indicator outweighs its usefulness. End-of-compact targets associated with these indicators can also be changed, including increasing or decreasing targets. MCC's 2009 policy also outlines specific circumstances under which targets may be changed, including changes in scope of the activity or exogenous factors such as natural disasters or political turmoil. Ultimately, the justification for deleting or modifying an indicator or target must be adequately documented in revised monitoring and evaluation plans.

Figure 3 shows a timeline of the MCC monitoring and evaluation plans for the Cape Verde and Honduras compacts. For both countries, only final monitoring and evaluation plans, issued in October and December 2010 for Cape Verde and Honduras, respectively, were subject to MCC's 2009 monitoring and evaluation policy.

Figure 3: Timeline of Monitoring and Evaluation Plans for Cape Verde and Honduras Compacts



Impact Evaluation

MCC hires independent researchers to evaluate the impact of compact projects, and the monitoring and evaluation plan outlines aspects of planned impact evaluations, including questions, methodologies, and data collection.¹¹ These analyses compare projects' final results with an estimate of what would have happened without the project, measuring changes in individual, household, or community income and well-being that result from a particular project.¹²

MCC Economic Analyses

During its due diligence review of each compact proposal,¹³ MCC analyzes proposed projects' estimated impact on the country's economic growth and poverty reduction. Specifically, MCC calculates a projected economic rate of return (ERR)—that is, the expected annual average return to the country's firms, individuals, or sectors for each dollar that MCC spends on the project. In calculating project ERRs, MCC uses information such as MCC's expected annual expenditures for the project and the projected annual benefits to the country. In calculating expected project benefits, MCC projects the sustainability of investments over a relatively long term, typically 20 years, and includes assumptions about the probability that necessary maintenance will be completed. MCC establishes a minimum acceptable ERR, referred to as a hurdle rate, that compact projects should achieve to be eligible for funding. It uses this, as

¹¹According to MCC's 2009 annual report, MCC is conducting impact evaluations for every MCC compact. Specifically, approximately 50 percent of all MCC compact activities representing almost 60 percent of all MCC compact funds are assessed using independent impact evaluations.

¹²In our July 2006 report on the status of MCC's compact implementation, we recommended that MCC (1) ensure that economic analyses of compact proposals better reflect country conditions and involve country participation and (2) improve monitoring and evaluation by obtaining more reliable baseline data, ensuring a clear linkage to economic analyses, developing criteria for establishing and adjusting targets, and ensuring timely development of evaluation designs. MCC has implemented these recommendations. See GAO, *Millennium Challenge Corporation: Compact Implementation Structures Are Being Established; Framework for Measuring Results Needs Improvement*, [GAO-06-805](#) (Washington, D.C.: July 28, 2006).

¹³During MCC's due diligence review, MCC determines whether the proposal that an eligible country has submitted meets MCC criteria to ensure that proposed programs will be effective and funds well-used.

well as other information gathered during the due diligence process, to inform its internal decisions to fund proposed projects and compacts.¹⁴

According to MCC's 2006 guidelines for monitoring and evaluation plans, the economic analysis links to the development of indicators and targets for monitoring compact results.¹⁵ Furthermore, according to MCC's 2009 policy on monitoring and evaluation of compacts, monitoring and evaluation plans should be directly linked to economic analyses. The variables from the ERR analysis of benefit streams should be used as performance indicators and targets in the monitoring and evaluation plan. MCC's 2009 policy also states that when MCC is considering changes to targets that are linked to the ERR analysis, modified targets should be analyzed to assess whether they maintain the integrity of the original ERR. If the new ERR is below the minimum acceptable ERR for the compact, the target change will require additional MCC approval.¹⁶

¹⁴The results of the due diligence assessment are reported in an investment memo—an internal document that analyzes the compact—submitted to MCC's investment management committee. The investment management committee consists of MCC's vice presidents and other senior officials and reports to the Chief Executive Officer. The committee reviews the memo and decides whether to recommend proceeding to compact negotiations. This ERR information is also found in MCC documents such as compacts, compact summaries, annual reports, and congressional notifications and budget justifications.

¹⁵According to MCC's 2006 guidelines for monitoring and evaluation plans, the economic analysis determines the main variables that drive program results, which can become indicators, and values of these variables can become targets. As a result, targets are usually directly linked to and derived from the economic analysis. In addition, according to earlier MCC guidelines for monitoring and evaluation plans issued in January 2006, indicators proposed should be linked as much as possible to the economic assessment justifying the program.

¹⁶In our June 2008 report on MCC's projections for ERRs and compact impact on income and poverty, we recommended that MCC (1) adopt and implement written procedures for a secondary independent review of its economic analyses and (2) improve MCC's guidelines by identifying a consistent approach with preferred methods for projecting compacts' impact on income and poverty. MCC has implemented these recommendations. See GAO, *Millennium Challenge Corporation: Independent Reviews and Consistent Approaches Will Strengthen Projections of Program Impact*, [GAO-08-730](#) (Washington, D.C.: June 17, 2008).

MCC's Project Management and Quality Assurance Framework for Infrastructure Projects

MCC's implementation process for infrastructure contracts and projects requires that the MCAs have individual project directors—for example, a roads director—who oversee the activities of outside implementing entities, project management consultants, design engineers, independent construction supervisors, and project construction contractors.¹⁷ In general, MCAs deliver infrastructure projects through a design-bid-build approach in which a design engineer¹⁸ develops technical plans and specifications that are used by a construction contractor, hired under a separate MCA procurement action, to build the works.

Independent construction supervisors contracted by the MCA conduct oversight of day-to-day construction and the activities of the project construction contractors to ensure compliance with contract requirements. Independent construction supervisors play an important role in ensuring construction quality¹⁹ by performing such tasks as approving construction materials, overseeing testing,²⁰ and inspecting completed work. In addition to MCA's independent construction supervisor, MCC employs its own independent engineering consultants to monitor progress of the construction works as managed by the MCA and to assess its quality.

Performance Targets and Sustainability Issues

MCC met some key original targets and many of its final targets for the Cape Verde and Honduras compacts. Additionally, MCC took steps to provide for the sustainability of the projects, but the governments of both Cape Verde and Honduras may have difficulty maintaining the infrastructure projects in the long term due to the lack of funding, among other challenges.

¹⁷The organization of the management structure may vary across compacts and projects.

¹⁸In some cases, project designs already exist and MCAs do not engage a design engineer in implementing the project.

¹⁹Construction quality management is a joint responsibility of the contractor and construction supervisor. The construction contractor is responsible for quality control, which involves, among other tasks, material and construction testing. The construction supervisor provides quality assurance through its oversight activities, which may include, for example, independent material and construction testing.

²⁰Testing is typically completed to ensure construction materials meet performance characteristics. For example, compaction tests are done to ensure underlying soils are able to support pavement structures. In addition, completed work is tested to ensure it was installed properly and performs as intended. For example, smoothness tests can be performed on newly placed pavements.

Cape Verde: MCC Altered the Scope of Its Three Projects, Meeting Some Key Original Targets and Many Final Targets

MCC rescope each of the three projects under the Cape Verde compact, reducing some key targets. MCC met or exceeded some key original targets and met many final targets by the compact’s end. Table 3 shows the performance results for key indicators for the Cape Verde compact projects. For more detail on the Cape Verde compact results, see appendix II.

Table 3: Key Performance Results for the Cape Verde Compact Activities

Activity	Amount disbursed (dollars in millions)	Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Port	54.9	Phase 1 port works—percent complete ^a	100% by year 3	100% by year 5	100% by year 5 ^b	Not determined	100
		Phase 2 port works—percent complete ^c	100%		Activity eliminated		
Roads and bridges ^d	27.7	Kilometers of road rehabilitated (km)	63	39.3	40.6 ^e	64	103
Water management and soil conservation	6.0	Reservoirs constructed	28	28	28	100	100
		Volume of available water (m3) ^f	875,355	465,800	352,978	40	76
Agribusiness development services	5.0	Hectares under improved or new irrigation ^g	121	111	13.4	11	12
Access to credit	0.6	Value of agricultural and rural loans	\$600,000	\$600,000	\$617,000	103	103
Partnership to mobilize investment	0.4	Value added in priority sectors above current trends	none set		Activity eliminated ^h		
Financial sector reform	1.4	Microfinance institutions operationally self-sufficient	4 of 8	4 of 5	5 of 5	125	125

Source: GAO analysis of Millennium Challenge Corporation data

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continued after the compact completion and continue to achieve results.

^aMCC originally had three separate indicators for sections of the port activity that it combined into one indicator for phase 1 port works.

^bAt the end of the compact, a small amount of phase 1 work remained undone, with its completion contingent upon the completion of other work that is part of a contract funded by another source.

^cMCC originally had two separate indicators—one showing related work to be 100 percent complete by year 3 and the other showing related work to be 100 percent complete by year 5—for sections of the port activity that it combined into one indicator for phase 2 port works. This indicator was eliminated when the port project was rescope and phase 2 works were funded by another source.

^dMCC did not have an associated indicator for tracking the number of bridges built.

Cape Verde Infrastructure
Project: MCC Rescoped Port
Construction and Road
Rehabilitation Activities,
Meeting Final Targets

^eThe length of rehabilitated roads consists of 39.6 kilometers along three road segments on Santiago Island and a 1-kilometer road associated with bridge construction on Santo Antão Island. Four bridges were constructed on Santo Antão Island as initially planned.

^fMCC revised and reduced the target for the volume of water available to 627,500 cubic meters to reflect a new indicator definition in its 2008 monitoring and evaluation plan. In its 2010 monitoring and evaluation plan, the agency again revised and reduced the final target to reflect a calculation error related to spring-fed reservoirs.

^gMCC reduced the target to 111 hectares to reflect project changes in its 2008 monitoring and evaluation plan. MCC renamed the original indicator "area irrigated with drip irrigation" to reflect a modified definition in its 2010 monitoring and evaluation plan.

^hAll components of this activity were eliminated, except the establishment of a private credit bureau, which did not have an associated indicator.

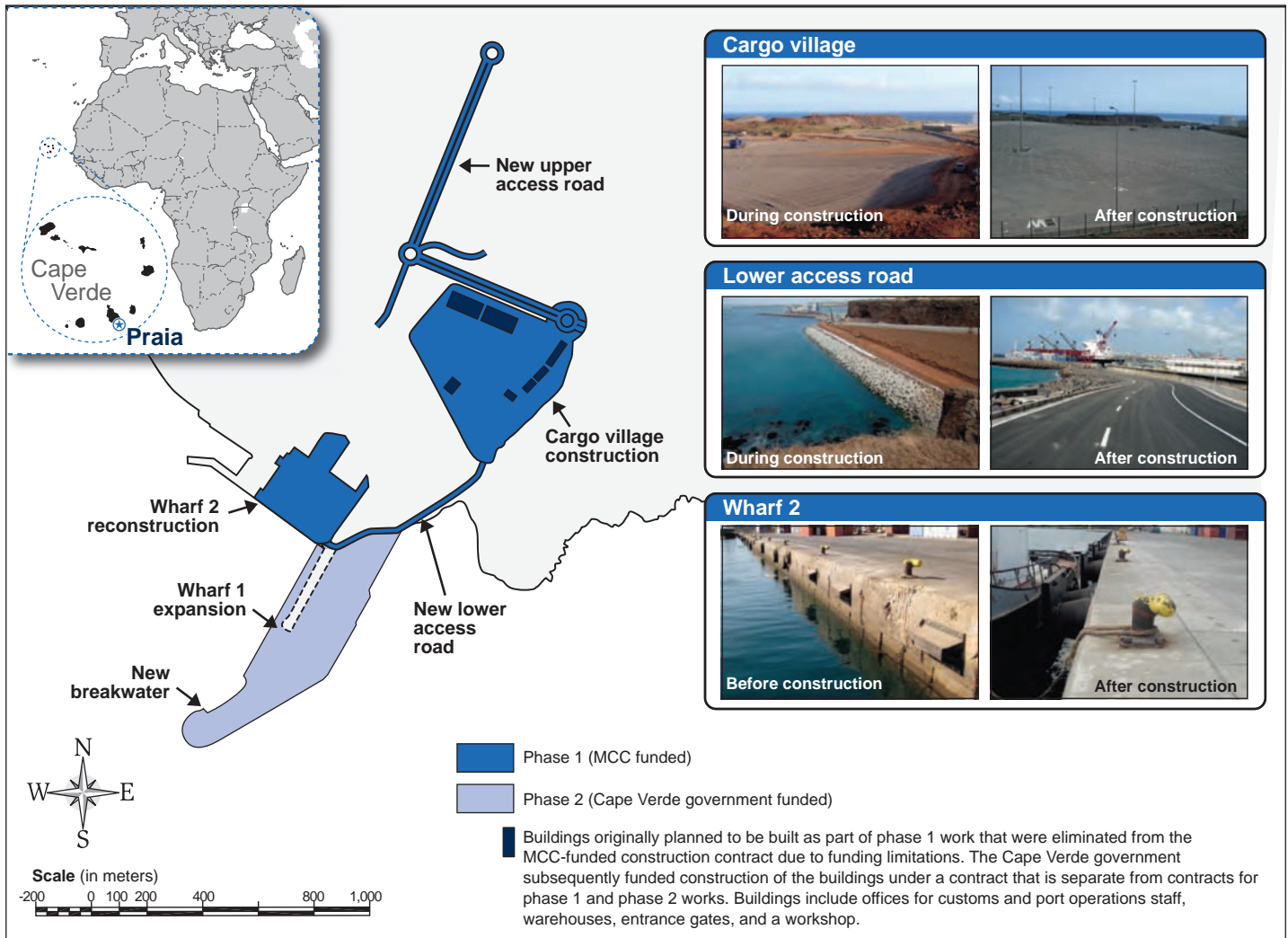
Port of Praia. MCC disbursed \$54.9 million to fund reconstruction of a wharf, a new container yard, and a new access road. MCC and MCA-Cape Verde reduced the activity's original scope as a result of inaccurate early planning concerning design details and construction materials that led to cost increases and implementation delays.²¹ They split the activity into two phases, with MCC funding the first and the Cape Verde government funding the second. The first phase of construction represents about one-third of the total expected cost of both phases of port construction, and nearly 100 percent of the works for phase 1 were completed by compact end.²² MCA-Cape Verde established a management structure consistent with MCC's requirements to ensure work met quality standards and functions as intended. The Cape Verde government is funding construction of the second phase—expansion of another wharf and construction of a new breakwater.²³ Figure 4 shows the locations and photographs of the two phases of the port activity.

²¹We previously reported on the effect of insufficient planning on Cape Verde's infrastructure project and steps that MCC has taken to improve planning for future compacts. See [GAO-10-52](#).

²²A small amount of phase 1 work remained undone at the end of the compact because its completion is contingent upon the completion of other work that was not funded by MCC. In addition, MCC is currently providing technical support to resolve one issue of defective construction related to the new access road.

²³Phase 2 work is being performed based on the MCC-funded design for the port improvement activity.

Figure 4: Phases 1 and 2 of Port Activity, Cape Verde Infrastructure Project



Sources: MCA-Cape Verde (photographs and map details); Map Resources (base map); and GAO (synthesis of information).

Roads and bridges. MCC disbursed \$27.7 million to fund the rehabilitation of three roads and construction of four bridges. MCC's original targets included the rehabilitation of five roads totaling 63 kilometers and four bridges. However, MCA-Cape Verde found that the World Bank-funded designs were of poor quality and decided to revise them to a higher standard, which led to increased costs. As a result of the increased costs, MCC and MCA-Cape Verde reduced the scope of the activity, and MCC exceeded the final target of 39.3 kilometers of road

Cape Verde Watershed
Management and Agricultural
Support Project: MCC
Rescoped Certain Activities
and Met Some Key Original
and Final Targets

rehabilitated. MCA-Cape Verde established a management structure consistent with MCC's requirements to ensure work met quality standards and functions as intended.

Water management and soil conservation. MCC disbursed \$6 million to build water management infrastructure in three watersheds. MCC met its original key target of constructing 28 reservoirs, and 40 percent of its key original target and 76 percent of its final target for the volume of water available. When environmental concerns were identified during implementation, MCC rescoped the activity from a combination of wells and reservoirs to reservoirs only.²⁴ According to MCC officials and stakeholders, rescoping and implementation delays reduced the amount of water available by compact end.

Agribusiness development services. MCC disbursed \$5 million for the agribusiness development services activity. Midway through the compact implementation period, MCA-Cape Verde determined that the Cape Verde agricultural ministry lacked the capacity to train farmers. It hired a contractor to train ministry staff, delaying implementation of the activity. By the compact's end, MCC achieved about 13 hectares under improved or new irrigation, or 11 percent of the original target of 121 hectares and 12 percent of the final target of 111 hectares.

Access to credit. MCC disbursed \$600,000 to make a credit line available to microfinance institutions (MFI) for agricultural loans in the three watersheds. The MFIs provided \$617,000 in loans, or 103 percent, of the key original and final target of \$600,000.

Cape Verde Private Sector
Development Project: MCC
Eliminated Most Funding and
Targets, but Exceeded the
Remaining Original and
Final Target

Partnership to mobilize investment. MCC disbursed about \$400,000 to fund the creation of a credit bureau during the compact closeout period in January 2011. However, MCC had initially allocated \$5 million for this activity but eliminated some funding and associated indicators when MCC, the World Bank, and the government of Cape Verde were unable to agree on the sectors that should receive investment.

Financial sector reform. MCC disbursed \$1.4 million to fund technical assistance to MFIs and support financial sector policy reforms, and exceeded its key original and final target.

²⁴The reservoirs funded by MCC are water storage tanks ranging in size from 200 cubic meters to 1,000 cubic meters; the reservoirs are fed by springs, wells, or rain.

Honduras: MCC Rescoped Some Activities under the Honduras Compact, Meeting Few Key Original Targets and Most Final Targets

MCC rescoped some activities under the Honduras compact, reducing certain key targets. MCC met a key original target for the Honduras compact, and met or exceeded most of its final targets by the compact's end. Table 4 shows the performance results for key indicators for the Honduras compact projects. For more detail on the Honduras compact results, see appendix III.

Table 4: Key Performance Results for the Honduras Compact Activities

Activity	Amount disbursed (dollars in millions)	Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
CA-5 highway	90.3	Kilometers of highway upgraded (km)	109	109	49.5	45	45
Secondary roads	27.7	Kilometers of secondary road upgraded (km)	91	65.5	65.5	72	100
Weight control system	0.09	Number of weight stations built	8		Activity eliminated		
Farmer training and development	26.6	Program farmers harvesting high-value horticulture crops	7,340 ^a	6,000	6,029	82	100
Farm-to-market roads	20.1	Kilometers of farm-to-market road upgraded (km)	1,500	499	495	33	99
Farmer access to credit	12.8	Value of loans disbursed to the horticulture industry (millions of U.S. dollars)	28.8 ^b	6	10.7 ^c	37	178
Access to public goods grant facility	8.8	Number of farmers connected to irrigation system	392	392	967	247	247

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThis indicator was originally set with a higher target of 8,255 that was meant to be achieved 1 year after compact completion. As a result, this target represents the target that was originally scheduled to be accomplished by compact end (year 5).

^bThis target (\$28.8 million) was originally set for a similar indicator measuring the value of loans to program farmers, which was ultimately replaced by a number of indicators, including this indicator, and a lower target of \$6 million.

^cThe value of this indicator (\$10.7 million) includes the value of loans repaid and relent (\$5.2 million) from the agricultural credit trust fund. This value (\$10.7 million) does not include an additional \$6.4 million in loans leveraged by financial institutions. According to MCC, adding the \$6.4 million of funds leveraged by financial institutions to the \$10.7 million of funds lent from the trust fund would result in double-counting of some funds. In addition, no target was established for the value of funds leveraged by financial institutions.

Honduras Transportation
Project: MCC Upgraded Almost
Half of Planned Highway
Sections and All of Rescoped
Secondary Roads

CA-5 highway. MCC disbursed approximately \$90.3 million to reconstruct four sections of a major highway in Honduras. MCC completed two sections of highway, totaling about 50 kilometers, or 45 percent of the original compact target. The disbursement also partially funded the reconstruction of a third section, which MCA-Honduras did not complete by the end of the compact, and the relocation and design costs for reconstruction of a fourth section of the CA-5 highway activity.²⁵ MCA-Honduras established a management structure consistent with MCC's requirements to ensure work met quality standards and functioned as intended. MCA-Honduras officials identified three factors that affected their ability to achieve targets for this activity and resulted in a new estimated cost of \$219 million for all four sections of highway:

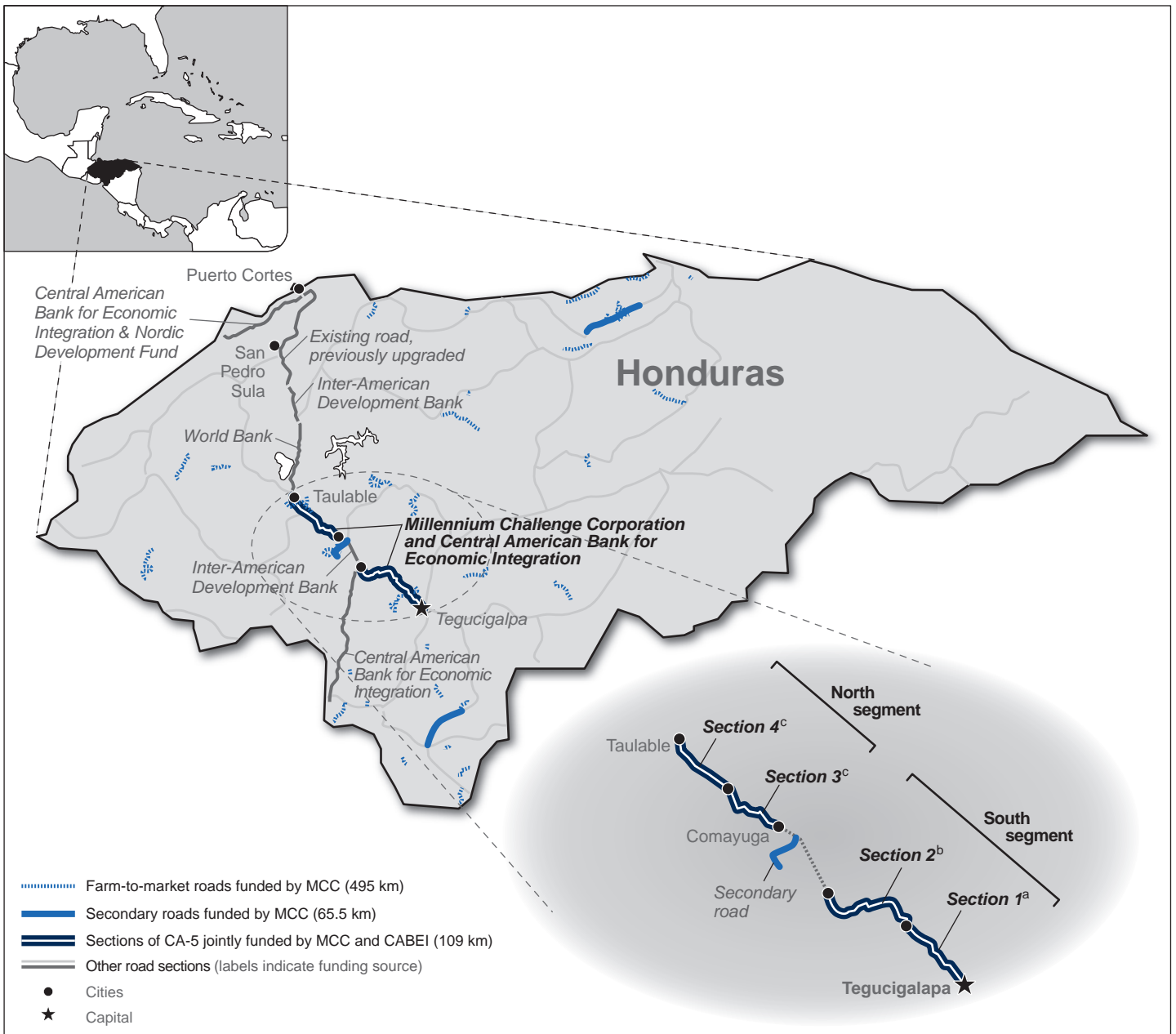
- **Contract bid amounts.** Increases in project costs above initial estimates as a result of unit price increases for items such as asphalt, as well as additions to project scope and design, such as added travel lanes, were a principal cause of cost increases, according to MCC officials.
- **Land acquisition costs.** Due diligence studies conducted prior to construction did not include the cost of the full-market value of acquiring land and relocating households and businesses adjacent to roads. The original allocation increased from \$3.1 million to about \$20.2 million.
- **Contract modifications.** Contract modifications raised construction contract costs by about 6 percent primarily as a result of insufficient road designs that required work beyond that included in the contract plans.

Remaining work on a third and a fourth sections is being funded with a loan of about \$130 million from the Central American Bank for Economic Integration (CABEI) and is expected to be completed by the middle of 2012.²⁶ Figure 5 shows the locations of the CA-5 highway activities.

²⁵The targets do not reflect the extent to which the scope of the CA-5 was expanded to improve traffic flow. Targets are based on centerline kilometers (one kilometer of road length measured along its center), which do not identify the number of traffic lanes reconstructed. If the targets had been based on lane kilometers (one kilometer per lane in length), additional traffic lane lengths completed would have been reflected as progress toward the target.

²⁶MCC funded the preparation of the final design documents, the environmental impact assessment, and the development and implementation of resettlement action plans for the entire highway project.

Figure 5: CA-5, Secondary Road, and Farm-to-Market Road Locations, Honduras



Sources: GAO synthesis of MCA furnished project maps; Map Resources (base map).

Notes: Construction funding includes contract and construction supervision costs.

^aConstruction of section 1 is 100 percent funded by the Central American Bank for Economic Integration (CABEL).

Honduras Rural Development
Project: MCC Rescoped Some
Project Activities, Meeting
Certain Original Targets and All
Key Final Targets

^bConstruction of section 2 is 31 percent funded by MCC and 69 percent funded by CABEL.

^cConstruction of sections 3 and 4 is 94 percent funded by MCC and 6 percent funded by CABEL.

Secondary roads. MCC disbursed \$27.7 million to upgrade key secondary roads. MCC met its revised target for the construction of 65.5 kilometers of secondary roads, 72 percent of the original target of 91 kilometers. According to MCA-Honduras officials, the scope was reduced because updated estimated costs to upgrade the planned roads, after the first contract was bid, exceeded original estimates by 80 percent. MCA-Honduras established a management structure consistent with MCC's requirements to ensure work met quality standards and functioned as intended.

Weight control system. MCC disbursed almost \$90,000 for a vehicle weight control activity but eliminated the activity when the Honduras compact was partially terminated due to Honduras' political situation.²⁷

Farmer training and development. MCC disbursed approximately \$26.6 million through the farmer training and development activity. MCC funded the training of 6,029 farmers to harvest high-value horticultural crops, meeting its final target of 6,000, or 82 percent of the original target of 7,340.²⁸ According to MCC, this target was reduced to provide additional technical assistance to those trained to increase the sustainability of the assistance provided. A number of farmers stated that, as a result of the training, they began growing different types of crops and using new techniques, which led to larger volumes and higher quality, and, thus, increased income.

²⁷In June 2009, Honduran President Zelaya was removed from office after attempting to change the constitution to allow for his re-election, which the Honduran congress and judiciary opposed. In response to the Honduran president's removal and the failure to reestablish democratic order, which demonstrated a pattern of actions inconsistent with MCC's eligibility criteria, MCC's Board of Directors terminated \$10 million of MCC assistance, reducing the compact total to \$205 million. The partial termination of the compact eliminated funding for the weight control activity and the uncommitted portion of the farm to market roads activity, corresponding to the cancellation of approximately 93 kilometers of farm-to-market roads. MCC also placed a hold on funding for a section of the CA-5 highway activity, under the transportation project; the hold on funding was lifted in early 2010.

²⁸To be "a Program Farmer harvesting high-value agricultural products," the Program Farmer must (1) in the first year of participation, have a crop mix demonstrated to have an expected annual net income of at least \$2000 per hectare; and (2) in the second year of participation, have earned a net income of at least \$2000.

Farm-to-market roads. MCC disbursed approximately \$20.1 million to upgrade farm-to-market roads. By the end of the Honduras compact, MCC had funded the reconstruction of 495 kilometers of farm-to-market roads—33 percent of the original target of about 1,500 kilometers and 99 percent of the final target of 499 kilometers. The farm-to-market roads activity was rescoped because the Honduran quality, environmental, and social standards on which the cost estimates were based did not meet compact requirements, which increased the cost from \$14,300 to \$42,000 per kilometer.²⁹ In addition, according to MCC officials, the change in target to reconstruct fewer kilometers was based on MCC's decision to improve the durability and life of the roads by adding drainage structures to reduce water damage, which increased the per-kilometer cost.

Farmer access to credit. MCC disbursed \$12.8 million for the farmer access to credit activity. The activity consisted of three components designed to increase the supply of credit to rural borrowers—a \$6 million agricultural credit trust fund designed to provide loans to financial institutions for rural lending, technical assistance to strengthen financial and nonfinancial institutions, as well as expansion of the national property registry.³⁰ Initial lack of interest in the trust fund among traditional banking institutions and a delay in demand for credit among farmers led MCA to refocus the activity on smaller sources of credit and to expand beneficiaries to nonprogram farmers, agribusinesses, and other producers and vendors in the horticultural industry.³¹ By compact completion, the trust fund had disbursed \$10.7 million in loans—37

²⁹The partial termination of the Honduras compact in 2009, in response to the political situation, included termination of the uncommitted portion of the farm-to-market roads activity corresponding to the cancellation of approximately 93 kilometers of farm-to-market roads.

³⁰The movable property registry activity also involved the facilitation of a new law that allowed credit seekers to use a new type of property—such as equipment, shop inventory, future crops, tractors, supply contracts, sewing machines, and more—as collateral, and also established a registry system to monitor the property.

³¹According to MCC, small-program farmers moving into high-value horticulture used existing resources and savings and did not require access to credit until market opportunities expanded. As a result of the delayed demand for credit, MCC and MCA decided to expand the scope to include nonprogram farmers.

percent of the original target for the value of loans disbursed and 178 percent of the revised target.³²

Agricultural public goods grant facility. MCC disbursed \$8.8 million to fund 15 small competitive grants to enhance and accelerate the development of market-based commercial agriculture. MCC exceeded a key original and final target for this activity. Specifically, grants for irrigation projects connected 967 farmers to the community irrigation system—almost 250 percent of the target of 392 farmers.

MCC Took Steps to Enhance Project Sustainability, but Cape Verde and Honduras Face Long-Term Challenges in Maintaining Infrastructure Projects

MCC took steps to provide for the sustainability of compact projects, but certain activities in Cape Verde and Honduras face challenges to long-term sustainability. MCC's efforts included establishing specific conditions for compact funding disbursements. However, the governments of both Cape Verde and Honduras may have difficulty maintaining infrastructure projects in the long term due to the lack of funding, among other challenges. In addition, decisions to limit certain design features present challenges to maintaining rehabilitated roads. For noninfrastructure projects, steps taken by MCC enhanced the sustainability of some activities, but sustainability challenges remain for other activities.

Cape Verde

Infrastructure project. MCC took steps to enhance the sustainability of its infrastructure project investments by establishing specific conditions for compact funding disbursements. However, as can be seen in the following examples, in some cases the Cape Verde government has not been able to meet or has partially met these conditions, calling into question the long-term sustainability of the infrastructure project activities.

- MCC included privatization of port operations as a condition of the compact. The Cape Verde government agreed and developed a law enabling the port authority to enter into contracts with private operators. However, because the port is incomplete, the solicitation of such contracts has been delayed. The second phase of construction

³²The value of this indicator (\$10.7 million) includes the value of loans repaid and relent (\$5.2 million) from the agricultural credit trust fund. This value (\$10.7 million) does not include an additional \$6.4 million in loans leveraged by financial institutions. According to MCC, adding the \$6.4 million of funds leveraged by financial institutions to the \$10.7 million of funds lent from the trust fund would result in double-counting of some funds. In addition, no target was established for the value of funds leveraged by financial institutions.

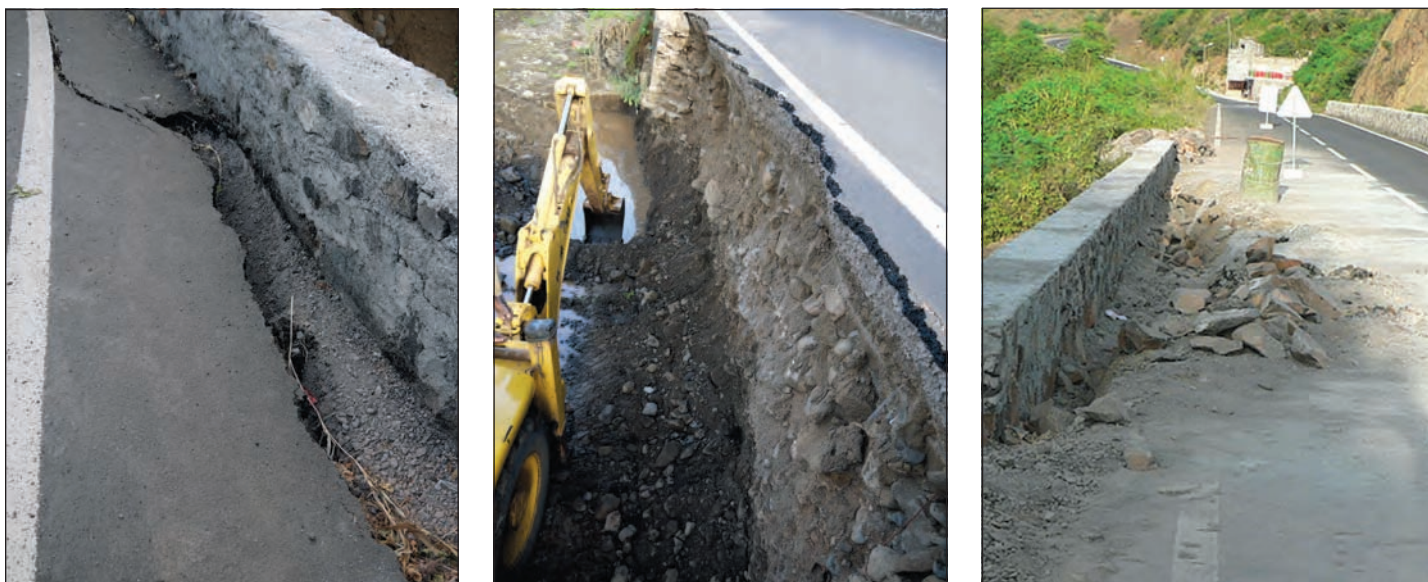
is expected to continue until March 2013. As a result, MCC no longer has leverage over the government to ensure this condition is met.

- MCC set a condition of the compact that the government of Cape Verde would establish and adequately fund a road maintenance account. In 2003, the government established a road institute that has since developed its capacity to raise revenue for maintenance work.³³ However, government officials reported that the funds currently meet less than 50 percent of road maintenance requirements.

In the case of the MCC-funded roads and bridges activity, decisions made to control costs and limit the environmental impacts of construction—such as reducing the amount of earthwork to remove steep roadside slopes and installing or repairing fewer drainage structures—contributed to road maintenance requirements. The additional requirements may stress the Cape Verde government’s ability to perform maintenance. Figure 6 depicts areas of erosion damage along one of the MCC-funded rehabilitated roads, and Cape Verde government-funded repairs, that we observed during our visit.

³³The road institute was created in June 2003 as the Cape Verde government’s authority for operating the national road network. The institute collects user fees that are allocated to a maintenance fund (85 percent), local municipalities (10 percent), and operating expenses (5 percent). Maintenance funds are used to service approximately 425 kilometers of roads—including the MCC-funded roads, which are part of the national road network of approximately 1,500 kilometers.

Figure 6: Damaged Areas and Government of Cape Verde-Funded Repair Activities along Road 2



Source: GAO.

Watershed management and agricultural support project. MCC took steps to enhance the sustainability of activities completed under the watershed management and agricultural support project. Although these steps increased sustainability of certain activities, other activities face challenges.

- In January 2009, the government of Cape Verde established a water-fee structure for the three watersheds to fund infrastructure maintenance to meet an MCC condition for funding disbursements. MCA-Cape Verde also worked with community water management organizations, now responsible for maintenance, to develop water management plans. However, as of December 2010, water fees had not yet been collected in one of the three watersheds.
- The MCA-Cape Verde contractor took steps to promote the sustainability of the agribusiness development services activity, including helping to establish and train farmers associations and developing training materials for the Cape Verde agricultural ministry—which plans to continue training farmers. However, the contractor reported that ministry field staff do not have time to train farmers, given their workloads. According to the contractor, ministry staff have multiple responsibilities, including involvement in multiple donors' agriculture-related projects.

-
- MCA-Cape Verde determined that all MFIs performed well under the access to credit activity, and MCC converted the loans to grants at the end of the compact, which will sustain agricultural loan efforts for at least 2 years.³⁴

Private sector development project. MCC required the Cape Verde Chambers of Commerce, the implementers of a new credit bureau, to secure a private sector partner and private sector investments to help support the bureau before MCC provided funding to the chambers. Private ownership may provide an incentive to enhance the sustainability of the credit bureau.

Honduras

Transportation project. To enhance the sustainability of its transportation project investments, MCC conditioned compact funding disbursements on the government meeting increased road maintenance funding levels and included a vehicle weight control activity in the project. However, the funding levels that the government achieved may not be sufficient to fund all road maintenance needs. In addition, the weight control activity was terminated. Both issues call into question the long-term sustainability of the infrastructure project activities.

- According to the compact, the key issue for sustainability of the transportation project is routine, periodic, and emergency road maintenance, such as sealing cracks, repainting the pavement markings, cleaning ditches and drainage structures, repairing potholes, resurfacing, and clearing landslides. As a condition of compact funding, MCC and the Honduran government agreed to increase funding levels for maintenance, which the government met, increasing funding from \$37 million in 2005 to \$64 million in 2010.³⁵ However, this funding is to maintain all Honduran roads, not specifically compact-funded roads and does not ensure road maintenance after 2010. According to MCC officials, they expect that the Honduran government will maintain the MCC-funded sections of CA-5 and some of the key secondary roads but are concerned that it may not be at the level required to maximize the roads' lifespan. Contractors and construction supervisors also expressed concerns

³⁴MCC did not plan for an oversight entity to oversee use of the grant funds, but MCC's grant agreements provide the agency with audit authority over the grant funds for the 2 years following the compact.

³⁵The Honduran government agreed to the increase in its funding in 2007.

that the roads will be adequately maintained. According to transportation ministry officials and documents, the government's maintenance allocation for 2010 represents less than half of the road maintenance allocation required by Honduran law and is about 30 percent of the amount officials estimate is needed to maintain the roads.

- The extent to which the Honduran government implements the vehicle weight control activity, which MCC eliminated in 2009 in response to the political situation, also affects sustainability.³⁶ According to government officials, a large number of truckers exceed legal weight limits.³⁷ Without enforcement of weight limits on the CA-5 and other MCC-funded roads, the roads will deteriorate faster and require additional maintenance.

In addition, decisions to limit certain design features may present challenges to maintaining the reconstructed roads. We observed quality deficiencies—erosion, roughness, and landslides—that will likely increase the amount and cost of maintenance needed over time (see fig. 7). Failure to perform needed maintenance will result in road deterioration decreasing the road-user cost benefits expected from the improved roads. Most of these deficiencies could have been mitigated during project design and construction. For example, the project designer could have included the International Roughness Index (IRI) measures in the contract documents as a performance specification, requiring the contractor to meet IRI targets set by MCC and MCA-Honduras—which would decrease long-term maintenance and road-user costs.³⁸ Additionally, landslides and their associated maintenance costs could have been minimized if more detailed geotechnical analysis evaluating

³⁶Roads are designed to carry estimated numbers of vehicles with specific weight loads. When the numbers and weights of vehicles are higher than those planned for in the design, roads deteriorate more quickly.

³⁷Targets set for this activity indicated that the percentage of overweight vehicles using the CA-5 would be reduced from 23 percent to 7 percent. The due diligence report stated that the current levels of overweight vehicles are expected to reduce the 15-year life of the road by 2 years and further reduce the life of bridges.

³⁸IRI is a measure of roughness of the road pavement in terms of meters per kilometer. The IRI affects vehicle operating costs, ride quality, and road damage. For example, according to an MCC analysis used to determine the benefits of the new pavement, the IRI for CA-5 section 4 pavement, which was planned to be 1.9 upon completion of construction, was not expected to degrade to an IRI of 3.2—the IRI for the newly completed section of pavement—until almost 14 years after the project was complete.

slope stability had been conducted during design. Such analysis would have enabled designers to include landslide stabilization and prevention measures in the construction plans. A more detailed geotechnical study regarding slope stability was completed for portions of CA-5 section 2 after a landslide occurred.

Figure 7: Landslide on CA-5 Section 3 in Honduras



Source: GAO.

Note: This landslide blocks the roadside drainage, resulting in long-term pavement damage, and needs to be removed as a part of road maintenance to eliminate a roadside safety hazard. MCC stated that existing natural conditions and extreme weather caused this slide.

Rural development project. MCC took steps to increase the sustainability of activities under the rural development project. The sustainability of some activities was enhanced by these steps, but for other activities challenges remain.

- The contractor for the farmer training activity involved the private sector in program activities, including buyers, wholesalers, and input and equipment service providers to increase sustainability. The farmer training activity also helped farmers form associations to increase the

sustainability of techniques and production practices. However, according to the contractor and Honduran farmers, some program farmers, who began receiving assistance late in the compact, are expected to face difficulty sustaining new techniques without the support of technicians.³⁹

- In many cases, responsibility for maintenance of upgraded farm-to-market roads resides with the municipalities where the roads are located. However, according to MCA-Honduras officials, the municipalities lack equipment, expertise, and funding for road maintenance.
- MCA-Honduras took steps to increase the sustainability of the farmer access to credit activity in Honduras by enabling the agricultural credit fund to continue for 5 years beyond the end of the compact. In addition, according to the activity contractor, the financial products developed with the technical assistance are self-sustaining and self-financing.
- Local organizations supported the implementation of the agricultural public goods grants, which will help improve the activity's sustainability, according to MCA-Honduras officials. For example, local communities with new irrigation works were trained in the maintenance of such systems and put in place fee structures to fund maintenance costs.

Impact Evaluations and ERR Issues

Impact evaluations and ERR analyses assist MCC in estimating the impact of compact projects on long-term economic growth. MCC funds independent impact evaluations, which contribute to understanding whether an investment achieved its intended impact. According to MCC officials, these evaluations have been delayed because of delays in project implementation and a change in approach to the timing of the evaluations. MCC's ERR provides a means of estimating the proposed projects' impact on a country's economic growth relative to costs over a relatively long time period, typically 20 years. However, updated ERRs were not always well-documented or linked to revised targets. In addition, MCC has not issued guidance for re-estimating ERRs at compact completion or in subsequent years.

³⁹According to MCC officials, both the contractor and the farmers have an incentive for overstating potential sustainability challenges. The contractor is interested in receiving additional funding and the farmers are seeking additional services.

MCC Impact Evaluations Are Ongoing, and MCC Has Taken Steps to Revise Designs in Response to Implementation Challenges and Delays

Cape Verde. MCC plans to conduct impact evaluations, but project implementation delays have slowed progress.⁴⁰

- **Port activity.** MCC has delayed contracting for an impact evaluator for the infrastructure project's port activity until the completion of phase 2 of port construction in 2013.⁴¹ According to the 2010 Cape Verde monitoring and evaluation plan, it is unclear whether the originally planned impact evaluation is feasible, and MCC may revise the evaluation design if necessary.⁴²
- **Roads and bridges activity.** MCC has not yet engaged an impact evaluator for the infrastructure project's roads and bridges activity. According to the 2010 Cape Verde monitoring and evaluation plan, if the collected baseline data do not support the planned evaluation design, MCC would accept a revised evaluation design.⁴³
- **Watershed management and agricultural support project.** MCC engaged an impact evaluator in the last year of implementation of the watershed management and agricultural support project, and slower than expected project implementation has delayed final data collection for the impact evaluation.⁴⁴ According to the independent evaluator hired to assess the project, designing the evaluation after compact

⁴⁰Due to MCC restrictions, MCA cannot incur new commitments or make expenditures with MCC funding after the compact end date. Therefore, due to project implementation delays in Cape Verde, the evaluations of the port, roads and bridges, and agricultural activities will be funded with MCC due diligence funds instead of compact funds. Due diligence funds are used by MCC to cover costs associated with assessing compact proposals and providing compact implementation oversight.

⁴¹MCA-Cape Verde hired the impact evaluation consultant to develop an impact evaluation design from September 2009 to August 2010. However, MCC reported the contract was terminated because the suggested design did not reflect the approach proposed by the government of Cape Verde.

⁴²According to MCC, baseline data were collected before implementation of the port activity as part of normal operations by the port authority. In addition, five baseline surveys were conducted before compact closeout.

⁴³According to MCC, baseline data were collected through a World Bank socioeconomic study and traffic surveys in 2004 and 2005.

⁴⁴According to MCC, MCA-Cape Verde contracted an impact evaluation consultant in November 2006 to develop an impact evaluation design. However, MCC reported that, due to rescoping of the project, MCA-Cape Verde did not accept the impact evaluation design recommendations. This contractor was subsequently rehired to conduct the impact evaluation for this project.

implementation may limit the quality of the results by, for instance, hindering the collection of quality baseline data. Baseline data were collected before project implementation, but the impact evaluator has cited concerns about the quality of this data. According to MCC officials, MCC plans to address these concerns about the quality of baseline data through additional data collection.

- **Private sector development project.** The private sector development project, which was significantly rescope, will not be assessed using a quantitative evaluation since the technical assistance provided did not lend itself to a quantitative evaluation; however, a qualitative evaluation has been completed.⁴⁵

Honduras. Project delays and challenges in implementing originally planned impact evaluation designs have slowed progress of some impact evaluations. MCC initially anticipated completing impact evaluations for the Honduras compact projects by the end of the compact. However, according to MCC officials, MCC modified its approach to impact evaluations so that evaluations are completed after the end of the compact.⁴⁶

- **Transportation project.** The impact evaluation for the transportation project began before project implementation, but delays in road construction led to delays in collecting necessary data and completing the evaluation. According to the impact evaluator, other than some delays in final data collection, the transportation impact evaluation

⁴⁵The qualitative evaluation of five local MFIs found that all reported growth in their loan portfolios and improvements in their operational and financial sustainability, some of which the institutions attributed to the MCC compact. The MFIs reported that growth was due to several factors, including access to funds under MCC's access to credit activity and other programs such as Cape Verde's National Program for the Fight Against Poverty and the U.S. African Development Foundation.

⁴⁶MCC determined during implementation of the first several compacts that, in most cases, it is not advisable to assess the impact of activities before they have been completed and have demonstrated tangible, measurable results. Accordingly, MCC has modified its evaluation strategy to collect final data after the investments have been completed, in some cases as much as 12 to 24 months after compact closeout. Therefore, MCC issued a new contract totaling \$1.06 million for the continuation and completion of the Honduras transportation and farmer training and development impact evaluations, which were initially to be completed under an MCA contract by the compact's end. This contract does not include the outstanding access to credit activity impact evaluation for which MCC plans to issue an additional contract.

was planned with a robust design and has been implemented as planned.

- **Farmer training and development activity.** Challenges encountered in implementing the original evaluation design led to potential limitations in the results. As a result, MCC added a supplemental design to enhance the methodology. Specifically, the impact evaluator had identified a certain group of farmers to participate in the program and serve as a sample for the evaluation. However, the activity contractor chose not to train a large portion of the selected group, reducing the sample size for the evaluation and potentially limiting the results. According to MCC, the challenge in implementing the original evaluation design arose because the contractor was focused on achieving targets set in the contract, instead of implementing the activity in parallel with the evaluation methodology, which was not outlined in the contract. MCC noted that this experience highlighted the importance of incorporating impact evaluation designs into implementation plans and contracts and the need to anticipate and manage potential tradeoffs.
- **Farmer access to credit activity.** According to the impact evaluator, the assessment of the farmer access to credit activity was complicated by changes that took place during implementation, such as the expansion of the activity beyond an exclusive focus on program farmers, as well as the delay in program implementation. By the time changes were made to the activity, no baseline data had been collected. Subsequently, MCA-Honduras hired a third-party contractor to collect qualitative data. However, when the impact evaluator's contract ended at the end of the compact, these data had not been analyzed and an evaluation report had not been completed as originally intended.
- **Agricultural public goods grants facility activity.** The impact evaluator conducted an economic rate of return calculation by comparing the costs and benefits that resulted from the agricultural public goods grants facility activity. For example, the report compared the expected costs and benefits as a result of certain grant activities with the estimated costs and benefits had the grant activity not been implemented. The evaluator produced a final report on the impact of a selection of the 15 public goods grants.⁴⁷

⁴⁷The evaluator estimated the ERR for 8 of the 15 grants, with a weighted average, to be 38 percent.

ERR Analyses during Compact Implementation Were Not Always Well-Documented or Linked to Key Revised Targets

Updated ERR Analyses Were Not Always Well-Documented or Supported

MCC updated its ERR analyses for the Cape Verde and Honduras compacts when project activities changed significantly during implementation. However, the updated ERR analyses were not always well-documented or supported. In addition, the analyses were not consistently updated when projects or activities were rescopeed or when key targets were revised, as stated in MCC guidance and policy documents.

Updated ERR analyses were not well-documented or supported for projects constituting almost 50 percent of compact funds in Cape Verde and more than 65 percent of compact funds in Honduras.

- For Cape Verde, MCC increased its ERR for the port improvement activity from 23 percent to 29 percent as the investment cost tripled.⁴⁸ In re-estimating the ERR, MCC relied on a new model prepared by a French engineering consulting firm. The model incorporated efficiency gains leading to benefits to consumers and firms, such as reduced wait times and other cost savings.⁴⁹ The analysis assumes that these benefits also have an economywide effect. However, MCC does not have documentation for the modeling of the economywide effect. As a result, it is unclear how the analysis incorporates the project's effect on the overall economy. If the economywide effect is not taken into account, the activity ERR drops from 28.6 percent to 9.3 percent, which is below MCC's hurdle rate of 10 percent cited in the MCC Cape Verde restructuring memo. However, according to an MCC official, the prevailing hurdle rate was 4.8 percent, and thus the investment remained well above the minimum standard established

⁴⁸The updated port ERR is based on the completion of both Phases I and II and includes a 20 percent cost increase contingency.

⁴⁹For the port improvement activity's original ERR estimate of 23 percent, MCC assumed that improvements to the Port of Praia would prevent a slowdown in growth in the tourism sector that would have resulted from congestion and higher transportation costs at the port. However, the model for the original ERR estimate rejects the notion that efficiency gains would be passed on to consumers, owing to the monopoly position of shippers and shipping lines. From the updated analysis, MCC reported a return of 29 percent. MCC's updated analysis was based on studies undertaken by a French engineering consulting firm, which modeled the results of MCC investments in operational detail. In particular, the model captures explicitly the contribution of MCC investments to relieving constraints on handling capacity, productivity, and, ultimately, port traffic.

Updated ERR Analyses Were Not Always Linked to Key Revised Targets

for Cape Verde.⁵⁰ Furthermore, the extent to which consumers will benefit from the project is also not clear.

- For Honduras, the original economic analysis for the transportation project established an ERR of 24 percent. Updates of the monitoring and evaluation plan in 2008 and 2010 cite an ERR of 12 percent. However, documentation for the underlying quantitative analysis supporting the updated ERR is not available.

Updated ERR analyses do not always reflect changes in key targets revised after decisions about project rescoping have been made.

- For Cape Verde, when each of the three projects was rescoped, MCC updated all relevant ERR analysis.⁵¹ However, the updated ERR analysis does not reflect the values or numerical ranges of key updated targets in the monitoring and evaluation plan. For example, the revised targets for the watershed management and agricultural support project include a revised volume of available water of 627,500 cubic meters, but in the updated ERR analysis, total water capacity is 17,000 cubic meters. In addition, the revised targets for the project include a farmer productivity target of 9.4 to 14.3 tons of crops per hectare, which overlaps only slightly with the range for farmer productivity of 13 to 20 tons of crops per hectare in the updated ERR analysis.
- For Honduras, where both compact projects were rescoped, MCC did not update the projected ERRs for the transportation and rural development projects to reflect all changes. For example, for the transportation project, MCC eliminated the weight control activity but did not update the project level ERR in the revised monitoring and evaluation plan to reflect this rescoping. In addition, the projected ERR for the farm-to-market roads activity was updated in the revised monitoring and evaluation plans, but this update was not incorporated in revising the rural development project level ERR. Moreover, MCC

⁵⁰MCC stated that the 10.1 percent cited in the Cape Verde restructuring memo was referenced in error.

⁵¹The Partnership to Mobilize Investment, an activity of the private sector development project, was mostly eliminated, but as that project activity was not included in the original ERR analysis, there was no reason to adjust the ERR. In addition, the two social roads of the roads and bridges activity of the infrastructure project were also eliminated, but because those roads were not included in the original ERR analysis either, there was no need for an adjustment.

revised key targets, but the ERR analyses do not reflect those revisions. For example, the original ERR analysis for the farmer training and development activity of the rural development project is based on 14,400 hectares of high-value crops at the end of the compact.⁵² The 2008 and 2010 monitoring and evaluation plans establish revised targets of 11,830 and 8,400 hectares, respectively, at compact completion but do not revise the ERR.⁵³

MCC officials stated that when key indicators and targets were modified, MCC assessed the effects of these changes on ERRs using the existing models but did not formally document those assessments. MCC officials also attributed the lack of consistent linkage between ERR analyses and key revised targets to the fact that economist staffing shortages limited their ability to update the economic analysis every time key indicators and targets were modified.

MCC Has Not Issued Guidance for Re-estimating ERRs Following Compact Completion but, If Estimated, ERRs Are Likely to Be Lower Than Predicted

MCC has not developed guidance for re-estimating project ERRs at compact completion or in subsequent years. Although MCC does not have guidance that requires re-estimation of ERRs, it plans to update ERRs for its investments in Cape Verde and Honduras. Since the initial ERR analysis is an estimate of the expected total increase in incomes over a typical 20-year period attributable to a proposed MCC-funded project relative to the total costs, ERR analysis at compact completion can provide updated estimates based on actual project costs. Further, for projects or activities that have been rescoped, revised estimates of benefits can be included in the ERR analysis. In addition, when data on actual benefits accrued to project beneficiaries are collected by impact evaluations, these data can also be used to re-estimate the ERRs. According to MCC officials, MCC requires independent evaluators to calculate ERRs at compact completion, but guidance is currently not available to guide this analysis. In the case of the sole Honduras ERR calculated at compact completion to date by an independent evaluator, in the absence of guidance, the evaluator prepared the ERR analysis in

⁵² According to the Honduras compact, the target of 14,400 hectares was to be achieved by the end of year 5 of the compact and was fully consistent with the modeling of the benefit stream in the original ERR model. The compact was to remain in force for 5 years from the entry into force, dated September 29, 2005.

⁵³ MCC officials stated that they checked whether these target changes shifted the ERR beyond the hurdle rate.

such a way that it cannot be compared to the initial ERR estimate.⁵⁴ Furthermore, even though the original ERRs are estimated over a 20-year period, according to MCC officials, MCC has not yet determined whether it will re-estimate the returns as additional benefit data from impact evaluations or other sources become available. Without an accurate estimate of the compacts' projected benefits, the extent to which the compacts further MCC's goal of poverty reduction, economic growth, and transformative development cannot be accurately evaluated.

Reductions in project scope and other factors are likely to reduce re-estimated ERRs. In one instance where MCC has revised the ERR at compact completion—the farmer training and development activity in Honduras—the revised ERR was lower than originally predicted, at 14.6 percent versus 21 percent. For any further re-estimates of Cape Verde and Honduras ERRs, several factors would likely contribute to lower estimates of returns on investments than originally predicted—as seen in the following examples.

Factors during compact implementation

- Reductions in projects' or activities' original scopes while MCC investments remained largely unchanged would lower expected benefits. For example, for the Honduras transportation project, MCC reduced the scope of the secondary roads construction activities to align actual costs with project allocations and terminated the weight control activity. Similarly, in Cape Verde, MCC funded about one-third of the port improvement activity.
- Measured results that lagged behind project or activity targets would lead to lower benefits than originally projected. For example, the original ERR analysis of the rural development project in Cape Verde assumed that the project would lead to 111 hectares under drip irrigation; however, by compact completion, about 13 hectares were under drip irrigation.

⁵⁴The independent impact evaluator for this activity has estimated the ERRs for 8 of the 15 agricultural public goods grants in Honduras. The selected 8 projects were chosen because they have completed their financing and infrastructure construction phase with support from MCA-Honduras. While the estimated ERR for these projects shows a high economic rate of return of 38 percent, the rate cannot be compared to the original ERR since it does not include all 15 grants and the original ERR is based on the expected rate of return for the activity as a whole.

Factors subsequent to compact completion

- Cost overruns for MCC-funded projects not finished by compact completion would lead to lower ERRs. Costs for the Cape Verde port improvement activity, which was not finished by compact completion, are currently estimated at about \$148 million.⁵⁵ These costs exceed both the estimated investment costs of about \$106 million for the activity in the updated ERR analysis and the cost contingency of 20 percent included in the updated analysis, totaling approximately \$127 million.
- Factors affecting long-term sustainability, such as maintenance of the physical infrastructure and future training to prevent depreciation of acquired skills and human capital, can affect estimated benefits. For example, according to MCA-Honduras officials, the sustainability of many of the farm-to-market roads constructed for the Honduras rural development project is in question because the municipal governments responsible for maintaining the roads lack equipment and expertise. If less than optimal maintenance is achieved, estimated benefits will be reduced, which would lead to lower ERRs.

Conclusions

MCC made significant investments in support of sustainable economic growth in Cape Verde and Honduras and will benefit from lessons learned during implementation of these compacts, which were among the first to enter into force. As we previously reported, insufficient planning, escalation of construction costs, and insufficient MCC review have led to project delays, scope reductions, and cost increases.⁵⁶ MCC directed the majority of funding in the Cape Verde and Honduras compacts to infrastructure projects, and for the economic benefits of these investments to be realized, the projects must be properly sustained over the planned 20-year benefit period. To promote sustainability, MCC took steps to require partner countries to plan to efficiently operate and maintain the infrastructure, including privatization of port operations in Cape Verde and the provision of road maintenance funding in Cape Verde and Honduras. The partner countries made progress meeting MCC's requirements in these areas, but they continue to face funding and other challenges that are key to sustainability. At the same time, MCC lost

⁵⁵The cost estimate for the port improvement activity includes both phase 1, which was finished in October 2010, and phase 2, which was not finished by compact completion.

⁵⁶See [GAO-10-52](#).

its ability to influence country decisions regarding sustainability once the compacts ended. In addition, MCC and MCA made design decisions that did not include measures to minimize landslides and erosion and did not include international roughness criteria among the contract specifications, which will result in higher long-term maintenance costs. In light of road maintenance funding deficits in both countries, these decisions put the sustainability of MCC-funded roads at risk.

MCC's ERR projections serve as the foundation and economic justification for MCC's investments. MCC guidance and policy statements indicate that key indicators and targets used for monitoring and MCC's ERR analyses should be directly linked. However, indicators and targets changed significantly over the 5-year implementation period, sufficient to alter the foundation of the initial ERR projection. In some instances, the lack of documentation on updated ERR analyses makes it difficult to know whether the revised ERR results are accurate and reliable. In other cases, MCC updated its ERRs during compact implementation, but the ERR analyses were not clearly linked to the revised targets in the monitoring and evaluation plans. Although MCC updated ERR projections in response to changes in implementation, it currently does not have guidance for re-estimating ERRs at compact completion or during the 20-year period when compact benefits are realized. Looking forward, if MCC plans to update ERRs at or following compact completion as a means of assessing project benefits relative to actual costs, it will be critical to use a consistent methodology that reflects final compact results and costs. Without an accurate representation of the compacts' projected benefits, MCC, Congress, and other key stakeholders and beneficiaries cannot accurately evaluate the extent to which the compacts further MCC's goals of poverty reduction and economic growth.

Recommendations for Executive Action

We recommend the MCC Chief Executive Officer take the following three actions:

To maximize the sustainability of MCC-funded infrastructure projects and to reduce the amount of maintenance required after compact completion, work with partner countries to make project planning, design, and construction decisions that reduce long-term maintenance needs and costs.

To enhance the accuracy of MCC's ERR projections,

- ensure, during compact implementation, that updated ERR analyses are well-documented and supported and that key revised indicators and targets are reflected in updated ERR analyses; and
- develop guidance for re-estimating ERRs at compact completion and during the long-term period when compact benefits are realized to ensure that updated estimates reflect the most recent and reliable information available for MCC's compact investments and outcomes.

Agency Comments and Our Evaluation

In written comments on a draft of this report, MCC agreed with the intent of our recommendations and committed to developing specific actions to implement them. With respect to the first recommendation on the sustainability of MCC-funded infrastructure projects, MCC acknowledged the importance of maintenance and sustainability of its investments. MCC stated that, when designing projects, it works with partner countries to ensure that institutions and systems are in place to provide for the projects' long-term sustainability. In addition, MCC said that it looks to strike a proper balance between its initial capital investments and ongoing operations and maintenance costs. While MCC said that it pays considerable attention to minimizing operations and maintenance costs, MCC also stated that some maintenance-related measures raised in our report—such as slope protection along reconstructed roads—may not be justified in all cases. MCC further commented that financing maintenance is a challenge in both developed and developing countries. MCC agreed with both aspects of our second recommendation to enhance the accuracy of MCC's ERR projections. MCC agreed that, when project design and scope changes are proposed during compact implementation, updated ERR analyses should be adequately documented and the consistency between the updated ERR analyses and targets should be maintained. With respect to the third recommendation to develop guidance for reestimating ERRs following compact completion, MCC acknowledged the importance of measuring ERRs over the life of its projects and stated that it is committed to developing guidance to continue monitoring the results of compacts and measuring long-term impacts of MCC investments.

MCC also highlighted other positive contributions of the Cape Verde and Honduras compacts beyond the results achieved for key indicators and targets. Specifically, MCC stated that policy reforms in Cape Verde and

new legislation in Honduras are expected to have positive lasting impacts in these countries. In addition, MCC noted that in response to implementation challenges, MCC was able to leverage its resources and obtain additional financing to support the completion of compact activities. Finally, MCC emphasized that country-led implementation of its compacts fosters good governance and effective administration of development assistance.

We have reprinted MCC's comments in appendix IV. We also incorporated technical comments from MCC in our report where appropriate.

We are sending copies of this report to the Millennium Challenge Corporation and interested Congressional Committees. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-3149 or gootnickd@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix V.



David Gootnick
Director, International Affairs and Trade

Appendix I: Scope and Methodology

The fiscal year 2008 Consolidated Appropriations Act, Public Law 110-161, mandated that GAO review the results of Millennium Challenge Corporation's (MCC) compacts. For the purpose of this engagement, we reviewed MCC compact results in Cape Verde and Honduras, the first compacts to complete the 5-year term at the initiation of our review. We examined the extent to which MCC (1) achieved performance targets and longer-term sustainability for projects in the Cape Verde and Honduras compacts and (2) assessed progress toward the compacts' goals of income growth and poverty reduction. We focused our review more heavily on infrastructure activities, which represented a higher portion of compact funds in both countries. We specifically focused on the port activity and roads and bridges activity in Cape Verde, and the CA-5 highway and secondary roads activities in Honduras.

To assess the extent to which MCC achieved expected performance targets and longer-term sustainability for compacts in Cape Verde and Honduras, we analyzed MCC documents, interviewed MCC officials and stakeholders, and observed project results in both countries. We reviewed the compact agreement for Cape Verde and Honduras, as well as MCC guidance on measuring and reporting compact results, including the agency's Framework for Results, Policy for Monitoring and Evaluation of Compact and Threshold Programs, Guidance on Quarterly MCA Disbursement Request and Reporting Package, Common Indicators Directive, and guidelines for monitoring and evaluation plans. We interviewed MCC officials in Washington, D.C., regarding their processes for overseeing compact activities. We traveled to Santiago and Santo Antão islands in Cape Verde in December 2010 and Tegucigalpa, Honduras, in November 2010. We interviewed MCC and Millennium Challenge Account (MCA) officials in both countries regarding the results of each compact activity, including the quality and sustainability of the projects. We visited infrastructure projects in both countries, including visits to the port and to roads and bridges in Cape Verde, and to the CA-5 highway, and secondary and farm-to-market roads in Honduras. We met with project construction contractors, independent construction supervisors, and MCA project management consultants. We interviewed contractors and grantees of noninfrastructure activities and held meetings with beneficiaries of certain projects. For Cape Verde, we interviewed the contractor and two grantees for the access to credit activity, the contractor for the credit bureau activity under the private sector development project, and the contractor and eight beneficiaries of the watershed management and agricultural support project, including the farmer training activity. For Honduras, we interviewed the contractor and more than 30 beneficiaries of the farmer training and development activity, contractors and several

financial institutions participating in the farmer access to credit activity, and three grantees in the agricultural public goods grants activity. In addition, we interviewed officials from the governments of Cape Verde and Honduras about compact implementation, results, and sustainability, including Cape Verde's Ministry of Environment, Rural Development and Marine Resources, Port Authority, and Ministry of Infrastructure, Transport and Telecommunications, and Honduras' Ministry of Transportation, Ministry of the Presidency, Ministry of Agriculture, and Ministry of Finance. We also reviewed final reports submitted to MCA by contractors and grantees on compact activities.

We reviewed three versions of the monitoring and evaluation plans for each country to identify the performance indicators and associated targets to be achieved by compact end. MCC used these performance indicators and targets to track progress and assess results of compact activities; thus, we used these indicators and targets as criteria for assessing MCC results achieved. To track progress toward compact goals, MCA is required to compile and submit a performance indicator tracking table on a quarterly basis as part of its quarterly disbursement request package sent to MCC.¹ This tracking table displays performance targets and progress on all performance indicators included in a country's monitoring and evaluation plan. A complete indicator tracking table provides detailed information that shows cumulative past performance, recently completed performance, and the remaining annual targets for each performance indicator. We collected and analyzed all available indicator tracking tables for both countries to account for the actual results achieved against each performance target throughout the compact. We met with MCA staff in Cape Verde and Honduras about the steps they took to ensure that data used to track program results were valid, reliable, and timely, including conducting periodic data checks and hiring independent evaluators to review the reliability of data. We determined that these data were sufficiently reliable for the purposes of our review.

In assessing and reporting MCC's results, we compared actual results achieved at the end of the compact for each performance indicator to the original and, in some cases, the revised targets associated with each indicator. Given that there were three versions of the monitoring and

¹The granting of a disbursement request is contingent on MCC finding the quarterly package satisfactory in form and substance.

evaluation plan for each country, we considered the original target to be the one listed the first time a performance indicator was introduced and the final target the one listed in the final 2010 monitoring and evaluation plan. In addition, in some cases, MCC revised the name or characterization of a performance indicator while the definition and type of measurement remained constant. In these cases, we chose to report the original target as that associated with the original or parent indicator, and the final target as that associated with the revised indicator. Given that MCC tracked several performance indicators for each compact project, we chose to report on a selection of key indicators that most closely represented the goal of each compact activity. For example, we reported the volume of available water for the water management and soil conservation activity in Cape Verde but did not report the value of irrigation construction contracts signed. In addition, we considered which performance indicators MCC selected to report on in its public communications about compact results. We did not report results for indicators that MCC eliminated and stopped tracking during the life of the compact, but we reported on such eliminated indicators in discussions of canceled or rescoped activities.

To examine the extent to which infrastructure projects met performance targets, met quality standards, and were sustainable, we interviewed MCA officials, project construction contractors, independent construction supervisors, project management consultants, the Cape Verde port design engineer, and officials with the Honduran ministries of transportation and finance. We also reviewed documents prepared by MCA officials, project construction contractors, independent construction supervisors, project management consultants, MCC independent engineers, and government officials, including monthly reports, special studies, testing reports, and daily inspections. Lastly, we conducted site inspections of projects that accounted for a majority of the MCC-provided infrastructure funding in Cape Verde and Honduras to verify the extent to which projects had been completed and to observe whether there were any visual deficiencies in construction. These interviews, document reviews, and site visits were used to determine if the MCAs had implemented MCC's quality assurance framework, if there was supporting documentation to verify that quality testing had been undertaken, if any quality deficiencies were encountered during construction, if any quality deficiencies remain, and whether the infrastructure projects would be sustainable. We were not able to view actual work in progress or visit testing facilities for most infrastructure contracts because the work had already been completed.

To examine the extent to which MCC assessed progress toward the compacts' goals of income growth and poverty reduction, we reviewed MCC's monitoring and evaluation guidance, Guidelines for Economic and Beneficiary Analysis, three versions of the monitoring and evaluation plans for each country, monitoring information MCC and MCA collected, data quality reviews, final reports prepared by contractors and grantees, documents related to impact evaluation contracts, impact evaluation design reports, final impact evaluations, and original and revised economic rate of return (ERR) analyses. We also interviewed MCC officials in Washington, D.C., regarding their processes for overseeing compact activities, developing monitoring plans, and carrying out assessments of progress toward the compacts' goals. During site visits, we interviewed MCC and MCA officials in Santiago and Santo Antão islands in Cape Verde and Tegucigalpa, Honduras, about monitoring procedures and data quality activities for compact projects. We also interviewed officials from the national statistical agencies in Cape Verde and Honduras, contractors, partner government agencies, and project contractors involved in data collection activities, as well as contractors implementing impact evaluations and other analysis.

To assess MCC's results framework, we analyzed the connection between the ERR estimates and related statements in the economic impact section of the monitoring and evaluation plans, the values of the variables that should translate into indicator targets in those plans, and the underlying economic analyses provided in support of the expected economic impact statements made in those plans. In addition, we studied the evaluation components of the plans and compared them with the evaluations' actual proposed designs and implementation to assess the extent to which the evaluations accurately reflected the designs envisioned in the plans, the likelihood that MCC would be able to gather reliable information on actual benefits attributable to the compact, and the ability of MCC to update the ERRs as that information becomes available. We reviewed MCC's evolving guidance for ERR and monitoring and evaluation analyses. We also examined spreadsheets MCC provided in support of their updated calculations. To further discuss MCC's approaches and to clarify aspects of the economic impact analysis, we interviewed MCC economists, impact evaluators, and other officials regarding MCC's monitoring and evaluation framework and estimated economic impact.

MCC enters into a legal relationship with partner country governments, which vest responsibility for day-to-day management of compact project implementation to the MCA, including monitoring and evaluation activities

such as setting and revising targets, but such MCA actions require MCC's direct oversight and approval. Therefore, throughout this report, we attribute all decisions related to project rescoping and compact targets to MCC.

Finally, some of the reports and documents referenced above were written in Portuguese or Spanish. We translated these documents internally and created English summaries to enable our analysis.

We conducted this performance audit from September 2010 to July 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Cape Verde Compact Results

Cape Verde Compact Background

Located off the coast of West Africa, Cape Verde is a group of 10 islands, with a population of about 500,000. Cape Verde was classified as a lower-middle income country with a per capita income of \$3,010 for fiscal year 2011.¹ U.S. development assistance accounts for about 9 percent of total assistance to Cape Verde over the last 10 years, making the United States its third-largest donor.

MCC and the government of Cape Verde signed a 5-year compact in July 2005, which entered into force in October 2005 and ended in October 2010. The compact, for which MCC provided \$110.1 million in funding at compact signature, consisted of three projects.

- The *infrastructure project* was aimed at increasing integration of internal markets and reducing transportation costs. Activities include upgrading and expanding a major port and rehabilitating five roads and constructing four bridges. Expected beneficiaries of this project include consumers, importers and exporters, shippers, and residents.
- The *watershed management and agricultural support project* was aimed at increasing agricultural productivity in three targeted watershed areas on three islands. Activities include the development of water management infrastructure and activities to increase the productive capacity of farmers. Expected beneficiaries of this project include individual farmers, farm households, and government and private sector participants.
- The *private sector development project* was aimed at spurring private sector development on all islands. Activities include investments in the private sector and technical assistance to microfinance institutions. Expected beneficiaries include individuals and companies, urban and rural poor, and existing microfinance institutions.

In addition, the compact included funding for program administration and monitoring and evaluation activities to support administration and implementation of the compact, program management, and reporting.²

¹For fiscal year 2011, MCC's cutoff for lower-middle-income candidates was a per capita income of \$3,945.

²Using program administration and monitoring and evaluation funds, MCC funded capacity-building activities, including strengthening e-government systems. According to MCC, these activities contributed to building the capacity of the Cape Verde government.

Table 5 shows the Cape Verde projects' planned activities, objectives, and beneficiaries as of compact signature.

Table 5: Structure of Cape Verde Compact, at Signature

Project	Planned activities (funding allocation)	Objective	Expected beneficiaries
Infrastructure	<ul style="list-style-type: none"> Port (\$53.7 million): The upgrade and expansion of the Port of Praia Roads and bridges (\$25 million): The rehabilitation of 5 roads and construction of 4 bridges 	Increase integration of internal markets and reduce transportation costs	<p>(1) Consumers, importers and exporters, shippers and residents of the island of Santiago, due to port efficiency gains and improved quality of transportation services</p> <p>(2) Rural and urban populations on two islands, due to road and bridge interventions</p>
Watershed management and agricultural support	<ul style="list-style-type: none"> Water management and soil conservation (\$6.8 million): The development of water management infrastructure, including walls, terraces, dikes, and reservoirs Agribusiness development services (\$3.6 million): The promotion of drip irrigation technology and increased productive capacity and marketing of agricultural products among farmers and small agribusinesses Access to credit (\$0.5 million): The provision of access to credit for drip irrigation, working capital, and agribusiness investments 	Increase agricultural productivity in three targeted watershed areas on three islands	<p>(1) Individual farmers and farm households in the three target watersheds and actors along the supply chain, due to increased access to water, training and extension opportunities, and the extension of credit</p> <p>(2) Government and private sector participants, due to capacity-building training and technical assistance</p>
Private sector development	<ul style="list-style-type: none"> Partnership to mobilize investment (\$5 million): collaboration with the government and World Bank to identify, prioritize, design, and implement interventions to increase investment in priority sectors of the economy Financial sector reform (\$2.2 million): The provision of technical assistance to support the development of microfinance institutions (MFI) and government efforts to expand access to the primary market for government securities 	Spur private sector development on all islands	<p>(1) Individuals and companies, who will benefit from an improved investment climate, increased availability of jobs, and enhanced entrepreneurial opportunities</p> <p>(2) Urban and rural poor, who will gain access to a broader menu of financial services</p> <p>(3) Existing MFIs and nongovernmental organizations, due to technical assistance for institutional transformation</p> <p>(4) All investors and borrowers, including the government, due to a more open financial system and being better equipped to develop new financial products</p>
Program administration and monitoring and evaluation	<ul style="list-style-type: none"> Program administration (\$8.4 million): Undertake institutional capacity-building activities to upgrade the government of Cape Verde's electronic procurement and financial management systems Monitoring and evaluation (\$4.9 million): The measurement and evaluation of progress toward the achievement of the compact goal and objectives 		

Source: GAO analysis of Millennium Challenge Corporation data.

Cape Verde Infrastructure Project

Port Activity

Port: Objective

MCC allocated \$53.7 million to fund infrastructure improvements at the Port of Praia—Cape Verde’s largest port, accounting for approximately 50 percent of the total volume of port traffic—to support the country’s goal of expanding the facility to promote continued economic development. The activity was planned to address constraints such as a lack of space for wharf-side cargo handling and lack of a breakwater to protect against waves that can impair stevedoring operations. The activity was planned with five components:

1. construction of a new cargo village—container storage yard—on a plateau above the wharves;
2. reconstruction of a wharf (wharf 2), including demolition of existing sheds and re-paving;
3. construction of a new access road to connect the wharves to the cargo village (lower access road) and public road system (upper access road);
4. expansion of a wharf (wharf 1) to extend its length and build a new storage yard on reclaimed land; and
5. construction of a new breakwater.

Port: Results

MCC disbursed \$54.9 million for the port activity. MCC met a key final target and eliminated some indicators for this activity (see table 6 for key performance results for the port activity). After determining during the activity’s planning and design that it would not be able to fund all planned port improvements, MCC and MCA-Cape Verde reduced the activity’s scope by splitting it into two phases, with MCC funding the first phase (components 1, 2, and 3) and the Cape Verde government funding the second phase (components 4 and 5).

Table 6: Key Performance Results for Port Activity, Cape Verde

Performance indicator	Original target (percentage)	Final target (percentage)	Final result (percentage)	Percentage of original target met	Percentage of final target met
Phase 1					
Cargo village—percent complete	100 by year 3				
Wharf 2 improvements—percent complete	100 by year 3	100 by year 5 ^a	100 by year 5 ^b	Not determined ^c	100
Access road—percent complete	100 by year 3				
Phase 2					
Breakwater—percent complete	100 by year 3		Activity eliminated ^d		
Wharf 1 extension and new container yard—percent complete	100 by year 5				

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aMCC established a new indicator based on a combination of the original indicators for individual project components. The new indicator tracked the cumulative percentage of work complete as measured by disbursements. The change in target for this indicator was documented in the 2008 monitoring and evaluation plan.

^bMCA-Cape Verde administered a \$45.3 million construction contract for completion of port works (phase 1). Construction of buildings at the cargo village was removed from the scope of the contract at the time of award due to funding limitations. The Cape Verde government subsequently funded the construction of these buildings under a separate contract that MCC reported as costing approximately \$16 million. At the end of the compact, approximately \$530,000 of work related to the cargo village buildings that was part of MCA-Cape Verde’s contract remained undone and will be performed upon completion of the buildings.

^cCompletion of all project components occurred after year 3 of the compact. We did not attempt to estimate the amount of work complete at the end of year 3.

^dThe Cape Verde government awarded a contract in September 2010 for completion of port activity elements (phase 2) that were removed from MCA-Cape Verde’s scope of work due to funding limitations. MCC reported that the Cape Verde government awarded its contract in the amount of approximately \$87 million. Contract completion is expected in March 2013.

MCA-Cape Verde completed most of phase 1 in October 2010, and the Cape Verde government expects to complete phase 2 by March 2013.

- **Phase 1.** MCA-Cape Verde funded phase 1 of the port activity at \$45.3 million.³ MCA-Cape Verde deleted the construction of some buildings from the contract scope to keep costs within funding limits, and the Cape Verde government subsequently funded construction of the buildings at approximately \$16 million through a loan from a Portuguese bank.⁴
- **Phase 2.** The Cape Verde government funded phase 2 of the activity (components 4 and 5) at approximately \$87 million through a loan from the Portuguese government.⁵ Work is to be completed over a 30-month period ending in March 2013 in accordance with the design initially funded by MCC.

Port: Challenges

Inaccurate early planning of the port activity led to cost increases and implementation delays.

- **Cost increases.** Costs increased as a result of inaccurate early planning assumptions concerning design details and construction materials. For example, the cargo village and access road were built in different locations than initially planned, and according to MCC, relocating these components resulted in significant cost increases. In addition, initial plans specified the use of a detached breakwater to protect the wharves, but subsequent analysis and model testing showed the need for an attached breakwater, which was more expensive to construct. Also, initial plans were based on an incorrect assumption that quarry materials would be available at minimal cost from government-owned quarries. However, by the time implementation began, the government no longer controlled the

³MCC awarded in July 2008 a fixed unit price contract to a Portuguese construction consortium in the amount of \$42.3 million. Contract modifications increased the contract value to \$45.3 million by the time work was completed in October 2010. The \$3 million (7 percent) increase resulted from changes such as realigning the access road and providing additional shore protection.

⁴Buildings eliminated from the scope of the phase 1 contract were in the proximity of the cargo village and included offices for customs and port operations staff, warehouses, entrance gates, and a workshop. These buildings were subsequently constructed by the same contractor that built the phase 1 works under a separate contract with the Cape Verde government.

⁵According to MCC, in September 2010, the Cape Verde government awarded a contract for phase 2 works to the same contractor that constructed phase 1 of the port improvement activity.

quarries, and materials had to be procured from private sources, increasing the activity's cost.⁶

- **Implementation delays.** Rescoping the port activity contributed to implementation delays that resulted in MCA-Cape Verde using more than half of the 5-year compact implementation period for planning, design, and contract procurement actions before awarding a construction contract.⁷ As a result, implementation of the phase 1 components did not begin until year 3, when MCC had originally intended to have completed these components, and completion of phase 2 components is not expected until March 2013, approximately 29 months after compact end.⁸

Port: Quality

To provide management control and ensure quality for the port activity, MCA-Cape Verde established an organization consistent with MCC's management structure for infrastructure projects. The management organization for the Cape Verde port activity consisted of a project manager for MCA-Cape Verde; project managers for the activity's implementing entity, the Cape Verde transportation ministry;⁹ an MCA-contracted independent construction supervisor; an MCA-contracted design engineer; and an MCC-contracted independent engineering consultant.

Work completed for the port activity was performed according to contractual requirements, generally met quality standards, and should enable the infrastructure to function for the duration of its design life,¹⁰

⁶According to MCC, the cost of quarry materials amounted to about 5 percent of the total construction cost.

⁷Planning, design, and contract procurement actions continued over a 33-month period from the compact's entry into force in October 2005 through award of a construction contract in July 2008.

⁸Implementation delays contributed to cost increases as a result of construction prices rising approximately 30 percent, according to MCC, from the beginning of the compact to the time the phase 1 construction contract was awarded in July 2008.

⁹The proper title of this government agency is the Ministry of Infrastructure, Transport, and Telecommunications.

¹⁰Design life is the minimal time that constructed infrastructure is expected to provide reliable performance without major investments to keep it safe and efficient. According to the design engineer for the port improvement work, the design life of components varies. For example, the design life of the rehabilitated wharf (wharf 2) is 50 years and the design life of the cargo village container lot and access roads is 20 years.

according to the construction supervisor's progress reports and members of the management organization. However, a defect in construction of the shore protection structure built for the lower access road posed a threat to the road's stability, which MCC took steps to remedy. According to the design engineer, in May 2009 the construction contractor expressed concerns about building an underwater trench included in the design for the shore protection structure,¹¹ claiming that the seafloor was uneven and consisted of materials that were not shown on design documents. However, at the construction supervisor's direction, the contractor attempted to install the structure as specified in the design and completed work in July 2010. Subsequently, the design engineer determined that the underwater trench was not properly constructed and did not provide an adequate foundation for the shore protection structure.¹² To address this issue, MCC contracted the U.S. Army Corps of Engineers to inspect the as-built condition of the trench and develop alternatives for correcting the construction defects. In its initial assessment, the U.S. Army Corps of Engineers estimated that the cost of remedying the construction defects would range from approximately \$1 million to \$2.8 million.¹³ Costs for repairs to the underwater trench will be shared by the construction

¹¹The lower access road is positioned along the coast and is protected by a structural system designed to mitigate the effects of hydraulic forces created by waves and currents. The design of the shore protection structure specifies that the base of its outer layer is to be set in a trench along the seafloor. The structure's outer layer consists of specially shaped interconnected CORE LOC™ concrete units—the units measure approximately 4 cubic meters and weigh about 10 tons—that provide for structural stability.

¹²As part of the quality assurance process, the design engineer conducted site visits on five separate occasions while the shore protection structure was being built, diving to inspect the underwater work. These dives, as well as a sixth dive in October 2010, found, among other things, that the trench was not built in some areas, so that the base of the shore protection structure rested on the seafloor; in other areas, the trench was built to the wrong dimensions, so that the trench was wider than the base of the shore protection structure and the resulting fit was loose.

¹³In October 2010, U.S. Army Corps of Engineers submitted a report on the basis of its initial assessment that identified repair alternatives. Following the initial report, an underwater survey was conducted to obtain greater detail of seafloor conditions. Data obtained from the survey is being used to develop physical model tests of the alternative solutions. MCC expects that results of the model tests will be available in August 2011. These results will then be used to determine which repair alternative will be implemented.

contractor and the Cape Verde government, according to an agreement between the two parties and MCA-Cape Verde in January 2011.¹⁴

Port: Sustainability

MCC determined that privatizing operations at the Port of Praia was critical to the sustainability of the port activity and included privatization of the port operations as a condition for disbursement of compact funding. MCC reasoned that privatization was needed to enable the port to handle current and projected traffic in a manner that would lead to improved financial performance. Although the government of Cape Verde agreed to this condition and developed a law to enable the port authority to enter into contracts with private operators, the port authority has been delayed in soliciting contracts for port operations services because construction of the port is incomplete, with phase 2 work expected to continue until March 2013. MCC reports that the port authority has taken initial steps in developing model contracts for port operations, but it no longer has leverage over the port authority to ensure that this condition is met.

Roads and Bridges
Construction Activity

Roads and Bridges: Objective

MCC allocated \$25 million to fund the rehabilitation of five roads on Santiago Island and construction of four bridges on Santo Antão Island. The activity was intended to support Cape Verde's goal of improving mobility on the two islands by closing road network gaps to ensure more reliable access both to intra-island markets and services and provide transportation linkages on the targeted islands.

Roads and Bridges: Results

MCC disbursed \$27.7 million for the Cape Verde roads and bridges activity by compact completion. MCC met revised targets for the roads rehabilitation, after reducing the scope of the planned roads, and met its

¹⁴Under the agreement, the parties committed to activating a Dispute Adjudication Board with binding authority to resolve outstanding issues, such as determining the split of costs for repairs to the underwater trench and the outcome of the construction contractor's \$4.3 million claim for increased costs associated with its initial construction of the trench. The three-member board is to be composed of a member nominated by the Ministry of Transportation, a member nominated by the construction contractor, and a president chosen by agreement between the two members. As of the beginning of May 2011, the board was still being constituted and its deliberations had not yet begun.

targets for the bridges construction (see table 7 for key performance results for the roads and bridges activity).

Table 7: Key Performance Results of Roads and Bridges Activity, Cape Verde

Performance indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Kilometers of road rehabilitated	63 ^a	39.3 ^b	40.6 ^c	64	103
Percentage of roads and bridges work completed ^d	100 by year 3	100 by year 5 ^b	100 by year 5	Not determined ^e	100

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aThe scope of road rehabilitation initially identified in the construction contract was five roads totaling 62.2 kilometers. The 63 kilometers shown here is the value listed in the 2006 monitoring and evaluation plan.

^bThe change in target for this indicator was documented in the 2008 monitoring and evaluation plan.

^cAmount of rehabilitated roads consists of 39.6 kilometers along three road segments on Santiago Island and a 1 kilometer road associated with bridge construction on Santo Antão Island. Four bridges were constructed on Santo Antão Island as initially planned, although MCC did not have an associated indicator for tracking the number of bridges built.

^dThis indicator tracks completion as measured by cumulative progress payments to construction contractors divided by the total cost of the construction contracts.

^eCompletion of all roads and bridges occurred after the end of year 3 of the compact. We did not attempt to estimate the amount of work that was completed at the end of year 3.

MCC reduced the scope of road rehabilitations but maintained the scope of bridge construction work after redesigns of original plans led to increased costs.¹⁵

- **Roads.** MCA-Cape Verde awarded a \$12.6 million contract to rehabilitate five roads, totaling 62.2 kilometers, in April 2006. Subsequent redesign of the road plans, to more accurately reflect the

¹⁵The initial designs of both the roads and bridges construction activities were funded by the World Bank and completed prior to the compact. After it had awarded construction contracts for the roads and bridges, MCA-Cape Verde found that the designs were of poor quality and inadequate as a basis for construction. MCA-Cape Verde subsequently took steps to redesign the roads and bridges activities, which led to implementation delays and increased costs as the new designs were generally to a higher standard than the original designs.

extent of work required,¹⁶ increased the cost of the contract to \$18.5 million and extended the contract completion date from 30 months to 44 months after the May 2006 work start date.¹⁷ To keep the work within funding limits, MCC and MCA-Cape Verde reduced the scope of planned rehabilitation to three roads totaling 39.6 kilometers. Work was completed for the first road (Road 1) in June 2009; for the second (Road 4) in July 2009; and for the third (Road 2) in January 2010.¹⁸

- **Bridges.** MCA-Cape Verde awarded a \$3.4 million contract in November 2006 to build the four bridges. Subsequent redesigns of the planned construction, intended to make the bridges more durable, increased the contract value to \$5.8 million¹⁹ and extended the completion date from 12 months to 34 months after the December 2006 work start date. Bridge work was completed in October 2009.

Figure 8 shows the locations of the planned roads, with photographs of the rehabilitated roads, on Santiago Island.

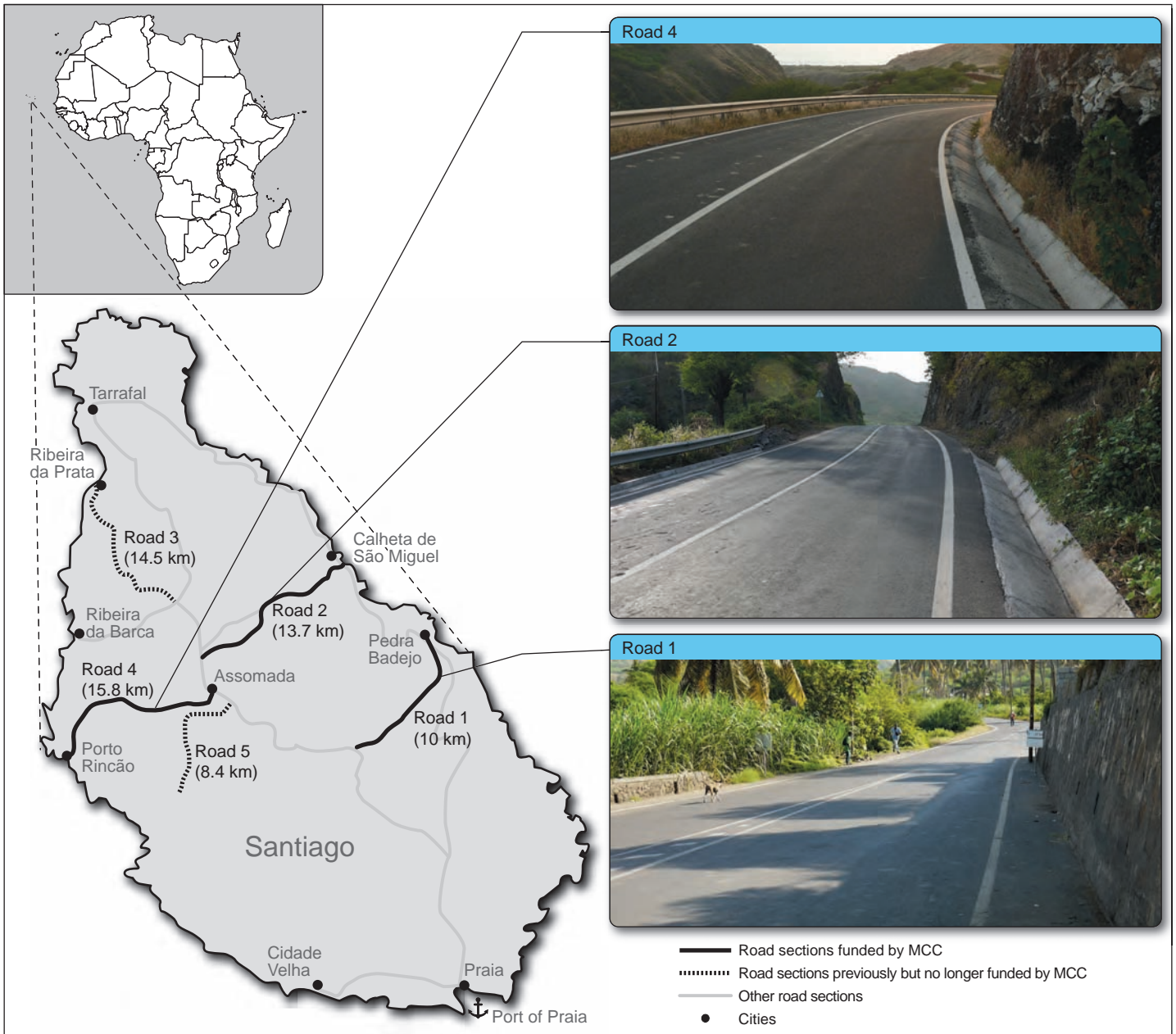
¹⁶The construction contractor initially completed work to redesign the road rehabilitations and incorporate enhanced features such as the addition of drainage culverts. MCA's construction supervisor reviewed the contractor's design and made modifications based on technical and cost considerations. Construction was completed on the basis of the construction supervisor's modified design.

¹⁷According to MCC, construction costs rose during the time the activity was being redesigned, and a price escalation allowance in the construction contract contributed to a cost increase of approximately \$1.8 million.

¹⁸Construction of the two roads deleted from MCA-Cape Verde's contract was completed under a separate contract administered by the Cape Verde transportation ministry and funded through a loan from the government of Portugal; MCC reported that the cost of the contract to build the deleted roads was approximately \$9.8 million.

¹⁹The \$2.4 million increase in the total value of the bridges construction contract included approximately \$1.1 million to compensate the contractor for delays and for escalation of prices.

Figure 8: Planned and Rehabilitated Roads on Santiago Island, Cape Verde Infrastructure Project

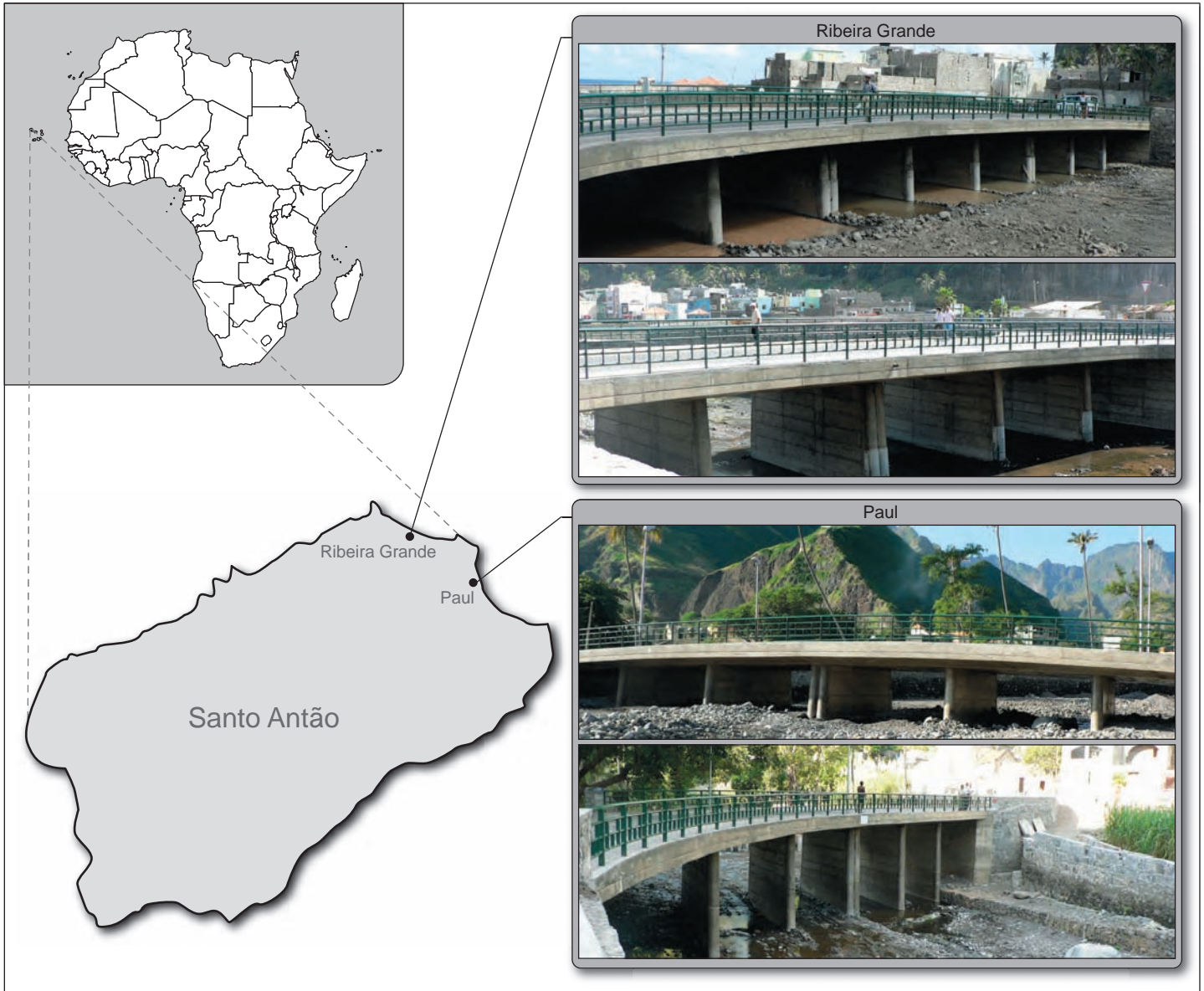


Sources: GAO synthesis of MCA furnished project maps; GAO (photographs); and Map Resources (base map).

Note: Roads 1, 4, and 2 were completed in June 2009, July 2009, and January 2010, respectively. Roads 3 and 5 were deleted from MCC's contract and are being constructed by the Cape Verde government with a loan from the government of Portugal.

Figure 9 shows the four bridges that were constructed on Santo Antão Island.

Figure 9: Bridges Constructed on Santo Antão Island, Cape Verde Infrastructure Project



Sources: GAO synthesis of MCA furnished project maps; Map Resources (base map); and GAO (photographs).

Roads and Bridges: Challenges

On beginning work for the Cape Verde roads and bridges activity, MCA-Cape Verde found that the designs did not accurately represent the extent of work required. For example, inadequate topographic information in the road designs resulted in designs that did not accurately reflect the amount of earthwork involved in improving the roads. Revisions to the designs allowed for improvements to make the structures more durable: additional drainage culverts, concrete lining of ditches, rip-rap²⁰ placement to protect roads from erosion and landslides, and increased bridge heights to provide more clearance for water.

Roads and Bridges: Quality

To provide management control and ensure quality for the Cape Verde roads and bridges activity, MCA-Cape Verde established an organizational structure consistent with MCC's management structure for infrastructure projects. The management organization for the Cape Verde roads and bridges activity consisted of a project manager for MCA-Cape Verde; a project manager for the activity's implementing entity, the Cape Verde transportation ministry; two MCA-contracted independent construction supervisors, one for roads and one for bridges; and an MCC-contracted independent engineering consultant, who provided oversight on both the roads and bridges construction contracts.

In general, work on the roads and bridges activities met quality requirements. However, the new infrastructure is subject to damage from sometimes harsh environmental conditions, and the Cape Verde government faces challenges in funding needed maintenance and ensuring the infrastructure's sustainability.

Quality of roads. Work completed for the roads activity was performed according to contractual requirements, generally met quality standards, and should enable the infrastructure to function for the duration of its design life,²¹ according to the construction supervisor's progress reports and members of the activity's management organization. However, the mountainous terrain through which the roads were built presents hazards such as landslides and erosion from storm water runoff. According to the

²⁰Rip-rap consists of rocks, rubble, or preformed concrete shapes that are put in place to prevent erosion to an embankment or structure.

²¹The duration of the roads' design life varies by component. For example, the pavement has a design life of 15 years, while culverts and retention structures have design lives that range from 20 to 50 years.

construction supervisor, the low volume of traffic for which the roads were built influenced decisions to limit some design features, such as removing steep roadside slopes and installing or repairing drainage structures and retaining walls, to control costs. For example, in consideration of limiting costs and reducing environmental impacts, the construction supervisor authorized less earthwork than had been proposed by the construction contractor when the road activity was being redesigned. This resulted in the exposure of some road sections to potential damage from landslides and water runoff because they are adjacent to steep slopes.²² We observed areas along Road 2, in particular, where the road structure had failed, apparently as the result of insufficient drainage or weakened retaining structures that were unable to withstand water flows during rain storms. We also observed repair efforts by the Cape Verde government's road maintenance contractor that illustrate how sustained attention to maintenance will be needed to keep the road network functional (see fig. 6 on page 27).

Quality of bridges. Work completed for the bridges activity was performed according to contractual requirements, met quality standards, and should enable the infrastructure to function for the duration of its 50-year design life, according to the construction supervisor's progress reports and the MCA-Cape Verde project manager. The construction supervisor's final report noted that the bridges may have been overdesigned, with more concrete and reinforcing steel than required for structural stability.²³ The report also indicated that the type of cement used in the concrete mix was different, and less resistive to corrosion, than the type originally specified. To protect the bridges from corrosion, due to their proximity to the ocean shore, the construction contractor applied a waterproofing treatment to the concrete that was used to construct the bridges. However, use of this waterproofing treatment creates a new maintenance requirement for the Cape Verde government to manage.

²²Other methods, such as installation of walls at the base of slopes to prevent soils from falling onto the road, were implemented in an effort to mitigate damage from potential landslides.

²³According to the supervisory engineer, the overdesigned elements account for approximately 8 percent of the total construction cost.

Roads and Bridges:
Sustainability

MCC determined that stable maintenance financing was critical to sustaining its roads and bridges activity and established this as a condition for disbursement of compact funds. Over the course of the compact, the Cape Verde government's road institute developed its capacity for collecting user fees that it directed to funding maintenance for the national road network.²⁴ However, according to Cape Verde government officials, the agency lacks adequate funds for road maintenance. For example, road institute officials indicated that lack of funds for road maintenance is the greatest challenge facing the agency, and other Cape Verde government officials told us that current funding for road maintenance would meet less than half of requirements.

Cape Verde
Watershed
Management and
Agricultural Support
Project

Water Management and
Soil Conservation Activity

MCC disbursed approximately \$6 million for the water management and soil conservation activity, which was designed to improve natural resource management and increase agricultural productivity in three watersheds—Faja (São Nicolau Island), Mosteiros (Fogo Island), and Paul (Santo Antão Island)—through the construction of water management and distribution infrastructure.

Water Management and Soil
Conservation: Results

MCC met some key original and final targets for the water management and soil conservation activity (see table 8 for key performance results for the water management and soil conservation activity). Because the activity was rescoped and construction delayed, the agency expects that agricultural productivity will be delayed. For example, MCC did not meet its original or final target for the volume of water available in the three

²⁴The institute collects user fees that are allocated to a maintenance service fund (85 percent), local municipalities (10 percent), and operating expenses (5 percent). Maintenance funds are used to service approximately 425 kilometers of roads—including the MCC-funded roads, which are part of the national road network of approximately 1,500 kilometers.

watersheds at compact end. MCC achieved approximately 353,000 cubic meters for the volume of available water in the three watersheds at compact end, which was about 40 percent of the original target of approximately 875,000 cubic meters and about 76 percent of the final target of approximately 466,000 cubic meters. According to MCC, since the water was delayed, the agency does not expect immediate changes in agricultural productivity.

Table 8: Key Performance Results for Water Management and Soil Conservation Activity, Cape Verde

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Reservoirs constructed	28	28	28	100	100
Volume of available water (m3)	875,355	465,800 ^a	352,978	40	76
Tons of solid material retained through dikes ^b	25,552	25,552	46,763	183	183

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThe target for this indicator was changed to 627,500 cubic meters in the 2008 monitoring and evaluation plan and further changed to 465,800 in the 2010 monitoring and evaluation plan.

^bMCC established this indicator to measure the amount of arable land conserved through the use of rural soil conservation and water catchment infrastructure.

Responding to environmental concerns identified during implementation, MCC rescoped the activity from a combination of wells and reservoirs to only reservoirs, which delayed completion and operation of water management infrastructure as well as the adoption of drip irrigation. Following a 2-year delay in constructing water management infrastructure, not all reservoirs were operational at compact end.²⁵ As of January 2011, MCC reported all 28 reservoirs constructed were operational. MCC officials, the contractor, and some farmers we met with in Cape Verde said that farmers were slow to adopt drip irrigation because of the delay in the construction of infrastructure and the low water availability. MCC also reported that, for fully functional water

²⁵According to an October 2010 report by an independent engineer, the water management infrastructure constructed with MCC funds was not complete or operational on all islands. For example, some reservoirs were not yet filled with water, some water distribution systems were incomplete, and some water meters were nonfunctioning.

systems, adoption of drip irrigation was slow, partially due to the completion of works coinciding with the rainy season. For example, during our visit to one reservoir in the Paul watershed in December 2010, we found that five of the seven available drip irrigation connections were hooked up to farm plots. Figure 10 shows a connected farm plot.

Figure 10: Irrigated Participant Farm, Cape Verde Watershed Management and Agricultural Support Project



Source: GAO.

Water Management and Soil Conservation: Sustainability

MCC and the government of Cape Verde took some initial steps to enhance the sustainability of completed water management infrastructure. For instance, in January 2009, the government of Cape Verde's National Water Council established a water-fee structure for the three watersheds. MCC reported that it was actively engaged with the government to develop the water-fee policy, which was a condition required for MCC disbursements. In addition, communities and water users are responsible for maintenance of the water management infrastructure. The Cape Verde agricultural ministry and an MCA-Cape Verde contractor also worked with local community water associations, composed of farmers and other water users, to develop water management plans for each watershed. However, during our visit to Cape Verde, we found that the National Water Council had not begun collecting water fees in one of the three watersheds.

Agribusiness Development Services Activity

MCC disbursed approximately \$5 million for the agribusiness development services activity, which consisted at compact signature of several activities to increase the productivity and marketing of agricultural products by farmers and agribusinesses, including training of farmers,²⁶ technical assistance in postharvest agricultural techniques, and construction of postharvest packing and quality control centers.

Agribusiness Development Services: Results

MCC did not meet key original targets and most final targets for the agribusiness development services activity (see table 9 for key performance results for the agribusiness development services activity). For example, MCC reported that 553 farmers were trained in at least three out of five subject areas by compact end, achieving 69 percent of the target of 800 trained farmers.

²⁶The contractor developed the farmer training curriculum in five subjects—agronomy, drip irrigation, marketing, pest management, and postharvest techniques—as well as training materials on these topics for the Cape Verde agricultural ministry, among other activities.

Table 9: Key Performance Results for Agribusiness Development Services Activity, Cape Verde

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Number of farmers trained ^a	800	800	553	69	69
Number of farmers adopting drip irrigation	337	337	106	32	32
Hectares under improved or new irrigation ^b	121	111 ^c	13.4	11	12
Construct and equip postharvest centers ^d	3	1 ^e	1 ^f	33	100

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThe “number of farmers trained” indicator is the number of farmers trained in at least three of five training areas.

^bMCC renamed the original indicator “Area irrigated with drip irrigation” to reflect a modified definition in its 2010 monitoring and evaluation plan.

^cThe change in target for this indicator was documented in the 2008 monitoring and evaluation plan.

^dMCC revised this process milestone indicator to “construct and equip postharvest center in Santo Antão island,” one of the three watersheds, in its 2010 monitoring and evaluation plan.

^eThe change in target for this indicator was documented in the 2010 monitoring and evaluation plan.

^fThe Cape Verde agricultural ministry indicated that it plans to pursue construction of the two postharvest centers designed under the MCC project on the islands of São Nicolau and Fogo. The Ministry reported that it has committed to fund the construction of the two postharvest centers in its 2011 budget.

MCC rescoped the agribusiness development services activity following implementation challenges, and the contractor reported challenges in implementing the activity and achieving targets.

- **Small agribusiness sector.** MCC reported that it eliminated the activity’s focus on the agribusiness sector after finding that sector in Cape Verde to be small, but continued to work with the broader agricultural sector.
- **Limited training capacity of Cape Verde agricultural ministry staff.** MCA-Cape Verde reported that it had originally planned for the Cape Verde agricultural ministry to implement the farmer training activity; however, when it found that the ministry did not have the capacity to train farmers, it hired a contractor to assist in implementation of the farmer training activity and other aspects of the agribusiness development services activity.
- **Limited authority of contractor over Cape Verde agricultural ministry staff.** The contractor reported that its inability to directly train

Agribusiness Development
Services: Sustainability

farmers and lack of authority over ministry field staff trainers made it difficult to meet the training targets.²⁷

- **Limited targeting of farmer trainings.** The contractor reported that using the Cape Verde agricultural ministry's farmer training list, which was not targeted, resulted in a significant portion of time and resources spent on beneficiaries that had little interest in the training and saw little value in attending training sessions.²⁸ We spoke with several farmers in one watershed in Cape Verde who said the training had been helpful, but most were unable to specify which training they had taken, new information they had learned, or new techniques they had applied on their farms.

The MCA-Cape Verde contractor took steps to promote sustainability of agribusiness development activities, and the Cape Verde agricultural ministry has expressed interest in continuing certain activities beyond the end of the compact, but MCC and the contractor have expressed concern about the sustainability of some activities. For example, the contractor took steps to promote the sustainability of the agribusiness development services activity after compact completion, including developing training materials for the Cape Verde agricultural ministry, helping establish and train farmers associations, and implementing a farm-to-market pilot project for testing postharvest practices along the produce value chain. The Cape Verde agricultural ministry reported that it will continue training farmers through its extension centers using training materials developed under the compact activity. However, the contractor reported that even after receiving training under the compact, all ministry field staff did not have the capacity to train farmers, given their work loads. For example, the contractor stated that ministry field staff had multiple responsibilities, including involvement in multiple donors' agriculture-related programs.

The Cape Verde agricultural ministry has also taken steps to privatize management of the postharvest center, including a commitment in February 2010 to finance the costs of operating the postharvest center

²⁷The contractor reported that it was not able to train farmers directly under this activity and, instead, implemented a training of trainers program for the Cape Verde agricultural ministry's field extension workers, or field staff.

²⁸The contractor reported that it provided technical assistance to several farmers who expressed interest in learning new agricultural techniques and additional assistance. According to the contractor, these farmers were more likely to encourage others to apply such techniques.

and advertisement in June 2010 for a private management team. However, the postharvest center was not in operation as of December 2010 and had not yet been privatized.²⁹ According to MCC officials, the ministry did not contract with a private management team and has established a government management team to manage operations for the next 2 years. MCC reported that it has flagged privatization of the postharvest center as an issue critical to the sustainability of the project. MCC stated that it has received assurances from the ministry that it intends to privatize operations, but MCC is unclear about the timeline.

Access to Credit Activity

MCC disbursed \$600,000 for the access to credit activity, which was designed to meet demands in the three watersheds for financing drip irrigation, working capital, and agribusiness development.

Access to Credit: Results

MCC exceeded key original and final targets for the access to credit activity (see table 10 for key performance results for the access to credit activity). For example, four eligible microfinance institutions (MFI) accessed the \$600,000 MCC credit line to provide \$617,000 agricultural loans. MCC and the contractor stated that they were optimistic about continued demand for drip irrigation credit once water management infrastructure was fully operational and the rainy season ended.

²⁹In September 2010, the government of Cape Verde lifted a long-standing embargo on agricultural imports from the island of Santo Antão, contingent on the operation of a postharvest quality control and inspection center that would mitigate the effects of a millipede pest prevalent in agriculture on the island.

Table 10: Key Performance Results for Access to Credit Activity, Cape Verde

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Value of agricultural and rural loans	\$600,000	\$600,000	\$617,000	103	103
Percentage of MFI loan portfolio past due more than 90 days ^a	5	5	4	Exceeds target ^b	Exceeds target ^b

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThe “Portfolio Risk above 90 Days” indicator is the value of all MFI loans with one or more installment of principal past due more than 90 days as a percentage of the gross loan portfolio.

^bAccording to MCC, repayment rates were very high for the project, exceeding the target, due to strong portfolio management.

Access to Credit: Sustainability

According to MCC, as a result of the strong performance of the four MFI loan portfolios, MCC converted its loans to each MFI into grants at the end of the compact, enhancing the sustainability of agricultural credit efforts. Following an evaluation of the MFIs’ operational and financial performance, MCA-Cape Verde determined that all four MFIs were eligible for conversion of MCC loans under the credit line to grants. MCC converted its loans into grants by the end of 2010. Two MFIs reported that they had not previously provided loans in the agricultural sector in certain locations, but following a positive experience with the MCC credit line, they anticipate continued growth of these loan portfolios.

MCC did not require that an oversight entity monitor the MFIs’ use of grant funds for agricultural purposes beyond the end of the compact, but the agency included limited oversight terms in the grant conversion that may promote sustainability. The agency specified in its grant terms that funds are to be used solely for agribusiness and drip irrigation credit and are subject to MCC audit for the first 2 years.

Cape Verde Private Sector Development Project

Partnership to Mobilize Investment Activity

MCC disbursed about \$400,000 for the partnership to mobilize investment activity, which was intended to help the Cape Verde government identify, prioritize, design, and implement interventions to increase investment in priority sectors.

Partnership to Mobilize Investment: Results

MCC had not funded private sector investments in priority sectors for the partnership to mobilize investment activity by the end of the compact, but had funded the creation of a private credit bureau during the administrative closeout period (see table 11 for key performance results for the partnership to mobilize investment activity). MCC had initially allocated \$5 million for this activity, but MCC, the World Bank, and the government of Cape Verde were unable to agree on which priority sectors should receive investment support. Therefore, MCC reallocated funds from this activity to the compact's infrastructure project. However, MCC funded technical assistance to support the creation of a private credit bureau. In January 2011, after the end of the compact and during the administrative closeout period, the Chambers of Commerce signed a contract with an investment partner to create a private credit bureau. Upon signature of this contract, MCA-Cape Verde provided \$250,000 to the Chambers of Commerce to invest in the credit bureau.³⁰

³⁰MCC disbursed funds to MCA-Cape Verde for the creation of the credit bureau, allowing MCA-Cape Verde to sign a grant with the Chambers of Commerce. The grant agreement specified that receipt of funds by the Chambers of Commerce was contingent on the contract signed between the Chambers of Commerce and its investment partner.

Table 11: Key Performance Results for Partnership to Mobilize Investment Activity, Cape Verde

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Value added in priority sectors above current trends	none set			Activity eliminated ^a	
Volume of private investment in priority sectors above current trends	none set			Activity eliminated ^a	
Volume of public investment in priority sectors above current trends	none set			Activity eliminated ^a	

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aAll components of this activity were eliminated except the establishment of a private credit bureau, which did not have an associated indicator.

Partnership to Mobilize Investment: Sustainability

MCC took steps to support the new credit bureau's operational and financial sustainability by requiring a private sector partnership and private sector investments to be in place before MCC provided support for the activity. Private ownership may provide an incentive to enhance the sustainability of the credit bureau.

Financial Sector Reform Activity

MCC disbursed \$1.4 million for the financial sector reform activity, which consisted of technical assistance to support the development of microfinance institutions and government efforts to expand access to the primary market for government securities.

Financial Sector Reform: Results

MCC met or exceeded its original and final targets, but eliminated a key target for the financial sector reform activity (see table 12 for key performance results for the financial sector reform activity). For example, MCC met or exceeded its targets for MFI operational and financial self-sufficiency. According to MCC officials, technical assistance to the government of Cape Verde under the compact also helped produce financial sector reforms, but MCC eliminated funding for financial software to implement reforms following procurement delays.³¹

³¹MCC reported that the government of Cape Verde passed legislation that brought MFIs into the formal, regulated financial sector. In addition, MCC reported that the government of Cape Verde modified legislation permitting the sale of government securities to individuals, and the Ministry of Finance approved a new auction process for government securities. MCC required these financial sector legislative reforms for disbursements.

Table 12: Key Performance Results for Financial Sector Reform Activity, Cape Verde

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Microfinance institutions operationally self-sufficient	4 of 8	4 of 5 ^a	5 of 5	125	125
Microfinance institutions financially self-sufficient	3 of 8	3 of 5 ^a	3 of 5	100	100
Percentage of MFI loan portfolio past due more than 30 days ^b	14%	14%	10%	139	139
Percentage of government securities held outside of financial institutions and government agencies	8%		Activity component eliminated		

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aThe change in target for this indicator was documented in the 2010 monitoring and evaluation plan.

^bThis indicator measures the value of all MFI loans that have at least one installment of principal past due for more than 30 days as a percentage of the gross loan portfolio.

Under this activity, MCC funded technical assistance to eight MFIs in several areas, including accountability and internal controls, lending methodologies, and client services, to support their operational efficiency and financial sustainability. According to two MFI representatives we spoke with during our visit to Cape Verde, the assistance they received helped professionalize MFI credit agents and provided them with technical competence to develop and market loan products for the agricultural sector.

Financial Sector Reform: Sustainability

The MFIs that received technical assistance achieved operational and financial self-sufficiency, which will enable them to continue their agricultural loan operations. In addition, according to MCC, the Cape Verde government agreed to fund the software with country funds and completed the financial sector reforms, showing strong country ownership and commitment to compact goals.

Appendix III: Honduras Compact Results

Honduras Compact Background

Honduras, with a population of about 7.2 million, was classified as a low-income country with a per capita income of \$1,820 for fiscal year 2011.¹ U.S. development assistance accounts for about 13 percent of total assistance to Honduras over the last 10 years, making the United States its fourth-largest donor.

MCC and the government of Honduras signed a 5-year compact in June 2005, which entered into force in September 2005 and ended in September 2010. The compact, for which MCC provided \$215 million in funding at compact signature, consisted of two projects.

- The *transportation project* was aimed at reducing transportation costs between targeted production centers and national, regional, and global markets. Activities include reconstructing portions of highways and secondary roads. Expected beneficiaries include road users and urban and rural businesses.
- The *rural development project* was aimed at increasing the productivity and business skills of farmers who operate small and medium-size farms and their employees. Activities include providing technical assistance to farmers in the production of high-value crops and constructing and improving selected farm-to-market roads. Expected beneficiaries include trained farmers, their communities, and the agricultural sector.

The compact also included funding for program administration, to support compact implementation and program management, and for monitoring and evaluation to measure the impact of compact activities.

Table 13 shows the Honduras compact's planned activities, objectives, and beneficiaries, as of compact signature.

¹For fiscal year 2011, MCC's cutoff for low-income candidates was a per capita income of \$1,905.

Table 13: Structure of Honduras Compact, at Signature

Project	Planned Activities (funding allocation)	Objective	Expected Beneficiaries
Transportation	<ul style="list-style-type: none"> • Highway CA-5 (\$96.4 million): The improvement of two segments of Highway CA-5 totaling 109 kilometers, including 50 kilometers between Taulabe and Comayagua (the “North Segment”) and 59 kilometers between Vila de San Antonio and Tegucigalpa (the “South Segment”) • Secondary road (\$21.3 million): The upgrade of key secondary routes to improve the access of rural communities to markets, totaling an upgrade of 91 kilometers of secondary roads • Weight control system (\$4.7 million): The construction of an effective vehicle weight control system and the issuance of contracts to operate it effectively • Transportation project manager (\$3.3 million) 	Reduce transportation costs between targeted production centers and national, regional, and global markets	<p>(1) Users of improved roads that result in lower transportation costs to markets and social service delivery points (e.g., hospitals, schools)</p> <p>(2) Employees and owners of urban and rural businesses that rely on the Honduran road network</p> <p>The Transportation Project was also expected to have a significant economic impact in the greater Central American region since it constitutes a key component of the Atlantic Corridor</p>
Rural development	<ul style="list-style-type: none"> • Farmer training and development (\$27.4 million): The provision of technical assistance in the production and marketing of high-value horticulture crops • Farm-to-market roads (\$21.5 million): The construction and improvement of feeder roads to connect farms to markets, totaling approximately 1,500 kilometers of rural roads • Farmer access to credit (\$13.8 million): The provision of technical assistance to institutions, loans to such institutions, and support in expanding the national lien registry system • Agricultural Public Goods Grant Facility (\$8 million): The provision of grants to fund agricultural “public goods” projects that the private sector cannot provide on its own • Rural development project manager (\$1.5 million) 	Increase the productivity and business skills of farmers who operate small and medium-size farms and their employees	<p>(1) Program farmers whose productivity and business skills are improved</p> <p>(2) The communities of the program farmers who experience increased employment and reduced transportation costs to markets and social service delivery points (e.g., hospitals, schools)</p> <p>(3) The agricultural sectors, due to public goods and quasi-public goods funded by the Agricultural Public Goods Grants Facility</p>
Program administration and monitoring and evaluation	<ul style="list-style-type: none"> • Program administration (\$12.1 million): Support administration and implementation of the compact, including program management, oversight, and audit • Monitoring and evaluation (\$5 million): The measurement and evaluation of progress toward the achievement of the compact goal and objectives. 		

Source: GAO analysis of Millennium Challenge Corporation data.

Honduras Transportation Project

CA-5 Highway Reconstruction Activity

CA-5 Highway: Objective

MCC allocated \$96.4 million to reconstruct 109 kilometers of the CA-5 highway.² The northern portion of the CA-5 highway connects Tegucigalpa—the capital of Honduras—to Puerto Cortes on the north coast, providing the primary route for import and export traffic between Puerto Cortes and the major production and consumption centers in and around San Pedro Sula, Comayagua, and Tegucigalpa. Figure 5 shows the locations of the CA-5 highway activities.

CA-5 Highway: Results

MCC disbursed \$90.3 million for the CA-5 highway reconstruction activity by contract completion. MCC did not meet its target for kilometers of highway upgraded, completing 49.5 kilometers, or 45 percent of the target (see table 14 for key performance results for the CA-5 highway activity).³

Table 14: Key Performance Results for CA-5 Highway Reconstruction Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Kilometers of highway upgraded (km)	109	109	49.5	45	45

Source: GAO analysis of Millennium Challenge Corporation data.

Note: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

²Reconstruction of the roads is generally on existing roadway routes. MCC funded CA-5 reconstruction included widening and resurfacing the road in some sections and replacing the existing pavement in one section with new concrete pavement.

³MCA-Honduras awarded four fixed unit price contracts to reconstruct the four sections of the CA-5 highway. A contract for Section 1 was awarded to a Honduran construction firm in February of 2009 in the amount of \$39.7 million. A contract for Section 2 was awarded to a Costa Rican construction consortium in September of 2008 in the amount of \$48.4 million. Contracts for Section 3 and Section 4 were both awarded to an Italian construction firm in May of 2008 in the amounts of \$16.2 million and \$23.2 million, respectively.

MCC originally planned to fund all reconstruction included in four contracts for the four sections of the CA-5 highway. However, while completing final design, acquiring right-of-way, and beginning to award contracts, MCC determined that, because estimated costs had increased, it would be unable to complete the 109 kilometers within the 5-year compact timeframe and within the funding allocation of \$96.4 million. Consequently, the Honduras government, working with MCC, arranged for a loan from the Central American Bank for Economic Integration (CABEI) to fund up to \$130 million of the CA-5 reconstruction, and MCC reduced its allocation to \$89.3 million. This brought total funding for the CA-5 reconstruction to \$219 million, more than double the original estimate.⁴ The \$219 million MCC and CABEI allocated for the CA-5 reconstruction included \$20.2 million—\$19 million from MCC and \$1.2 million from CABEI—for land acquisition and relocation costs; \$195 million—\$70.3 million from MCC and \$124.8 million from CABEI—for construction supervision and construction contract costs; and \$3.4 million from CABEI for other consulting and administrative costs.

Varying amounts of the \$195 million in construction supervision and construction contract work were completed in each section of the highway by the end of the compact.⁵

- *Section 1.* After completing the design for section 1 of the CA-5 highway, MCC lacked sufficient funding to construct the 24.3-kilometer section. Construction began in June 2010 with about \$75 million in CABEI funds and was about 5 percent complete when the compact ended. MCC expects section 1 to be completed by June 2012.

⁴According to MCC officials, because CABEI's loan to the Honduras government provided sufficient funding for CA-5 reconstruction, MCA-Honduras reallocated, with MCC approval, about \$7 million of the \$96.4 million previously allocated for the activity to the secondary roads activity, bringing the allocation to \$89.3 million. The \$90.3 million that MCC had disbursed for CA-5 reconstruction as of March 31, 2011, represented about 41 percent of total reconstruction costs.

⁵According to MCC officials, the length of the CA-5 Highway reconstructed and still under construction totaled 107 kilometers, compared with MCC's final target of 109 kilometers.

However, in March 2011, MCC officials stated that additional work added to the contract may require MCA-Honduras to extend that date.⁶

- *Section 2.* Construction began in February 2009 on the \$68 million, 33.3-kilometer section 2 of the CA-5 highway and was about half completed when the compact ended. MCC allocated about \$21 million (31 percent) and CABEL allocated about \$47 million (69 percent) for section 2, with MCC's allocation covering the cost of about 10 kilometers of constructed road. Construction was scheduled to be completed by March 2011, but MCA-Honduras is considering extending the completion date to September 2011 because of additional construction work, rain, and other delays.
- *Sections 3 and 4.* Reconstruction is 100 percent complete for 49.5 kilometers of the highway's two northernmost sections—sections 3 and 4—with about \$52 million allocated to the activities. This amount included MCC funding of about \$49 million (94 percent) and CABEL funding of about \$3 million (6 percent). See figure 11 for before and after pictures of section 4.

⁶MCA-Honduras officials stated that they plan to continue operating under the MCA-Honduras name for about 2 years, until the construction of CA-5 sections 1 and 2 are completed. MCC officials said they agree to the continued use of the name until the projects are completed, provided MCA-Honduras does not take any actions that would risk MCC's reputation.

Figure 11: CA-5 Section 4 before and after Reconstruction, Honduras Transportation Project



Source: MCA-Honduras.

Note: After reconstruction, pavement includes four through lanes, added turn lanes, and improved pavement surface.

CA-5 Highway: Challenges

Contract bid amounts, land acquisition costs, and contract modification costs exceeded MCC's estimates, causing overall costs for reconstructing the CA-5 highway to exceed allocations for the activity and preventing MCC from achieving its original target, according to MCA-Honduras officials.

- **Construction contract bid amounts.** Construction contract bid amounts for reconstructing each section of the CA-5 highway were significantly higher than MCC's initial estimates, owing in part to requests from the Honduras government for changes in scope and changes in design, according to MCA-Honduras officials.

Section 1. The construction contract bid for section 1 exceeded estimated costs by 15 percent.

Section 2. The construction contract bid for section 2 exceeded estimated costs by 112 percent. The original design was to increase the road from two to three lanes in some areas. However, the Honduras government requested that the entire section have four lanes, increasing the travel lane pavement area by 43 percent.

Section 3. The construction contract bid for section 3 exceeded estimated costs by 11 percent, after the Honduras government

requested a third lane for passing to improve traffic flow in a few areas with steep inclines.

Section 4. The construction contract bid for section 4 exceeded estimated costs by about 75 percent. The Honduras government requested that four lanes be installed in some portions of the section and that concrete, rather than asphalt, be used for the pavement. In addition, according to MCA-Honduras officials, 12 kilometers of a special base treatment were added to support the concrete pavement.⁷

- **Land acquisition costs.** The additional costs of acquiring right-of-way for the additional lanes and relocating adjacent housing and businesses exceeded initial estimates by almost 600 percent. According to MCA-Honduras officials, the original estimate for land acquisition and relocation was \$3.1 million, but the final budgeted cost was about \$20.2 million. Officials said that due-diligence studies conducted before the design phase had not included the costs of resettling residents and business owners from acquired land. In addition, the original land acquisition costs were estimated based on the land's official value for tax purposes rather than on its market value (which is typically higher), in accordance with normal practice in Honduras, and did not include relocation costs. MCA-Honduras officials said that, to accelerate the acquisition of land for the CA-5, they worked with the Honduras government to pass legislation that allows citizens to be reimbursed for market value land costs and relocation costs. According to MCC officials, relocation of the businesses provided economic benefits by allowing the business owners to retain their livelihood. In addition, businesses were grouped together to reduce traffic congestion related to cars stopping along the road and small chambers of commerce were developed to promote the businesses (see fig. 12).

⁷Because the concrete pavement is expected to reduce long-term maintenance costs, according to an analysis by the design engineer, MCA-Honduras allowed an adjustment of \$2.3 million when evaluating bids for construction with concrete pavement.

Figure 12: Relocated Businesses (in front) and Homes (in rear), Honduras Transportation Project



Source: MCA-Honduras.

- **Contract modifications.** Modifications of contracts during construction for sections 2, 3, and 4 raised CA-5 costs by about 6 percent, according to our review of construction supervision reports. A construction supervision official for section 2 stated that some of these increases were the result of road design plans with insufficient detail, which required the construction of additional retaining walls, earthwork, and drainage pipes beyond those included in the contract plans. The construction supervision official for section 4 stated that the increases were due to the addition of drainage pipes and other items.

Secondary Roads
Reconstruction Activity

Secondary Roads: Objective

MCC planned to reconstruct 91 kilometers of secondary roads, which connect rural roads to primary roads such as the CA-5 highway.⁸

Secondary Roads: Results

MCC disbursed \$27.7 million to reconstruct 65.5 kilometers of secondary roads by compact completion. MCC met the final target of 65.5 kilometers of secondary road reconstructed after a reduction in the original target from 91 kilometers (see table 15 for key performance results for the secondary roads activity).

Table 15: Key Performance Results for Secondary Roads Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Kilometers of secondary road upgraded (km)	91	65.5 ^a	65.5	72	100

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aThe target for this indicator was changed to 62 kilometers in the 2008 monitoring and evaluation plan and further changed to 65.5 kilometers in the 2010 monitoring and evaluation plan.

After accepting bids for the first secondary road construction contract, MCC agreed to a reduction in the target for reconstructing secondary roads because the cost of the reconstruction work greatly exceeded original estimates, according to MCA-Honduras officials. The officials also stated that the amount of planned MCC funding increased after the first contract was let because the bid amounts were more than estimated. According to the officials, the original estimated reconstruction cost was about \$235,000 per kilometer, but the actual cost was about \$422,000 per kilometer—an 80 percent increase.

⁸Secondary road reconstruction generally included widening the existing unpaved roads, improving drainage, adding additional base material to the road, and applying an asphalt chip and seal pavement surface. In some areas, sidewalks were included and pavers were used for the road pavement.

For the reduced target, MCA- Honduras selected 65.5 kilometers of secondary roads from among a group of roads expected to provide the highest rate of economic return by increasing vehicle speeds and reducing vehicle maintenance costs. The selected roads, located in three different parts of the country, were constructed through three separate contracts and were completed by the end of the compact. According to MCA-Honduras officials, the reconstructed roads have brought benefits such as improving the health of residents near the road by reducing airborne dust, improving access to land near the roads, attracting new farmers and laborers, and improving access to health clinics. Figure 13 shows the secondary roads before and after the reconstruction was completed.

Figure 13: Secondary Roads before and after Reconstruction, Honduras Transportation Project

Comayagua-Ajuterique-La Paz



Sonaguera-KM-35 (El Coco)



Source: MCA-Honduras.

Note: The top two pictures show that the road was widened (requiring the reconstruction of a building), the road surface was paved, and sidewalks were added. The bottom two pictures show that the road was widened with shoulders, the road surface was paved, the culvert under the road was repaired and widened, and pavement markings were added.

Weight Control System Activity

Weight Control: Objective

MCC allocated \$4.7 million to facilitate the implementation of a weight control system, including activities such as constructing eight truck weigh stations and the purchase of ancillary equipment along the CA-5, to help limit damage to the roads from overweight vehicles.⁹

Weight Control: Results

MCC disbursed about \$90,000 for the weight control system activity. MCC terminated funding for this activity in 2009 in response to the country's political situation (see table 16 for key performance results for the weight control activity).

Table 16: Key Performance Results for Weight Control Activity, Honduras

Indicator	Original	Final target	Final result	Percentage of original target met	Percentage of final target met
Number of weight stations built	8 ^a			Activity eliminated	

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aThe target for this indicator was changed to 3 in the 2008 monitoring and evaluation plan, and the indicator was removed in the 2010 monitoring and evaluation plan.

MCC officials stated that prior to the decision to eliminate the activity, they worked with the Honduran government to enact legislation allowing Fondo Vial—the Honduran road maintenance agency¹⁰—to regulate and enforce weight limits on Honduran roads. According to the Honduran government and MCA-Honduras officials, the government is trying to develop a smaller weight control activity, with one permanent weigh station and two portable stations, to start enforcing weight limits on the CA-5. However, at the time of our visit in November 2010, the government had not established a definite plan or obtained funding for the activity, and MCC is no longer monitoring the activity to provide us with an update.

⁹Administration of the weight control stations was to be the Honduran government's responsibility.

¹⁰Fondo Vial is the Honduran agency responsible for maintaining all primary roads (such as the CA-5), secondary roads, and some rural roads. Some rural roads are the responsibility of Honduran municipalities.

Transportation Project:
Quality

To provide management control and ensure quality for the Honduras transportation project, MCA-Honduras established an organization consistent with MCC's management structure for infrastructure projects.

The management organization for infrastructure projects included a MCA-Honduras transportation director and staff; contracted project management consultant who also performed design engineer services; and contracted independent construction supervisors, who reviewed the work of the project construction contractors for the CA-5 highway and secondary roads.¹¹ MCC hired an independent engineering consultant to provide them with independent reviews and recommendations of MCA-Honduras' design and construction activities.

In addition, MCA-Honduras implemented a quality control process, with independent construction supervisors and contractors ensuring that construction of the CA-5 highway and secondary roads followed designs.¹² The contractors were responsible for the primary testing, or quality control, and independent construction supervisors were responsible for a smaller amount of testing to confirm that the contractor's tests were accurate. In our review of contracts, we found that to implement the quality control plan, the independent construction supervisors and contractors conducted testing on certified testing

¹¹The project management consultant, who was responsible for the final design of the CA-5 activities and management of all transportation project activities and the farm-to-market road activities, was terminated after 3.5 years. As a result, the MCA-Honduras staff worked directly with the construction supervisors they had hired to oversee each contractor. According to MCC officials, to hire a replacement consultant would have taken time, delayed the activities past the end of the compact, and would not have guaranteed improved performance. MCA-Honduras staff also coordinated project designs and changes with the Honduras transportation ministry, but the ministry did not take an active role in the direct supervision of work.

¹²We visited the construction sites and interviewed independent construction supervisors and contractors for three of the four CA-5 contracts (sections 2, 3, and 4 contracts); and two of the three secondary road contracts (the Comayagua–Ajuterique-La Paz contract and the Choluteca–Orocuina contract).

equipment and kept records of daily activities and test results (see fig. 14).¹³

Figure 14: Testing Equipment in Contractor's Laboratory for CA-5 Section 2, Honduras Transportation Project



Concrete strength testing equipment



Soil strength testing equipment

Source: GAO.

While the work on the CA-5 highway sections and secondary roads was conducted with a quality control process in place, we observed instances of roadside erosion, pavement roughness, surface slickness, landslides, steep slopes, and limited use of roadside safety measures that raised concerns about the quality of the completed works.

¹³ According to a construction supervision official, Honduras has no certification processes to ensure the qualifications of those responsible for quality control, however construction supervisors and contractors generally used a combination of on-the-job training, inspectors with many years of training, and oversight by a professional engineer to ensure that the tests were conducted properly. In addition, all of the construction supervisors and contractor officials we interviewed were certified as having a quality management system that met the requirements of the International Organization for Standardization (ISO), although this certification was not required in their contracts with MCA-Honduras. The ISO 9001 specifies the requirements for a quality management system to consistently provide a product that meets customer requirements and all statutory and regulatory requirements.

- **Roadside erosion.** We found problems with erosion in some areas that had not been adequately revegetated, resulting in drop-offs at the edge of pavement, undermining of sidewalks, and filling of drainage areas (see fig. 15). At one site, construction supervision officials stated that revegetation was included in the contract to control erosion, but they decided not to have the contractor install it because it was dry season and the revegetation would not survive. At another location, there was no erosion control included in the design of a drainage way, resulting in erosion from rains. If these erosion problems are not resolved during construction, they will present maintenance challenges that will require additional funding.

Figure 15: Revegetation along Reconstructed CA-5 Highway and Secondary Road, Honduras Transportation Project



Proper revegetation of fill slopes along CA-5



CA-5 Section 4: Lack of revegetation along edge of drainage ditch resulting in erosion



Secondary road: Lack of revegetation of fill slope resulting in erosion of fill behind and under sidewalk

Source: GAO.

- Pavement roughness.** Pavements on the CA-5 section 3, the CA-5 section 4,¹⁴ and secondary roads met contractual requirements for pavement smoothness; however, these CA-5 sections and secondary roads did not meet the International Roughness Index (IRI) targets that MCC and MCA-Honduras had set (see table 17).¹⁵ The project designer had not included the IRI measures in the contract documents as a performance specification; thus, the contractor was not required to meet IRI targets, which resulted in increased long-term maintenance and user costs.

Table 17: Targeted and Achieved International Roughness Index (IRI) for CA-5 and Secondary Roads, Honduras

Road	Target IRI (meters/kilometer)	Achieved IRI (meters/kilometer)
CA-5 Section 1	1.9	Not completed
CA-5 Section 2	1.9	Not completed
CA-5 Section 3	1.9	2.2
CA-5 Section 4	1.9	3.2
Secondary roads	2.5	3.2

Source: GAO analysis of Millennium Challenge Corporation data.

Note: A lower IRI indicates greater smoothness, with 0 meters per kilometer indicating a perfectly smooth surface.

- Surface slickness.** On two of the completed secondary roads, we observed some areas of asphalt seepage to the road surface—a condition known as asphalt flushing, which can affect road safety by reducing skid resistance, making the surface slick, or obscuring pavement markings (see fig. 16). According to MCA-Honduras officials, the contractor previously had taken action to mitigate the

¹⁴After the MCA-Honduras quality control process identified unacceptable concrete pavement roughness on section 4 of the CA-5, the construction supervisor required the contractor to mill the new concrete pavement until it met contract requirements.

¹⁵New pavement IRI ratings generally range from 1.5 to 3.5; the higher the IRI, the rougher the pavement, with an IRI of 0 being perfectly smooth. IRI is used in determining the reduction in road-user costs and is an indicator of when additional resurfacing work is needed. As IRI increases, traffic speed can be reduced, suspension damage increases, and fuel, oil, and tire consumption is increased. In an MCC analysis used to determine the benefits of the new pavement, the IRI for CA-5 section 4 pavement was not expected to degrade to an IRI of 3.2—the IRI for the newly completed section of pavement—until almost 14 years after the project was complete.

deficiency on the road with the worst flushing and felt it was satisfactorily repaired; however, it still existed at the time of our visit in November 2010.

Figure 16: Flushed Asphalt on Secondary Roads, Honduras Transportation Project



Source: GAO.

- **Landslides.** Landslides were found along CA-5 in sections 2, 3, and 4. For example, in the unfinished section 2 of the CA-5, a large landslide made the uncompleted road almost impassable and caused delays in construction of section 2 (see fig. 17).¹⁶ The geotechnical

¹⁶After the landslide, MCA-Honduras commissioned a geotechnical study to develop solutions to modify the reconstruction of several landslide areas. For this location, the study suggested cutting the slope back at a less steep incline, installing monitoring equipment to notify officials if it starts to slide again, and stabilizing other slide locations. When we visited the site in November 2010, MCA-Honduras had not yet determined a final course of action or estimated the cost of the remediation work; however, construction supervision officials estimated that it could cost around \$1.1 million. In April 2011, MCC officials were not able to provide updated information on the status or cost of the remediation effort for the section 2 landslide because it is now the Honduran government's responsibility.

analysis identified by MCC as being those used to assess the risks of landslides in the original CA-5 highway designs did not include detailed analysis identifying how specific slopes would be stabilized, prevention measures that could be included in the construction plans, or an analysis of sections 3 and 4 of the CA-5. If such detailed analysis had been conducted during the design of the highway, the construction plans could have included such measures, thus reducing landslides and maintenance costs.

Figure 17: Landslide in CA-5 Section 2, Honduras Transportation Project



Source: GAO.

Note: The landslide occurred in an area of a new road construction. The rock and soil collapsed and almost covered the entire roadway, delaying construction until a new construction plan was designed.

- **Steep slopes.** In several locations along one secondary road, we observed that the contractor had excavated soil to construct the road and left steep slopes that were almost vertical, with soil eroding along the face of the excavation and filling drainage areas (see fig. 18). Construction supervisor officials said that this type of design and construction was typical in Honduras because there was limited right-

of-way available to construct gentler slopes that were less subject to erosion. However, we observed some locations where there appeared to be sufficient right-of-way and the slope was still vertical. For example, on one contract where right-of-way was available, the construction supervision officials stated that the work was constructed with a steep slope to save the cost of the excavation. Although the decision to limit right-of-way acquisitions and reduce the amount of excavation reduces costs and reconstruction time, it increases the cost of long-term maintenance to ensure the pavement does not deteriorate due to inadequate drainage.

Figure 18: Erosion of Steep Slope along Secondary Road, Honduras Transportation Project



Source: GAO.

Erosion of cut area into drainage due to slope of cut and lack of revegetation

Note: In part due to the steep slope, the excavated area is eroding and blocking the roadside drainage.

Inadequate or inconsistent traffic safety measures. We found inadequate or inconsistent use of traffic safety measures on the completed CA-5 sections and secondary roads:¹⁷

- Concrete barrier wall was installed along retaining walls with drop-offs, but guardrail was not generally installed along steep embankments and drop-offs (see fig. 19).
- Guardrail with safety end treatments or crash cushions to protect motorists was not installed at the ends of most concrete barrier walls and concrete bridges (see fig. 19).
- Guardrail was installed to protect vehicles from concrete bridge railing ends on one secondary road but not on another, in part due to limited funding for the second road, according to MCC officials.
- Solid pavement centerlines were installed in a different manner on one secondary road than on the other two roads, with the one road not following design standards that MCC officials said they generally used for the activity. MCC officials attributed the lack of uniform centerlines to one road contract having less detailed specifications than the other two road contracts, resulting in the contractor using a different standard supplied by the Honduran transportation ministry. MCC asserted that motorist safety was not affected; however, this approach differs from the traffic controls used in the United States, where uniformity of traffic control devices, such as pavement markings, is considered vital to their effectiveness, promoting highway safety and efficiency and minimizing the occurrence of crashes.¹⁸

¹⁷As a part of evaluating compact proposals, MCC uses a due diligence review process to determine whether the proposal meets MCC criteria, to ensure that proposed programs will be effective and that funds will be well-used. The due diligence outline for the Honduras proposal stated that increased vehicle speed and risk of accidents would be negative consequences of the improvements and that road safety had been adequately factored into the design. The proposed use of safety measures was more closely in keeping with those used on U.S. highways than those previously used in Honduras, including signage to keep drivers informed about the road ahead and steel guardrails on dangerous curves and other locations.

¹⁸U.S. Department of Transportation, *Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways*, 2009 Edition (Washington, D.C.: December 2009).

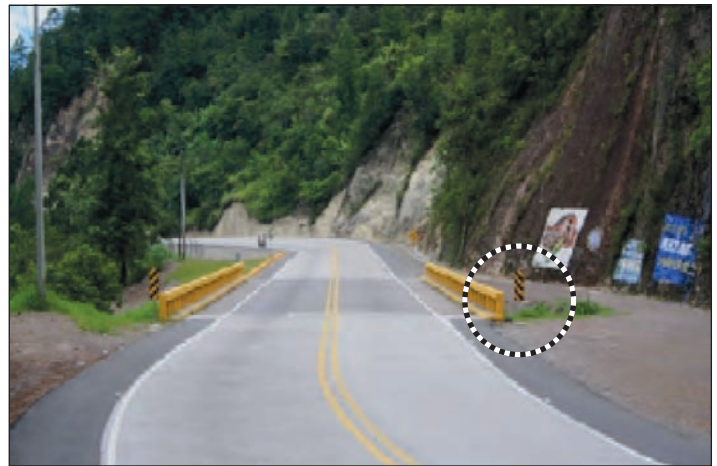
MCC officials expressed confidence in the safety of the completed CA-5 sections and secondary roads, stating that the design of the road reconstruction had met Central American standards; that the Honduras transportation ministry had accepted and approved the proposed designs; and that the traffic safety devices included in the reconstruction exceeded those traditionally used on Honduran roads. However, MCC officials acknowledged that they did not perform a cost-benefit analysis of additional traffic control and traffic safety devices during the design of the contracts and that funding limitations had affected the extent to which safety improvements were included in the construction contracts. According to MCC, additional safety improvements were installed when funding was available.¹⁹

Figure 19: Locations on Completed CA-5 without Traffic Safety Devices, Honduras Transportation Project



Source: GAO.

No guardrail protecting vehicles from dropping into the drain or hitting the retaining wall at the outlet of the culvert



Source: MCA-Honduras.

No safety end treatment (crash cushion or guardrail) to protect motorists from colliding with the end of the concrete bridge rail (see circled area).

¹⁹MCA officials also stated that, although crash statistics are not available in most countries to identify the economic benefits of installing improved traffic safety measures, the cost of addressing key safety issues should be included in project cost assessments prior to compact implementation.

Transportation Project:
Sustainability

Uncertainty over Honduras government funding for road maintenance calls into question the likely sustainability of the MCC-funded roads. According to the compact, the key issue for sustainability of the transportation project is routine, periodic, and emergency road maintenance, such as sealing cracks, repainting the pavement markings, cleaning ditches and drainage structures, repairing potholes, resurfacing, and clearing landslides. Several of the quality deficiencies we observed—erosion, roughness, slickness, and landslides—will increase the amount and cost of maintenance needed over time, and failure to perform the planned maintenance may result in escalating maintenance needs. For example, without required maintenance,

- erosion may block drainage, causing road deterioration and undermining the sidewalks, pavements, or drainage structures, causing them to fail;
- increasingly rough pavement, as measured by the IRI, will likely require the road to be resurfaced sooner than planned and raise road user costs; and
- landslides may close roads, produce unexpected safety hazards, or block drainage, causing road deterioration.

However, several circumstances call into question the Honduran government's ability to provide the required maintenance over the 20-year period specified in the compact. MCC expressed concerns about whether the reconstructed roads would be maintained so as to sustain reductions in road users' travel costs. Contractors and construction supervisor officials also expressed a concern that, unless the Honduras government improved its level of road maintenance, the reconstructed roads would likely not be maintained.

Although MCC officials worked with the Honduras government to increase its funding of road maintenance from a precompact amount of \$37 million in 2005 to \$64 million in 2010, this funding is for maintenance of all roads on the official Honduran road network and not specifically for compact-funded roads.²⁰ In addition, the commitment did not specifically address road maintenance after 2010. With the increased funding, MCC officials stated that they expect that the Honduran government will maintain the MCC-funded sections of CA-5 and some of the key secondary roads, but

²⁰The Honduran government agreed to increase its funding in 2007.

are concerned that it may not be at the level required to maximize the road's life span.

The amount that the Honduran government has committed for road maintenance is less than required by law and needed for the roads. According to officials from the Honduras transportation ministry and documents prepared by Fondo Vial, the government's allocation for 2010 represents less than half of the road maintenance allocation required by Honduras law. These documents show that Honduras law requires the government to allocate 40 percent of a fuel tax for road maintenance.²¹ However, according to our analysis of Fondo Vial documents, the percentage of fuel tax allocated for road maintenance has varied, from 27 percent in 2000 to 14 percent in 2006 to 19 percent in 2010, even though Fondo Vial's road maintenance plan recommends road maintenance be funded at \$210 million annually—or about 60 percent of the fuel tax.

MCC's elimination of the vehicle weight control activity from the Transportation Project and the extent to which the Honduran government completes the activity in the future will affect the sustainability of the CA-5 road reconstruction. According to one Honduras government official, there is currently no control of overweight trucks shipping goods, and a large number of truckers exceed legal weight limits.²² Without enforcement of weight limits on the CA-5 and other MCC-funded roads, the roads will deteriorate faster, reducing transportation cost savings and increasing road maintenance costs.

²¹Fondo Vial documents show that the percentage of the fuel tax required by law to be allocated to road maintenance was 35 percent in 2000, 38 percent in 2001, and 40 percent from 2002 through 2010.

²²The objective for this activity was to reduce the percentage of overweight vehicles using the CA-5 from 23 percent to 7 percent. The due diligence report stated that the current levels of overweight traffic are expected to reduce the 15-year life of the road by 2 years and further reduce the life of bridges.

Honduras Rural Development Project

Farmer Training and Development Activity

MCC disbursed \$26.6 million for the farmer training and development activity, which was designed to improve the techniques and business skills of farmers, assist farmers in improving agricultural productivity, and achieve higher incomes from the production of high-value horticulture crops.²³

Farmer Training and Development: Results

MCC did not meet some of its original key targets, but it met or exceeded three of its four final targets for the farmer training and development activity (see table 18 for key performance results for the farmer training and development activity). For example, 6,029 farmers harvested high-value horticulture crops, which is 82 percent of the original target of 7,340 and which exceeds the final target of 6,000.²⁴ According to MCC, this target was reduced to provide additional technical assistance to those trained, to increase the sustainability of the assistance provided.

²³The farmer training and development activity, which began in September 2006, provided technical assistance and training to farmers in crop management, business skills, marketing, and postharvest handling.

²⁴An original target of 8,255 was planned to be achieved after the end of the compact in September 2010. In the second monitoring and evaluation plan, MCC noted that since it is unclear that program funds and monitoring and evaluation resources will be available after the compact ends, the compact target of 7,340 will be used, which was scheduled to be completed by May 2010, before the compact ends.

Table 18: Key Performance Results for Farmer Training and Development Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Total recruited farmers receiving assistance	8,255	8,255	7,265	88	88
Program farmers harvesting high-value horticulture crops ^a	7,340 ^b	6000 ^c	6029	82	100
Hectares harvesting high-value horticulture crops ^a	11,830 ^b	8,400 ^c	9,287	79	111
Business plans prepared by program farmers with technical assistance	6,480	6,960 ^d	16,119	249	232

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aTo be counted for this indicator, the program farmer must (1) in the first year of participation, have a crop mix demonstrated to have an expected annual net income of at least \$2000 per hectare; and (2) in the second year of participation, have earned a net income of at least \$2000.

^bThis indicator was originally set with a higher target that was meant to be achieved after compact completion. As a result, this target represents the target that was originally scheduled to be accomplished by compact end.

^cThe change in target for this indicator was documented in the 2010 monitoring and evaluation plan.

^dThe target for this indicator was changed to 5,520 in the 2008 monitoring and evaluation plan and further changed to 6,960 in the 2010 monitoring and evaluation plan.

The farmer training activity provided a number of benefits for participating farmers. The program provided farmers with improved skills in crop choice and site selection, land preparation, soil and water management, and crop protection. A number of farmers in Honduras stated that, as a result of the training, they began growing different types of crops—for instance, switching from corn and beans to new higher-profit crops such as plantains, peppers, and onions—and using new agricultural techniques. Several farmers said they increased crop volumes, quality, and income. Figure 20 shows irrigation on a training participant farm.

Figure 20: Irrigation on Farmer Training and Development Activity Participant Farm, Honduras Rural Development Project



Source: GAO.

**Farmer Training and
Development: Sustainability**

According to the compact, the farmer training activity is to be sustained by program farmers who are able to maintain their new level of productivity and expand their business. In addition to providing technical assistance directly to farmers, the farmer training and development activity involved working with entities along the farm production value chain to enhance the sustainability of the activity after compact completion. For instance, the contractor emphasized involving the private sector in program activities, including buyers, wholesalers, processors, and input and equipment service providers. In addition, the farmer training activity also helped farmers form associations for growing and selling their products to increase the sustainability of techniques and production practices. According to farmers we spoke with, forming associations helped them sell to larger producers and encouraged certain producers to purchase goods directly from these farms, which had not happened previously.

However, according to the contractor and farmers we spoke with in Honduras, sustainability remains a concern for more than half of farmers receiving assistance. In its final report submitted to MCA, the contractor estimated that it takes approximately four to six production cycles for the new skills farmers obtain to become sustainable. According to the report, 90 percent to 95 percent of program farmers who began receiving assistance in the first 2 years of the program will continue using the new technologies. However, of the farmers who were recruited late—more than 50 percent of the total number of program farmers—half are expected to reach sustainability. Farmers in Honduras stated that, although they intended to continue using the new techniques, they were concerned about the ability of some farmers to sustain their new skills and overcome future challenges after the program ended. According to MCC officials, both the contractor and the farmers have an incentive for overstating potential sustainability challenges, as the contractor is interested in receiving additional funding and the farmers are seeking additional services.

Farm-to-Market Roads Activity

MCC disbursed \$20.1 million for the farm-to-market roads activity, which was designed to improve rural roads that directly serve farms, providing durable, all-weather access to secondary and primary roads and ultimately improving access to markets and to social services.²⁵

Farm-to-Market Roads: Results

MCC did not meet its original target but nearly achieved the revised target for the farm-to-market roads activity (see table 19 for key performance results for the farm-to-market roads activity). MCC funded the reconstruction of 495 kilometers of farm-to-market roads, or 33 percent of the original target of about 1,500. The target was reduced to 692 kilometers in the 2008 monitoring and evaluation plan and further reduced to 499 in the 2010 plan. Ultimately, MCC achieved 99 percent of the final revised target.

²⁵Reconstruction of the roads was generally on the existing routes. The farm-to-market road reconstruction included widening the road, improving drainage, and building an aggregate road in place of a dirt road.

Table 19: Key Performance Results for Farm-to-Market Roads Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Kilometers of farm-to-market road upgraded	1,500	499 ^a	495	33	99

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan.

^aThe target for this indicator was changed to 692 kilometers in the 2008 monitoring and evaluation plan and further changed to 499 in the 2010 monitoring and evaluation plan.

MCA-Honduras and MCC officials cited cost increases and compact changes as the primary reasons for the reduction in kilometers of farm-to-market roads reconstructed. The partial termination of the Honduras compact in 2009, in response to the country’s political situation, included termination of the uncommitted portion of the farm-to-market roads activity, representing approximately 93 kilometers of farm-to-market roads. In addition, in generating the original target, MCC used a per-kilometer cost estimate of \$14,300, based on Fondo Vial quality, environmental, and social standards, but revised the estimate to \$42,000 per kilometer because the Fondo Vial standards did not meet compact requirements. Furthermore, according to MCC officials, MCC chose to improve the durability of the roads built to increase the life of the roads by, for instance, adding drainage structures that reduce water damage. As a result, MCC funded fewer total kilometers of road.

The farm-to-market roads reconstructed were selected based on a list of proposed roads with an estimated economic rate of return of at least 12 percent. The reconstructed roads included 38 stretches of roads in 29 different municipalities and 10 departments throughout Honduras. With the completion of the roads, MCA-Honduras officials said that rural residents’ travel times to more urbanized areas for access to markets and health centers had been reduced from 6 hours to 1 hour in some cases (see fig. 21).

Figure 21: Farm-to-Market Roads before and after Reconstruction, Honduras Rural Development Project



Source: MCA-Honduras.

**Farm-to-Market Roads:
Sustainability**

Lack of equipment, expertise, and funding for road maintenance by the municipalities where many reconstructed roads are located may affect the sustainability of the roads. Although Fondo Vial is responsible for maintaining some farm-to-market roads in Honduras, in many cases the roads are maintained by municipalities. According to MCA-Honduras officials, MCA-Honduras required municipalities to agree to co-finance a percentage of the road reconstruction activities, based on the poverty level of the community, as a condition for receiving funding. This co-financing could be made up of cash and in-kind contributions, such as

materials. In addition, the municipality had to agree to permanently maintain the roadway.

However, the maintenance of the road and its associated benefits is a concern. MCA-Honduras officials stated that, although some municipalities may be acquiring additional equipment, the municipalities generally lack the equipment and expertise to maintain the roads. We found an example of this in one section of farm-to-market road where the road had washed out in a low area and maintenance was being performed by hand with little progress. MCA-Honduras had intended to help improve the municipalities' expertise in proper road maintenance procedures through training. However, no funds were available for the training after MCC funding was partially terminated partially as a result of the country's political situation.

Farmer Access to Credit Activity

MCC disbursed \$12.8 million for the farmer access to credit activity, which consisted of three components—an agricultural credit trust fund, technical assistance for financial institutions, and a national property registry activity. This activity was designed to increase the supply of credit to rural borrowers, including program farmers and other agribusiness borrowers. The agricultural credit trust was a \$6 million fund that was designed to provide loans to financial institutions to improve the availability of credit for rural lending. The technical assistance program provided assistance to financial and nonfinancial institutions to strengthen the institutions and assist them in developing products to more effectively serve the horticulture industry. The expansion of the national property registry activity was designed to create a new registry of movable property and facilitate implementation of legislation required to institute such a new system.²⁶

Farmer Access to Credit: Results

According to MCA-Honduras officials, implementation challenges led to scope modifications and delays in the farmer access to credit activity. An initial lack of interest in accessing the agricultural credit fund among traditional banking institutions led MCA-Honduras and the contractors to refocus these activities on smaller sources of credit, such as financial

²⁶According to MCC, the new law allowed credit seekers to use an entirely new set of property—such as equipment, shop inventory, future crops, tractors, supply contracts, and sewing machines and more—as collateral and also established a registry system to monitor the property.

intermediaries and input suppliers. These early challenges and resulting modifications meant that the agricultural credit fund was not effectively operating until late in the compact.

In addition, the agricultural credit fund, which was initially intended to target program farmers, was modified to include horticulture producers and businesses. According to MCC, small farmers making the transition to high-value horticulture used existing resources and savings and did not require access to credit until market opportunities expanded. Due to this delay in demand for credit and an interest in enhancing the sustainability of the lending activity, MCC and MCA-Honduras decided to expand the scope to include nonprogram farmers. Additionally, according to MCA-Honduras and MCC officials, some initial opposition to reforming collateral laws and a political transition in Honduras significantly increased the time it took to enact the new law.

MCC met most key original and all final targets for the farmer access to credit activity, following modifications and delays in implementation (see table 20 for key performance results for the farmer access to credit activity). For example, the total value of loans disbursed to farmers, agribusinesses, and other producers in the horticulture industry was \$10.7 million—more than 170 percent of the revised target of \$6 million and 37 percent of the original target of \$28.8 million.²⁷ MCC noted that the updated indicator reflected changes in the operational guidelines for the use of loan fund resources that allowed nonprogram farmers, agribusinesses, and vendors in the horticulture industry to access credit. An MCC official noted that, as a result of rescoping the activity, MCA-Honduras was better able to reach beneficiary populations that likely would not have been served under the original design.

²⁷The original target (\$28.8 million) was set for a similar indicator measuring the value of loans to program farmers, which was ultimately replaced by a number of indicators, including this indicator, and a lower target of \$6 million. The final result (\$10.7 million) does not include an additional \$6.4 million in loans leveraged by financial institutions. According to MCC, adding the \$6.4 million of funds leveraged by financial institutions to the \$10.7 million of funds lent from the trust fund would result in double-counting of some funds. In addition, no target was established for the value of funds leveraged by financial institutions.

Table 20: Key Performance Results for Farmer Access to Credit Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Funds lent to financial intermediaries (millions of U.S. dollars)	6	6	7.2	120	120
Value of loans disbursed to the horticulture industry (millions of U.S. dollars)	28.8 ^a	6b	10.7 ^c	37	178
Lien registry equipment installed (percentage)	100 in year 3	100 in year 4 ^b	100 in year 5	100 in year 5	100 in year 5

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThis target (\$28.8 million) was originally set for a similar indicator measuring the value of loans to program farmers, which was ultimately replaced by a number of indicators, including this indicator, and a lower target of \$6 million.

^bThe change in target for this indicator was documented in the 2008 monitoring and evaluation plan.

^cThe value of this indicator (\$10.7 million) includes the value of loans repaid and relent (\$5.2 million) from the agricultural credit trust fund. This value (\$10.7 million) does not include an additional \$6.4 million in loans leveraged by financial institutions. According to MCC, adding the \$6.4 million of funds leveraged by financial institutions to the \$10.7 million of funds lent from the trust fund would result in double-counting of some funds. In addition, no target was established for the value of funds leveraged by financial institutions.

Financial institutions participating in both the agricultural credit fund and technical assistance activity also said that these activities helped them increase the credit they provide to the agricultural sector in Honduras. Representatives of one financial institution in particular said that the training helped them develop special products, which they were previously unfamiliar with, to provide credit to the agricultural sector.

Farmer Access to Credit: Sustainability

MCC took steps to increase the sustainability of the farmer access to credit activity through continuation of certain activities beyond the end of the compact. According to MCA-Honduras officials, since the agricultural credit fund activity started late, MCC arranged for the activity to continue after the end of the compact to achieve the intended effects. The agricultural credit fund will continue operating for 5 additional years after the compact is complete, which will enhance the sustainability of these loans to the horticultural industry. Since MCA-Honduras and MCC will no longer oversee the agricultural credit fund after compact end, a committee chaired by Honduras’s Ministry of Finance was set up to oversee the administration of the agricultural credit fund. According to the contractor of the technical assistance activity, many of the new financial tools

adopted by financial institutions as a result of the technical assistance are self-sustaining, as they do not require external updates and are self-financing. In addition, we spoke with representatives of several financial institutions in Honduras who stated their intentions to continue lending to the agricultural sector and taking out loans with the agricultural credit fund after compact completion.

Agricultural Public Goods Grants Facility Activity

MCC disbursed \$8.8 million for the agricultural public goods grants facility activity,²⁸ which funded 15 small competitive grants designed to support activities that enhance and accelerate the development of market-based commercial agriculture, particularly the horticultural sector.²⁹

Agricultural Public Goods Grants Facility: Results

MCC met or exceeded some original and most final targets for the agricultural public goods grants facility activity (see table 21 for key performance results for the agricultural public goods grants facility activity). For example, irrigation systems reached more than 950 farmers, or almost 250 percent of the target for the number of farmers connected to the community irrigation system.

²⁸According to the public goods grants manual, a public good is both nonexcludable and nonrival and, as a result, cannot be profitably provided by the private sector. Nonexcludable means that it is not feasible to exclude use and, as a result, everyone may use the good or service; therefore, the private sector cannot recover investment costs. Nonrival means that one person's use does not preclude or diminish another person's use, and multiple users may enjoy the benefits. To qualify as a public good for the purposes of this activity, the good does not need to be completely nonexcludable, but excludability must be cost-prohibitive such that the private sector is unlikely to provide the good.

²⁹Ten of the selected grants were for irrigation works designed to increase hectares under irrigation and the number of farmers with access to irrigation water. Three grants were for research projects focused on different topics related to agricultural productivity, including potato seed production, reproduction of coffee hybrids, and biological pest control. One grant was for an activity focused on fruit pest eradication in a particular region of Honduras with an agricultural competitive advantage. One grant was for a technology transfer activity focused on increasing productivity and income of micro, small, and medium-scale processing agribusiness in Honduras.

Table 21: Key Performance Results for Agricultural Public Goods Grants Facility Activity, Honduras

Indicator	Original target	Final target	Final result	Percentage of original target met	Percentage of final target met
Number of hectares under irrigation	203	203	400	197	197
Number of farmers connected to the irrigation system	392	392	967	247	247
Number of farmers testing biological control agents	100	100	80	80	80
Number of coffee plants cloned	375	250 ^a	259	69	104

Source: GAO analysis of Millennium Challenge Corporation data.

Notes: We considered the original target to be that which was first documented for each performance indicator, in either the 2006, 2008, or 2010 monitoring and evaluation plan, and the final target to be that which was documented in the 2010 monitoring and evaluation plan. In addition, the final results in this table reflect the results achieved by compact completion, although some activities continue after the compact completion and continue to achieve results.

^aThe change in target for this indicator was documented in the 2010 monitoring and evaluation plan.

Agricultural Public Goods Grants Facility: Sustainability

Agricultural public goods grants facility took longer than expected to implement, but MCA-Honduras officials were positive about sustainability. Public goods grants were planned for 18 months, but almost every activity had to be extended beyond the end of the originally planned completion date. Public goods grants were implemented by local organizations with the support of the local community to improve sustainability. According to some public goods grantees, local communities with irrigation systems received training in the maintenance of such systems and help establishing a user-fee structure that would fund maintenance costs. According to those grantees and MCA-Honduras officials, such arrangements will bolster the sustainability of the irrigation systems.

Appendix IV: Comments from the Millennium Challenge Corporation



June 23, 2010

Mr. David Gootnick
Director, International Affairs and Trade
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: MCC Comments to Draft Report GAO-11-728

Dear Mr. Gootnick:

Thank you for the opportunity to review and comment on the U.S. Government Accountability Office's draft report "Compacts in Cape Verde and Honduras Achieved Reduced Targets" (GAO-11-728). We at MCC are appreciative that your report has highlighted many of the impressive results achieved by the first two compacts to fully complete. The report further reflects MCC's deep commitment to results and transparency, and will serve as an important learning tool for management as we continually seek to improve the investment of taxpayer dollars.

In Cape Verde, MCC assistance resulted in the completion of the first phase of a major port modernization project, the improvement of roads and construction of new bridges, as well as training for farmers. In Honduras, MCC supported the rehabilitation of several key roads, including a critical stretch of the Central American Highway, and training in improved farming techniques for over 7,000 farmers.

These results were achieved under challenging circumstances, requiring MCC and its partners to make significant changes to projects and reduce some initial targets. The report demonstrates, however, that in making changes to projects, MCC remained focused on results, meeting the majority of the revised targets and making substantial progress toward achieving the shared development objectives of the United States and MCC's partner countries. Moreover, the report highlights that independent evaluations are already in process that will assess the cost-effectiveness of these interventions, a further reflection of both the rigor of MCC's evidence-based approach to investment and our commitment to learn from our experiences.

As set forth in more detail in the attached comments, MCC agrees with the intent of GAO's recommendations. The long-term sustainability and monitoring of MCC's investments are central to our mission, and MCC commits to work with GAO to develop specific actions to implement the recommendations. MCC has applied many of the lessons learned from its early compacts and prior GAO reports. As a result, we are already implementing aspects of GAO's

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current recommendations and expect that future compacts will benefit as we incorporate these lessons into our programs.

Finally, we wish to thank you and the GAO staff for the professional manner in which the audit was conducted and the opportunities given to MCC to provide additional information and feedback.

Sincerely,



Patrick C. Fine
Vice President
Department of Compact Operations

**MCC Comments to the Draft GAO Report (GAO-11-728):
Compacts in Cape Verde and Honduras Achieved Reduced Targets**

GAO Recommendation: To maximize the sustainability of MCC-funded infrastructure projects and to reduce the amount of maintenance required after compact completion, work with partner countries to make project, planning design, and construction decisions that reduce long term maintenance costs.

MCC Comments: MCC takes seriously the maintenance and sustainability of its investments. Prior to signing a compact, MCC systematically assesses sustainability and formulates meaningful and pragmatic actions that our partner countries must take during implementation of the compact to move towards self-sufficiency. MCC monitors progress on those actions, and takes action during implementation to correct non-compliance.

The rehabilitation of infrastructure improves the condition of assets such that the need for maintenance is reduced, for at least a period of time. Of course this is not sufficient, and in designing projects, MCC seeks to strike a proper balance between front end capital investment costs and ongoing operations and maintenance costs. Thus, among the steps that MCC has taken, in its pre-construction activities, is systematic analysis – such as value engineering and life cycle cost analysis – to consider the effects of durability and maintenance costs and to reflect these in the final designs. For example, MCC could invest more in slope protection and some of the measures GAO has cited in its draft report, but such measures may not be justified in all cases, particularly in a developing country context.

During the design phase, considerable attention is paid by MCC to minimization of operations and maintenance costs. In many instances, MCC has insisted on upgraded drainage standards on road projects over the objections of country counterparts who may prefer to rehabilitate more kilometers. The same applies to MCC's insistence on installation of the appropriate pumps and other equipment on water treatment and irrigation projects in a way that is both cost effective and maintainable in the local setting.

The concern with maintenance carries over to the attention MCC pays to long term operations of facilities. As part of the design of implementation arrangements, MCC works to ensure that institutions and systems are put into place to provide for the sustainability of projects over the long term. Examples include the establishment of and provision for capacity building of water users associations for irrigation projects, capacity building of maintenance organizations in the road sector, and the purchase of maintenance equipment for government agencies that will be entrusted with the care of MCC funded projects when completed.

In order to cover the inevitable maintenance costs, many of MCC's compacts require governments to set aside funding for maintenance from the general treasury or to set up maintenance funds with dedicated sources of funding (e.g., fuel levies, other targeted user fees, or taxes) as a condition to disbursements of the grant. MCC has also supported the formation of agencies to manage maintenance planning, funding and contracting in some cases. More recently, we have allocated funding toward periodic (as opposed to routine) maintenance costs of

roads in a country. MCC's policy engagement to increase country capacity to undertake needed maintenance for all sector assets, not just MCC-funded assets helps countries to adopt plans to move towards full-funding, resulting in a lasting benefit for the sector.

In the draft report, GAO concludes that "MCC took steps to require partner countries to plan to effectively operate and maintain the infrastructure, including privatization of port operations in Cape Verde and the provision of road maintenance funding in Cape Verde and Honduras. The partner countries made progress meeting MCC's requirements in these areas, but they continue to face funding and other challenges that are key to sustainability." MCC agrees that the Cape Verde and Honduras compacts are examples of both the positive effects that the MCC compacts achieved toward sustainability and the challenges that remain. All infrastructure projects around the globe face challenges to long term sustainability, and financing maintenance is a challenge in both developed and developing countries.

In Cape Verde, MCC took significant measures to improve road maintenance systems, and the GAO witnessed the maintenance program working. MCC incentivized the establishment of the road maintenance fund, which is functioning, and all MCC-funded roads and bridges are being maintained. For instance, the GAO report shows a photograph of a Government of Cape Verde-funded contractor making needed repairs to a road, financed by the road levy that was instituted to meet the conditions in the compact.

Similarly, in Honduras, as a result of conditions that MCC placed on disbursements of funding, GAO notes that the government increased its road funding from \$37 million in 2005 to \$64 million in 2010 (a 73% increase). While this amount remains short of what would be required to cover the entire network, the willingness to make this increase has helped change the priority and direction of road maintenance funding in the country. There can be no guarantee that partner countries will continue to make these investments now that the MCC compact is over. MCC believes, however, that this is ultimately the responsibility of the country and is one of the reasons why MCC selects countries based on good governance criteria and fosters country ownership so that countries will meet this responsibility going forward.

GAO Recommendation: To enhance the accuracy of MCC's ERR projections, ensure, during compact implementation, that updated ERR analyses are well documented and supported and that key revised indicators and targets are reflected in updated ERR analyses.

MCC Comments: This recommendation has two components, the first related to our economic work and the second related to the monitoring and evaluation (M&E) targets. MCC agrees with both aspects of this recommendation.

With respect to the economic analysis during implementation, MCC's pre-investment economic rates of return (ERRs) represent our best assessment of the future returns of a project as designed at that time. When the anticipated scope of the project changes, however, it is MCC's policy that ERRs should be updated (resources permitting, with exceptions documented and explained). When ERRs are updated, MCC agrees that these changes should be adequately documented, so that informed stakeholders can follow the logic and the sources of the data of the project as conceptualized at that time.

With respect to the consistency between ERR models and M&E targets, MCC's current M&E policy requires that these be linked to the extent possible. When changes to the project design or scope are proposed, MCC agrees that the economic implications of these changes should be assessed and documented, and that the consistency between M&E targets and the current ERR model should be maintained.

In Honduras and Cape Verde, the GAO found that in some instances the lack of documentation on updated ERR analyses made it difficult to know whether the revised ERR results are accurate and reliable, and that the ERR analyses were not clearly linked to the revised targets in the M&E plans. MCC has taken significant steps to correct this issue. As GAO notes, MCC adopted a new policy on the approval of modifications to compact programs in 2010. Among other measures which improve the process for analyzing the impact of program modifications on ERRs and beneficiaries, the policy requires that significant changes be documented prior to approval and that changes to M&E indicators and targets must be verified by the appropriate staff.

GAO Recommendation: To enhance the accuracy of MCC's ERR projections, develop guidance for re-estimating ERRs at compact completion and during the long-term period when compact benefits are realized to ensure that updated estimates reflect the most recent and reliable information available for MCC's compact investments and outcomes.

MCC Comments: Again, this recommendation encompasses two distinct ideas, the re-estimation of ERRs at compact completion and the re-estimation of ERRs at some future point(s) well after completion, consistent with the long-term returns of our infrastructure and other investments. MCC acknowledges the importance of measuring ERRs over the life of its projects, and will develop guidance that takes the following considerations into account:

In some cases, the calculation of ERRs at the time of compact completion could provide useful information, if MCC has preliminary evidence regarding observed program impact. But in many cases, MCC may not have much more than input and output data at compact completion, and re-estimation of the ERR at that time may produce little or no new information over an existing model. Alternatively, MCC has committed resources for independent evaluators to undertake estimations of ERRs based on impact evaluation data. These ERRs, which will be produced one-two years after completion, will provide more useful information.

A more significant issue is the re-estimation of ERRs beyond the current evaluation plan. MCC recognizes that the persistence of benefits over time is an important issue for compact evaluation, but notes that our assistance to partner countries is restricted by statute to five years. This limits the terms and types of commitments MCC could make with partner countries to sustain an effective monitoring program over the lifespan of a project.

MCC is committed to working with GAO to agree on guidance to achieve the shared objective of the recommendation, which is to continue to transparently monitor the results of the compacts, so that the long-term impacts of MCC investments are known and the lessons learned are incorporated into future programs. Any such guidance will need to take into consideration,

however, the limitations on MCC's assistance to a country in the long term and the administrative and funding constraints of committing to actions up to 20 years in the future.

Additional MCC Comments to GAO Findings:

Given that the GAO report focuses on indicators and targets, MCC would like to highlight a couple of other important results of the compacts in Cape Verde and Honduras that are not fully reflected in the report.

In Cape Verde, the compact contributed to significant policy reforms that will have long-term impacts on their respective sectors. For example, the government issued a national decree lifting a 20-year embargo on agricultural exports from the island of Santo Antão, and a new microfinance law was passed to authorize collection of savings by microfinance institutions.

In the case of Honduras, the compact led to the passage and implementation of legislation to permit secured transactions of equipment, movable and other personal property, the introduction of a new and higher standard for resettlement, and the near doubling of road maintenance funding. These are key policy changes which are expected to make lasting contributions to Honduran economic development. The secured transaction legislation and security interest registry has been instrumental in improving the credit opportunities for small and medium-sized enterprises. The resettlement legislation developed and enacted during the compact enabled the resettlement of affected parties in accordance with a higher standard for social safeguards, coordination and efficiency.

Financing and implementation challenges meant that not all of the sections of the CA-5 Highway in Honduras that were initially projected could be completed during the compact. With the support of MCC's compact, however, the Government of Honduras was able to obtain concessional financing from the Central American Bank for Economic Integration (CABEI) to complete all of the sections, currently scheduled for 2012. This is a clear example of the ability of MCC to leverage its resources and partner with other donors. The fact that the CABEI-financed sections of the project will continue to be implemented by MCA-Honduras is also a testament to the good governance and effective administration of development assistance that MCC is fostering in its partner countries.

Appendix V: GAO Contacts and Staff Acknowledgments

GAO Contact

David Gootnick, (202) 512-3149 or gootnickd@gao.gov

Staff Acknowledgments

In addition to the contact named above, Emil Friberg Jr. (Assistant Director), Michael Armes, Diana Blumenfeld, Lynn Cothorn, Gergana Danailova-Trainor, Miriam Carroll Fenton, Ernie Jackson, Leslie Locke, Reid Lowe, Amanda Miller, and Suneeti Shah Vakharia made key contributions to this report. Additional technical assistance was provided by Lucas Alvarez, Juan Avila, Chloe Brown, Thomas Costa, Martin DeAlteriis, Michael Derr, Kevin Egan, Vanessa Estevez, Etana Finkler, Rachel Girshick, Kieran McCarthy, Lauren Membreno, Werner Miranda-Hernandez, Mark Needham, Nelson Olhero, Joshua Ormond, Marisela Perez, Kyerion Printup, Cristina Ruggiero, Carla Rojas, Jena Sinkfield, and Omar Torres.

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