

Closed Compact Report: Honduras Compact

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MILLENNIUM
CHALLENGE CORPORATION
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Introduction

In June 2005, the Millennium Challenge Corporation (MCC) and the Government of Honduras (GoH) signed a five-year, \$215 million compact designed to increase the country's economic growth and reduce poverty by alleviating two key impediments to economic growth: low agricultural productivity and high transportation costs. The compact consisted of two projects:

- The **Rural Development Project** aimed to increase the productivity, market access, and business skills of farmers and their employees who owned or worked on small- and medium sized farms. It included four activities: (i) Farmer Training and Development (FTDA); (ii) Farmer Access to Credit, (iii) Farm to Market Roads, and (iv) the Agricultural Public Goods Grant Facility (APGGF).
- The **Transportation Project** aimed to reduce transportation costs and improve market access between targeted production centers and national, regional and global markets. This project included three activities: (i) North and South Segments of Highway CA-5, (ii) Secondary Roads, and (iii) Vehicle Weight Control.

At the time of compact signing, the GoH and MCC expected approximately 1.7 million people to benefit from the investment over 20 years.

On June 28, 2009, Honduras's democratically elected leader, President Manuel Zelaya, was removed from office. This undemocratic transfer of power involved the participation of the civilian institutions of the Honduran government as well as the military, raising complex factual and legal questions. After closely monitoring the situation, and in consultation with other U.S. government agencies, on July 17, 2009, MCC informed the de facto GoH that funding through the compact was at risk due to actions inconsistent with MCC's policies. On September 3, 2009, the Department of State announced the termination of a broad range of assistance to the de facto government as a result of the coup d'état that took place on June 28 and the failure to restore the democratic and constitutional order. On September 9, 2009, MCC's Board of Directors terminated funding for certain projects and activities under the compact after determining that the undemocratic removal of Zelaya and the failure to re-establish the democratic order in Honduras were contrary to the criteria used to determine eligibility for MCC assistance. The Board instructed MCC to take the necessary actions to carry out the termination. Effective on October 2, 2009, MCC terminated \$10 million in funding that was allocated for activities that had not yet commenced: (i) the Vehicle Weight Control Activity under the Transportation Project and (ii) the uncommitted portion of the Farm to Market Roads Activity (approximately 93 km) under the Rural Development Project.

Upon compact completion on September 29, 2010, the GoH had spent 99.5 percent of the revised compact budget of \$205 million.

Under the Transportation Project, 49.5 km of highway and 65.5 km of secondary roads were upgraded. This was complemented by 495km rural roads, which were improved under the Rural Development Project. The independent Transportation evaluation found statistically significant, but small reductions in travel times and costs for key services; however, the modest increase in monthly agriculture income was offset by a modest decrease in monthly non-agriculture income.

Under the Rural Development Project's FTDA, more than 7,000 farmers participated in training and technical assistance activities. By 2010, more than 6,000 of these farmers were harvesting high-value horticulture crops on more than 9,000 hectares, with more than 16,000 business plans prepared by program farmers with assistance from the program. Through the Access to Credit Activity, participating lenders disbursed \$12 million in loans to more than 5,400 farmers, agribusinesses, and other producers and vendors in the horticulture industry. The APGGF Activity connected more than 950 farmers to small scale community irrigation systems, with 400 hectares under irrigation and developed 10 new agricultural technologies, such as potato seeds, coffee hybrids, and natural pest control, as part of the grant facility. For FTDA, MCC has concerns with the quality of the methods used for analysis in the independent evaluation and therefore limits the conclusions regarding outcomes it can draw from the report. There were no independent evaluations of Access to Credit or APGGF.

This report provides a summary of the tangible results of the compact program, documents changes in compact activities and the reasons behind them, details information on performance against targets in the monitoring plan and summarizes the results of independent evaluations that have been completed.

Country Context

In 2004, based on its strong performance on MCC's selection indicators, Honduras became one of the first countries to be selected for a compact with MCC. Despite the devastation of Hurricane Mitch in 1998, Honduras had a window of opportunity to capitalize on the democratic reforms of the 1980s, the economic liberalization of the mid-1990s, increases in regional integration, trade liberalization and the promise of the Central American Free Trade Agreement. In its efforts to ensure growth in its rural areas, Honduras recognized the need to enhance agricultural development and linkages between its large rural population and its markets.

As one of MCC's first partnerships, the Honduras Compact predates MCC's use of the constraints analysis in the compact development process.¹ As such, project areas were identified and proposed by the GoH, in consultation with civil society, the private sector, and the donor community, based on review and identification of high-priority, unfunded objectives of the Honduran Poverty Reduction Strategy (PRS, 2001) that would contribute to economic growth.

Together, the GoH and MCC agreed that the program would focus on helping small-scale farmers become small-scale entrepreneurs through training to improve their farm productivity, providing assistance to access new markets, and increasing opportunities to access credit products. In addition, by reducing transportation costs through improvements in road networks, the program sought to improve market access and foster greater market integration.

The compact was national in scope and did not prescribe a geographic focus. The Transportation Project and Rural Development Project activities were implemented in locations across the country that met the conditions for investment.

Under the MCC country ownership model, MCC's country counterparts are responsible for implementing MCC-funded programs. Partner governments establish accountable entities typically known as Millennium Challenge Accounts (MCAs) to manage implementation for compact projects. In Honduras, MCA-Honduras (MCA-H) was created soon after signing the compact to implement the country's programs.

Following the compact end date, a co-financing arrangement with the Central American Bank for Economic Integration (CABEI) allowed MCA-H to continue its operations to complete works on Segment 1 of Highway CA-5. In March 2012, the GoH requested to have the MCA-H act as an implementing unit for other GoH projects that were consistent with the compact objectives. Given the demonstrated effectiveness, standards and transparency of the MCC model, the GoH decided to continue to operate the MCA-H Program Management Unit, renaming it INVEST-Honduras. INVEST-Honduras continues to implement strategic projects and programs. INVEST-Honduras is recognized for its effective and transparent management of international and national funds. Under the leadership of INVEST-Honduras, projects have been implemented with funding from USAID, the World Bank, the Inter-American Development Bank, among others.

On August 29, 2013, MCC and the GoH signed a \$15.6 million Threshold Program Agreement. The

program focused on improving the transparency and efficiency of public financial management and public-private partnerships (PPPs) by providing technical assistance to key government institutions. It aimed to save the government money, improve service delivery, and reduce corruption through operationalizing best practices for budget and treasury management; streamlining procurement; strengthening auditing capacity; providing grants for civil society oversight; and augmenting capability of PPP professionals. MCA-Honduras managed the program on behalf of the GoH. The program closed in August 2019, and additional information can be found on MCC's website.

At a Glance

- Original Amount at Compact Signing:
\$215,000,000
- De-obligated amount:
\$10,000,000 (due to partial termination)
- Revised compact budget:
\$205,000,000
- Amount spent:
\$204,015,014

- Signed:
June 14, 2005
- Entry Into Force:
September 30, 2005
- Closed:
September 30, 2010

Estimated benefits correspond to 100 percent of originally obligated compact funds, where cost-benefit analyses were conducted. Beneficiaries were identified as all residents of farming households targeted by the Rural Development Project and all households within 5 kilometers of the improved roads:

- \$1,707,401² Estimated beneficiaries at the time of signing over 20 years
- \$269,369,232³ Estimated net benefits at the time of signing over 20 years

Rural Development Project

- \$72,195,000 Original Compact Project Amount
- \$68,264,510 Total Disbursed

At the time of compact signing, an economic rate of return (ERR) was calculated for the FTDA and Farmer Access to Credit Activity. For the Farm to Market Roads Activity and the APGGF, a minimum ERR (hurdle rate) was set, noting that the specific projects had not yet been identified. **Estimated benefits at time of signing come from original ERRs and correspond to the original \$72,195,000 of project funds, where cost-benefit analysis was conducted.**

At closeout, the ERR was only updated for the FTDA. Estimated benefits associated with the FTDA at the end of the compact correspond to \$25 million of project funds. ⁴

	Estimated Economic Rate of Return over 20 years		Estimated beneficiaries over 20 years		Estimated net benefits over 20 years	
	At the time of signing	At compact closure ⁵	At the time of signing	At compact closure	At the time of signing	At compact closure
Farmer Training and Development Activity ⁶	36.04%	14.6% ⁷	357,401 ⁸	37,000 ⁹	\$190,402,000	\$19,600,000
Farmer Access to Credit Activity		Not calculated ¹⁰		Not calculated		Not calculated
Farm to Market Roads Activity	14.77%	Not calculated		Not calculated	\$2,302,000	Not calculated
Agricultural Public Goods Grant Facility Activity	12.59%	Not calculated		Not calculated	\$1,029,088	Not calculated

ERRs are available on the [MCC website](#). All ERRs were calculated at the time of compact signing.

Project Summary

The **Rural Development Project** sought to address low agricultural productivity by improving business skills, farm productivity, market access, and risk management practices of producers who operated small- and medium-size farms, with the objective of increasing incomes for the targeted farmers, their employees and their communities. It also sought to strengthen the capacity of horticultural production and trade enterprises by providing training and technical assistance, including financial support and extension services in commercial horticulture production and marketing. The Project included four activities:

- **Farmer Training and Development Activity** (original budget: \$27.41 million; amount disbursed: \$26.6 million): This activity sought to improve the business skills, productivity, market access, and risk management practices of producers cultivating horticultural crops on small and medium farms. FTDA included on-going training and technical assistance, including financial support and extension services in commercial horticulture production and marketing, focused on the production and marketing of high value crops. The training followed a rigorous agriculture extension model in which agriculture technicians periodically visited each participating farmer to provide individual advice on production and marketing. This included the selection and leveraging of lead farmers to provide additional advice and share lessons learned among their peers.

The criteria for farmer selection included (i) demonstrated ability to produce agricultural products, commitment to accept recommendations given by the technical outreach specialists,¹¹ and agreement to allow proper monitoring (e.g. tracking pre-agreed components of their business plans); (ii) legal right to cultivate between one and 50 hectares of land with reliable access to sufficient quality water and appropriate soils, climate and other conditions; (iii) capacity to provide labor and minimum investment; (iv) basic education sufficient to absorb training; (v) willingness to adhere to record keeping requirements, both to adhere to buyer and market certification requirements and to enable verification of costs of production, net income, and labor usage; (vi) willingness to adhere to negotiated group marketing contracts; (vii) willingness to collaborate with other farmers (e.g. allow farm to be used as a demonstration plot); and (viii) capacity to understand and willingness to employ environmentally sustainable agricultural practices (e.g. proper soil conservation, integrated pest management and cultivation), including proper selection, use, storage, and disposal of fertilizers, pesticides, herbicides, and fungicides. The training excluded farmers cultivating in fragile areas and farmers who had already received similar training from other providers.

As indicated above, in order to participate in the program farmers originally needed legal access to at least one hectare of land available to transition from basic grains such as corn and beans to high value agriculture like vegetables to achieve a minimum net income of \$2,000 per year per hectare. After the first year of implementation, the land plot size criterion was revised to require a minimum of .20 hectares. This allowed the program to reach smaller farmers, some of whom were hesitant to transition larger portions of their land to a new crop.

At the end of the compact, more than 7,000 farmers participated in training and technical assistance activities. By 2010, more than 6,000 of these farmers were harvesting high-value horticulture crops on more than 9,000 hectares, with more than 16,000 business plans prepared by farmers with assistance from the program.

- **Farmer Access to Credit Activity** (original budget: \$13.77 million; amount disbursed: \$12.8 million): This activity aimed to improve access to credit for farmers by working with various types of credit providers, including microfinance institutions, agricultural input providers, and horticultural wholesalers. Technical assistance was provided to credit providers to increase the availability of credit for rural financial institutions for lending and improve the environment for asset-based lending to farmers. Technical assistance to strengthen credit risk analysis, develop new financial products more appropriate for small farmers, and support institutional and administrative strengthening was provided to more than 20 wholesale and retail financial institutions and eight agricultural dealers and input distributors. In addition, a credit facility was established that lent to credit providers to incentivize them to adopt the innovations being suggested by the technical assistance. The intervention promoted the participation of Honduran lenders in the rural sector, agriculture input dealers in commercial credit, and the supply of credit and other financial products to farmers and horticultural borrowers.

The initial intent of the program was to disburse \$6 million in loans. However, as a result of the positive performance of the lending program reflows were re-lent; by the end of the compact, participating lenders disbursed \$12 million in loans to more than 5,400 farmers, agribusinesses, and other producers and vendors in the horticulture industry. These loans made it possible for farmers to purchase equipment, seeds and tools, expand their production, and increase their farm profits.

In addition, the compact funded a grant to support the GoH in drafting a new Secured Transaction Law, develop the accompanying movable property registry system, and train its future users. Accessing credit in Honduras has been a challenge for those without real property or other real estate assets that banks required as collateral. The new law improved access to credit for small- and medium-sized business owners and non-land owners, including farmers and women entrepreneurs, by expanding their options for collateral beyond real estate to include moveable property, such as equipment, shop inventory, future crops, tractors, supply contracts, and sewing machines. The new registry began operations in January 2011 and is managed by the Chamber of Commerce and Industry in Tegucigalpa. About 13,000 new registries of collateral are made by creditors each year.

- **Farm to Market Roads Activity** (original budget: \$21.5 million; amount disbursed: \$20.1 million): This activity originally aimed to improve rural communities' and farmers' access to markets and social services through the construction and improvement of approximately 1,500 km of rural roads. The application process required the road to have an ERR of 12 percent and environmental assessments acceptable to MCA-H and MCC. The road work also had to be completed no later than four months before the end of the compact.

The original target of 1,500 km of road was based on the assumption that only light maintenance would be performed on the selected roads. However, MCC and MCA-H subsequently agreed to maintain the ERR and other requirements but reduce the number of kilometers in order to include more substantial improvements to drainage, including culverts, box bridges and other features. This and higher than anticipated bid prices, led to the reduction of implemented road segments to approximately 495 km across 23 road segments. A key highlight of this activity was the participation of beneficiary municipalities through in-kind and/or cash contribution, of up to 10 percent of the estimated cost of the construction works.

- **Agricultural Public Goods Grant Facility Activity** (original budget: \$8 million; amount disbursed: \$8.8 million): This activity promoted agricultural innovation through the adaptation of global technological advances to local Honduran conditions. The grant facility funded public goods (e.g. research and development, water resource management, and market information) or quasi-public goods (e.g. off-farm infrastructure, sanitary and phytosanitary activities) in amounts between \$100,000 and \$1 million per grant.

Applicants underwent a rigorous and transparent evaluation process that included workshops to detail competition requirements, and the submission of a short initial concept paper. Only those that met the eligibility criteria were invited to refine their concept and submit an application.

Grant eligibility criteria included:

- Being legally registered and recognized as a non-profit entity under the laws of the Republic of Honduras or a government body.
- Being financially responsible and able to demonstrate funding from sources other than MCA-H.
- Completing the eligibility portion of the concept paper and cooperating with interviews and site visits by the MCA-H or MCC staff, if requested.
- Willingness to establish a bank account registered with the Ministry of Finance’s Integrated Financial Management System.

MCA-H launched two rounds of grants competitions. Ultimately, fifteen grants were awarded to support the adaptation of global technological advances in agriculture. Zamorano University received one of these grants for the EAP-Zamorano Value Added Project (PVA). This project trained 60 agro-industrial entrepreneurs on how to improve their products and make them more competitive. Additional grants were awarded to projects in irrigation, biological pest control research and potato production research. For example, one of the grants helped fund the construction and equipping of the high-tech laboratory of the Honduran Coffee Institute, which was working on reproducing high quality coffee hybrids that were more resistant to plagues and had higher yields.

Key performance indicators and outputs at compact end date

Key Performance Indicators ¹²	Baseline	End of Compact Target	Closeout Value	Percent Compact Target Satisfied
Farmer Training and Development Activity				
Total number of recruited farmers receiving technical assistance	0	8,255	7,264	88%

Number of program farmers harvesting high-value horticulture crops	0	6,000	6,029	100.5%
Number of hectares harvesting high-value horticulture crops	0	8,400	9,287	110.6%
Number of business plans prepared by program farmers with assistance from the implementing entity	0	6,960	16,119	231.6%
Access to Credit				
Number of farmers, agribusiness, and other producers and vendors in the horticulture industry receiving loans, including Program Farmers (cumulative to date)	0	5,400	5,428	101%
Value of loans disbursed to farmers, agribusiness, and other producers and vendors in the horticulture industry, including Program Farmers (cumulative to date) (Trust Fund) / (Million USD)	0	6	12	200%
Agricultural Public Goods and Grant Facility				
Numbers of hectares under irrigation	0	203	400	197%
Number of farmers connected to the community irrigation system	0	392	967	247%
Number of new products developed as part of the Value-Added Grant	0	30	30	100%
Farm to Market Roads				
Rural Roads Kilometers of Roads Upgraded	0	499	495	99%

Evaluation Findings

For the Rural Development Project, the FTDA was independently evaluated in one performance evaluation and the Farm to Market Roads Activity was evaluated alongside the other roads investments in the Transportation Project (see below for additional details). As described in the *Lessons Learned* section, each of these evaluations contributed to MCC learning in the sectors, as detailed in the [“Impact Evaluations of Agriculture Projects”](#) (2012) and [“Lessons from MCC’s Investments in Roads”](#) (2017) publications in MCC’s [Principles into Practice](#) series. The Farmer Access to Credit Activity was not included in the original evaluation plan and the AGPPF was only assessed through an ERR analysis.¹³

For both the FTDA independent evaluation and the APGGF ERR analysis, the MCC Management Responses summarize MCC’s concerns with the quality of the methods used for analysis. Given these concerns, MCC limits the conclusions it can draw from these reports with regard to the impact of the activities. To mitigate similar issues for future evaluations, MCC instituted the Evaluation Management and Review Process in 2013. Turning these lessons into action was documented in [“Learning from Evaluations at the Millennium Challenge Corporation”](#) by Sturdy, Aquino and Molyneaux (2014).

Farmer Training and Development Activity(FTDA)

Status of the evaluation

Component	Completion date
Endline Report	10/01/2012

Evaluation Questions: The independent evaluation was designed to answer the following questions:

- Did the FTDA intervention increase cultivation of horticultural crops?
- Did the FTDA intervention increase household income?
- Did the FTDA intervention increase employment on farms?

Evaluation Findings: The evaluator reported that this was originally an impact evaluation using randomized rollout methodology that failed after multiple attempts to replicate the implementers’ process for location and farmer selection. It is now classified as a performance evaluation. The evaluation estimated net income change from horticultural crops was on average \$600 higher for program participants than for non-participants. Input expenditures on these crops increased more than they did for basic crops, implying a higher level of activity in cultivation of high value crops among program farmers. The results suggest a corresponding decline among program farmers in income from basic crops, as might be expected with changing crop mix; however, this decline was not statistically significant. The evaluation did not detect a positive effect on the proportion of farmers growing horticultural crops. This could be because the implementer primarily chose as program participants farmers who showed a proven ability to grow horticultural crops. It is likely that incremental increases in income from horticultural crops came from increased production among farmers already growing horticultural crops and not from farmers who switched over for the first time. Even though there was an increase in income from horticultural crops, there was no corresponding statistically significant increase in net household income or household expenditures/consumption, as might have been expected. However, as stated above, MCC

has concerns with the quality of the methods used for analysis and therefore limits the conclusions it can draw from these reports.

Agricultural Public Goods and Grant Facility (APGGF)

Status of the evaluation

Component	Completion date
Endline Report	10/31/2010

Evaluation Questions: This was not an independent evaluation, but a cost-benefit analysis to produce an ERR for a sub-sample of projects which concluded or had registered a considerable level of progress as of July 2010. For purposes of the analysis, the projects were classified in three types: i) Irrigation (10 possible projects – 3 of which were selected for ERR analysis); ii) Value Added Project (1 project – the EAP-Zamorano); and iii) Research and technology (4 projects). Regarding the research projects, since the progress as of July 2010 for these projects covered mainly the laboratories' set-up activities and the creation of the biological items and basic genetic material required in the project, the ERRs were calculated maintaining the assumption and goals originally proposed by the project designers, adjusting only the start-up times for the beneficiaries' incorporation. It is worth noting that the measured impact actually represents an intermediate measurement, since the ERR is calculated based on the expected impact of the projects after 10 and 15 years of being implemented.

Analysis Findings: Based on the cost-benefit analysis, the average estimated economic profitability for irrigation projects was 35.2 percent. For the EAP-Zamorano Value Added Project (PVA), the businesses targeted belonged to a myriad of production categories, including grains and seeds, wines and beverages, canned and bottled products, dairy products, sweets, snacks, honey, and others. The average income of these businesses before the PVA ranged from US\$ 16,508 in the category of pastries and baked goods to \$207,418 in businesses dedicated to fruit and vegetable post-harvesting. Overall, the project reached an average increase of \$8,113 in businesses' income, which represents an 11.3 percent increase over the average of \$72,024 that businesses registered before PVA. This general increase is slightly higher than the goal of 10 percent envisioned in the project design. The analysis produced an estimated ERR of 27.4 percent for 10 years. This rate was strongly influenced by the larger number of medium-sized businesses involved in the project. For the research projects, analysis estimated ERRs from 21-74.4 percent. An estimate of the ERR for all projects reviewed in the cost-benefit analysis was generated weighing the partial re-estimated rates by the amounts supported by MCA-H for such projects. This resulted in a weighted ERR of 38 percent.

Transportation Project

- \$125,700,000 Original Compact Project Amount
- \$120,584,457 Total Disbursed

Estimated benefits correspond to original \$125,700,000 of project funds, where cost-benefit analysis was conducted.¹⁴ Expected benefits were time and vehicle operating cost savings for all vehicles using the improved roads due to the ability to travel faster with less vehicle damage per trip on higher quality roads.

¹⁵ The Highway Development and Maintenance model 4 (HDM-4) was used to calculate benefits for both projects.¹⁶ Note that the table below reflects MCC-calculated ERRs only; ERRs calculated by other entities have not been included.

					Estimated Economic of Return of 20 years
North and South Segments of Highway CA-5 Activity	At the time of signing	21.07%	1,350,000 ¹⁷	\$39,562,655	
	At Closeout	Not calculated ¹⁸		Not calculated	
Secondary Roads Activity	At the time of signing	42.07%		\$39,706,000	
	At Closeout	Not calculated ¹⁹		Not calculated	
Vehicle Weight Control Activity	At the time of signing	Included as part of the North and South Segments of Highway CA-5 Activity		Included as part of the North and South Segments of Highway CA-5 Activity	
	At Closeout	N/A; activity de-scoped		N/A; activity de-scoped	

ERRs can be found on the [MCC website](#). All ERRs were calculated at the time of compact signing.

Project Summary

The **Transportation Project** aimed to reduce high transportation costs through road network infrastructure improvements to enhance market access and foster greater integration between targeted production centers and national, regional, and global markets. The investment also assumed that road

upgrades would lead to improved access to wage employment and social services, such as hospitals and schools. The project included three activities:

- **The North and South Segments of Highway CA-5 Activity** (original budget: \$96.41 million; amount disbursed: \$90.3 million): The compact initially targeted the expansion and improvement of approximately 109 km of Highway CA-5. The selected portion of the Highway CA-5 was divided as follows:
 - **South Segment:** Included the expansion of the road and replacement of the pavement structure of 59 km between Tegucigalpa and Villa de San Antonio. During implementation the project was further subdivided into two sections: *Section 1:* Tegucigalpa to Río del Hombre, and *Section 2:* Río del Hombre to Beginning of the Valle de Comayagua
 - **North Segment:** Included width expansion of the existing road and replacement of pavement structure of 49.5 km between Comayagua and Taulabé. During implementation the project was further subdivided into two sections: *Section 3:* Final Valle de Comayagua to Siguatepeque, and *Section 4:* Siguatepeque to Taulabé.

The South Segment originally envisioned the expansion to four lanes in Section 1 (25 km) and building a third lane in the section from Río del Hombre to Detour to Villa de San Antonio (part of Section 2). However, during implementation in 2007, the GoH requested the expansion to four lanes for the complete South Segment, and the option of using concrete as part of the pavement structure. In order to meet cost increases associated with these requests, and to respond to the subsequent costs increases of oil products experienced in 2008, the GoH signed a loan with the CABI for \$130 million to co-finance this Activity. This co-financing covered construction works for Section 1 and a portion of Section 2 (with works completed post-compact), whereas compact funds were used for the implementation of resettlement in all sections, and rehabilitation/construction works for part of Section 2, and the entirety of Sections 3 and 4.

Secondary Roads Activity (original budget: \$21.28 million; amount disbursed: \$27.7 million): This activity included the paving and upgrading of key secondary routes to improve rural communities' access to markets. The roads were selected through a process that included: identification of more than 250 potential road sections; calculation of the expected ERRs using the HDM-4 model to identify the 12 sections with the highest ERRs; and screening the 12 potential sections according to the level of complexity of the interventions (availability of feasibility studies, pre-designs, environmental licenses, length, execution time). Projects with the highest rates but with implementation challenges and completion times exceeding the life of the compact were disqualified in the selection process. Finally, five potential sections were submitted to the MCA-H Board for approval, with the understanding that the sections would be implemented according to the availability of compact resources. Three asphalt surface treatment paved road sections were ultimately completed during the compact period, including:

- Comayagua – Ajuterique – La Paz (19.1 km, including 2.4 km between the communities of Ajuterique and Lejamani);
- Choluteca – Orocuina (19.8 km); and
- Sonaguera – El Coco detour (26.6 km).

As further described in evaluation findings below, these road upgrades contributed to savings in vehicle operating costs and transportation time and promoted income generation through the transportation of agricultural produce in good condition to the market.

- **Vehicle Weight Control Activity** (original budget: \$4.73 million; amount disbursed: \$88,479): This activity was designed to sustain the maintenance of improved roads through construction of an effective vehicle weight control system and issuance of contracts to operate it effectively; however, the activity was ultimately de-scoped from the compact as a result of the aforementioned undemocratic transition of power in June 2009.

To support the sustainability of roads and based on discussions with MCC, the GoH agreed to strengthen the budget for the national road maintenance. As a result of the agreement with MCC, the GoH significantly increased its own funding for road maintenance from less than \$40 million per year before the compact in 2005 to \$64 million in 2010.

Key performance indicators and outputs at compact end date

Key Performance Indicators	Baseline	End of Compact Target	Closeout Value	Percent Compact Target Satisfied
Highway CA-5 and Secondary Roads				
Highway CA-5 – Kilometers of Highway Upgraded	0	109	49.5	45%
Secondary Roads – Kilometers of Roads Upgraded	0	65.5	65.5	100%
Highway CA-5, T3 – International Roughness Index (IRI) ²⁰	4	1.9	2.2	84.2%
Highway CA-5, T4 – IRI	4	1.9	3.2	31.6%
Secondary Roads –IRI	13.6	2.5	3.2	72%

Explanation of Results

North and South Segments of Highway CA-5 – kilometers of highway upgraded: During implementation, project costs were higher than expected due to an expanded scope of works, increased cost of petroleum derivative products, and higher than anticipated resettlement costs. To ensure that the full scope of work could be completed, the GoH leveraged compact funds to secure a loan from CABEL. However, with the new co-financing arrangement, the time required to complete section 1 (24.3 km, plus approximately 2 km for an additional interchange) was extended, with works completed post-compact. While most of the work for section 2 (33.3 km) was completed using MCC funds prior to the end of the compact, it was not formally handed over until after the compact end date, with final works financed by the GoH with a CABEL loan. Sections 3 and 4 (49.5 km) were completed with MCC funding prior to the end of the compact.

International Roughness Index (IRI): Despite having established the IRI measurement as an indicator, it was not a specified requirement for the construction works contracts for highway CA-5 and secondary

roads. While the reported IRI measurements upon completion of the road did not meet the end of compact targets, these results are consistent with acceptable IRI measurements for a road in good condition.

Evaluation Findings

The Transportation Project’s North and South Segments of Highway CA-5 and Secondary Roads Activities, as well as the Farm-to-Market Roads Activity from the Rural Development Project, were independently evaluated in one evaluation using both impact and performance evaluation methodologies. The performance evaluation produced estimated ERR for each road.

As described in the *Lessons Learned* section, this evaluation contributed to MCC learning in the sector, as detailed in the “[Lessons from MCC’s Investments in Roads](#)” (2017) publication in MCC’s [Principles into Practice](#) series.

Farm to Market Roads Activity and Transportation Project

Status of the evaluation

Component	Status
Endline Report	05/01/2014

Evaluation Questions: The evaluation of the Transportation Project and Farm to Market Roads Activity aimed to answer whether improved conditions throughout the road network:

- Lowered transport costs and travel time for businesses, including farm households;
- Provided better access to a wider range of job opportunities for individuals (labor market effects);
- Lowered the price of consumables and inputs by increasing competition and reducing barriers to entry posed by poor transport infrastructure;
- Improved access to health establishments and schools; and
- Increased overall incomes and employment at the household level.

Evaluation Findings: The impact evaluation recognized that the Honduran road system functions as a single, integrated road network, thereby allowing for network effects to be taken into account. In other words, the model considers that improvement to a single road section is likely to have impacts that are felt across the entire road network, not just locally, and that these impacts may differ depending on where in the road network the improvement section is located and the degree to which the section serves as a key access point between different sections of the overall network. This new model, which represents the physical road network as an integrated computer/mathematical network (through the GIS), recognizes that in reality, rural households are likely to benefit not only from rural-road improvements, but also from improvements to secondary (or even primary) roads. With this in mind, the analysis produced estimates of the mean impact expected for a randomly selected household in Honduras and found a statistically significant effect on many access times and costs. For example, cost for travel to a hospital decreased 3.53 lempiras (\$0.17) per one-way trip and cost for travel to a health center decreased 0.194 lempiras (\$0.01 per

one-way trip). Additionally, there was a statistically significant effect on increasing monthly agriculture income by 71.9 lempiras (\$3.50) per household and statistically significant impact on decreasing monthly non-agriculture income by 109 lempiras (\$5).

The evaluator also used the HDM-4 model to estimate ERRs for all roads constructed based on actual construction costs, construction quality and traffic data and updated estimates for future maintenance costs, vehicle operating costs and traffic growth. The evaluator found lower than predicted vehicle traffic counts, higher than expected road maintenance costs, as well as final project improvement costs which were considerably higher than the previous 2008 estimates used. To estimate the rate of road surface degradation, the evaluator also assessed the quality of construction with site visits in October 2011, and found that “the quality of the road improvements based both on direct observation of the improved road surfaces and also on the quality of the asphalt going into the road improvements, was quite high and met the highest international standards.” The evaluator produced ex-post ERRs for the four sections of CA-5 were 18.1 percent, 7.6 percent, 21.1 percent and 14.0 percent, respectively, with a net present value of the investment estimated at \$60 million.²¹ For secondary road upgrades, the evaluator found a strong increase in traffic volumes, relatively low road project costs compared to primary improvement costs, and high quality road improvement designs and work standards, with low projected future road deterioration rates due to the high standards of the improvements. The estimated ERR values for secondary roads ranged from 29.4 percent to 188.3 percent, with a net present value of the investment estimated at \$234.84 million.²²

For rural roads, the estimated ERRs from the HDM-4 model are sensitive to assumptions on future traffic growth and vehicle speeds post improvements, as well as evaluator assumptions regarding the number of days per year each rural road segment is “passable.” For this reason, the evaluator indicated “the rural road ERR estimates are likely only capturing a small part of the true economic impact of rural road improvements.” For rural roads upgrades, the estimated ERRs were above 10 percent for 30 of 33 sections. The net present value of the investment was estimated at \$17.2 million.²³

Compact Changes

Under the Transportation Project, MCC originally expected to complete the entirety of the CA-5 using compact funds. However, due to scope changes and cost overruns, the GoH engaged CABI for a loan, who provided partial financing for Sections 1 and 2, which were ultimately completed post-compact.

On September 9, 2009, MCC's Board of Directors terminated funding for certain activities under the compact following an undemocratic transition of power in June 2009. MCC terminated \$10 million, including funding for the Vehicle Weight Control Activity under the Transportation Project and 93 km of farm to market roads under the Rural Development Project.

Coordination and Partnerships

- Through a blended co-financing arrangement, MCC’s investments in transportation leveraged an additional \$130 million from the CABEI to improve highway CA-5. Beyond the completion of the original works, the co-financing arrangement allowed for an expansion and improvement over the original scope of work, including a major traffic interchange and an additional lane on one of the segments.
- In December 2010, the ownership of the Farmer Access to Credit Trust Fund was transferred to the Honduran Ministry of Finance. BAC Honduras (now known as Grupo BAC Credomatic), one of the largest banks in Central America, continued to administer the Trust Fund to provide lines of credit to institutions on-lending to producers of high value agriculture and agribusinesses. A new public-private committee was instituted to oversee the Trust Fund post-compact.
- On January 28, 2010, the Secured Transaction Law was published, which authorized the creation of the movable property registry. The registry, housed at the Chamber of Commerce & Industry of Tegucigalpa (CCIT) was designed to allow registry users; including retailers, banks, and microfinance and other financial institutions to securitize credit with both tangible and intangible movable property. The enabling legislation, championed by the MCA-H in close coordination with the CCIT, expands the pool of collateral available to borrowers and makes it easier for bankers to collect on loans. Lenders can file pledges through the CCIT-managed system, and therefore, increase borrowers’ access to credit.

Key Policy Conditions Precedent

Key Compact Component(s)	Major CP or Policy Reform Required	Rating: Met on Time/Deferred/Waived	
All Project Activities	MCA-H performs, satisfactory to MCC, an environmental audit of all Project Activities.	Met	MCC approved a request from MCA-H to substitute an environmental audit with the hiring of independent Environment, Social and Safety Inspectors to generate reports to allow Inspectors to provide on-time input to MCA on the quality/environmental and safety standards. This allowed for course corrections as opposed to presenting audit findings after the fact.

Key Compact Component(s)	Major CP or Policy Reform Required	Rating: Met on Time/Deferred/Waived	
Rural Development Project - Credit Project Activity	The GoH enacts the Law on Access to Credit and implementing regulations acceptable to MCC.	Met	On August 19, 2009, the National Congress of Honduras approved the Law on Security Interests in Personal Property, published in the Official Gazette, <i>La Gaceta</i> , on January 28, 2010 (Decree No. 182-2009)
Transportation Project	The GoH implements the Road Maintenance Plan.	Met	The GoH road maintenance budget was less than \$40 million per year in the time leading up to the compact in 2005. As part of the compact, the GoH increased its own road maintenance funding to \$64 million by 2010.
Transportation Project	The GoH enacts legislation acceptable to MCC on national road safety and enforcement.	Met	The Road Safety National Legislation (<i>Ley de Tránsito Decreto 205-2005</i>) was approved by congress August 16, 2005 and published in the GoH Official Paper (<i>La Gaceta</i>) on January 3, 2006.
Transportation Project - Vehicle Weight Control	The GoH enacts implementing regulations acceptable to MCC that enables a vehicle weight control system on the national highway network to	Met	Prior to being able to issue the request for proposal for the system, the GoH needed to enact the implementing regulation. The <i>Fondo Vial</i> Law, the enacting legislation,

Key Compact Component(s)	Major CP or Policy Reform Required	Rating: Met on Time/Deferred/Waived	
	be properly built and operated.		was approved by Congress on July 31, 2009 and was published in <i>La Gaceta</i> on September 29, 2009. This would have allowed only one year to implement this activity. Ultimately, funds allocated towards the Vehicle Weight Control Activity were eliminated from the compact as a result of political events that transpired in Honduras that were inconsistent with MCC principles.

Lessons Learned

MCC's five-year compact timeframe places a premium on establishing implementation structures before implementation begins: Honduras underwent a national political transition very shortly after the compact was signed, which resulted in delays in setting up the key structures for program implementation, such as full staffing for MCA-H, detailed project planning, and establishing the MCA-H board of directors. All of this resulted in a slow start to the compact. Learning from this experience, MCC and partner countries have since allowed more time for compacts to enter into force so that key implementation structures can be established to allow a full five-year compact implementation period.

The FTDA evaluation contributed to MCC learning in the agriculture sector, as detailed in the [“Impact Evaluations of Agriculture Projects”](#) (2012) publication in MCC's [Principles into Practice](#) series. MCC also notes the following lessons related to evaluations for agriculture projects from Honduras FTDA:

- **Integrate implementers and evaluators early.** One key lesson is that MCC brought in the independent evaluator after key program design and implementation actions had been taken, which affected the feasibility of a rigorous impact evaluation. Involving the evaluators in the early stages of the program could have helped mitigate some of the evaluability challenges that subsequently emerged.
- **Clearly define program participants.** For any intervention, MCC and country counterparts must work toward having clearly defined program participants and eligibility criteria when necessary. In Honduras, there was a mix of broad selection criteria from MCA-H and more specific selection criteria by the implementer in order to target farmers in the field. These two criteria although somewhat complementary, still resulted in challenges for replicating farmer selection for the purpose of a rigorous impact evaluation.
- **Align incentives.** It is almost impossible to have a successful evaluation if program implementers and evaluators are not working in lock-step. This requires not only early integration, but also aligning incentives between the two. There must be clear understanding and commitment by the implementing entity to cooperate with the evaluator and vice versa. In Honduras, the implementer was contracted two years before the evaluator, which resulted in the implementer's contract not including specific responsibilities regarding collaboration with the evaluator. In addition, the implementer was committed to delivering training to 6,000 farmers and increasing average income by \$2,000. Therefore, the implementer was incentivized to find successful program participants who were selected in part based on difficult-to-replicate criteria, which did not align with the evaluation design.

The Transportation evaluation contributed significantly to MCC learning in the transport sector, as detailed in the [“Lessons from MCC's Investments in Roads”](#) (2017) publication in MCC's [Principles into Practice](#) series. MCC noted the following lessons from the Honduras Transportation Project:

- **Set realistic time horizons.** Inevitably there are delays in large infrastructure projects. From the beginning, implementers and evaluators should build into the evaluation design actions for mitigating risk to the evaluation associated with implementation. In the case of Honduras, given the implementation delays and inflexibility in the evaluation schedule, the exposure period (or time between implementation and evaluation) to the improved roads network in some cases was only 5-6 months,²⁴ whereas for some sections of highway CA-5 rehabilitation wasn't completed at

the time of end-line data collection. This is a limited exposure period when decision makers are interested in looking at longer term outcomes, such as changes in prices and income.

- **Understand your target beneficiary population.** For this evaluation, the target population for the household survey was the population of all households in Honduras at the beginning and end of the project. For the evaluation, the evaluator used a sample frame constructed for the most recent national census. By focusing on the broader Honduran population, while the evaluation looks at average effects across the country, it is reasonable to expect that some specific groups, particularly those who live closer to the upgraded roads and businesses that rely on the highway CA-5, would benefit more from the investments.

It is worth noting these evaluations were designed and implemented during MCC's first few years. The lessons learned from these evaluations not only informed MCC program operations, but directly contributed to the establishment of the MCC Evaluation Management and Review Process in 2013. Through establishment of this rigorous internal quality assurance process, MCC is able to more closely coordinate evaluation design and implementation with the program logic, ensure internal and external stakeholders are aligned on research questions and methods, and maximize learning through appropriate dissemination platforms and events for both MCC staff and country partners. These lessons were documented in "[Learning from Evaluations at the Millennium Challenge Corporation](#)" by Sturdy, Aquino, Molyneaux (2014).

Endnotes

1. Beginning in 2009, MCC began undertaking constraints analyses based on the Hausmann, Rodrik, and Velasco diagnostic method in the preliminary analysis phase of each compact.
2. Beneficiaries at signing, closeout beneficiary counts not updated.
3. Net benefits refer to discounted benefits minus discounted costs. These are net benefits at compact signing. Closeout ERRs for the Transportation Project were not fully completed, therefore total net benefits at closeout could not be calculated.
4. Note that the table below reflects MCC-calculated ERRs only; ERRs calculated by evaluators and other contractors are presented in the Evaluation Findings section.
5. MCC seeks consistency across cost-benefit analysis (CBA) methodology. In 2010, MCC published generalized guidance for this purpose, and sector specific cost-benefit analysis guidelines are now under preparation. However, at the time of the Honduras Compact signing, CBA guidance had not been developed. As a result, CBA methodology between signing, revision, and closure may vary, making the ERRs potentially incompatible for direct comparison.
6. The ERR and net present value decreased at closure as a result of three shifts: increased costs slightly decreasing the overall project scope, new MCC Economic Analysis guidelines on calculation of benefits, and the largest impact came from the revised assumption that the spread of new farming practices only occurs during the compact, rather than continuing after the compact ends. The original assumption that farming practice impacts continue post-compact was seen as overly optimistic and unlikely to occur. The overall impact was an over 80 percent decrease in net benefits.
7. Linked to \$25 million expenditures on the activity, down from \$30.3 million in the initial ERR.
8. For overall project, not broken up by activity.
9. Includes trained farmers and their families as beneficiaries.
10. At closeout, ERR limited to FTDA only due to data limitations.
11. As part of the recruitment process, technicians would make inexpensive but labor intensive recommendations to see if potential clients would implement them prior to formally enrolling them in the program.
12. Please see the [M&E Plan](#) for additional information and definitions of the indicators.
13. This gap in evaluation coverage was identified in 2013 and MCC M&E management determined the benefit of designing and implementing an independent evaluation of these two activities would not outweigh the costs.
14. MCC did not calculate ERRs for transportation at closeout, limiting data to ERRs calculated by MCC at signing.
15. Vehicle operating cost (VOC) savings are savings in fuel and vehicle maintenance gained through using a higher quality road.
16. The Highway Development and Maintenance (HDM-4) is one of MCC's standard tools to evaluate roads. It takes into account vehicle operating cost savings and time savings as part of decision making for road investments.
17. All activities combined.
18. Closeout ERR calculated by independent evaluator, not verified by MCC. See evaluation section for additional information.
19. Closeout ERR calculated by independent evaluator, not verified by MCC. See evaluation section for additional information.
20. International Roughness Index (IRI): Roughness is a measure of the irregularity of the road surface. It affects the operation of a vehicle (safety, comfort and speed of travel) and costs of operation through vehicle wear, fuel consumption and the value of human and asset time spent in transit.

This affects the economic evaluation of proposed road maintenance and upgrading expenditures.

21. Summarized from Table 12 in evaluator report.
22. Summarized from Table 14 in evaluator report.
23. Summarized from Table 18 in evaluator report.
24. Average exposure periods for evaluations in the roads sector across MCC portfolio is 50-57 months.

Reducing Poverty Through Growth

