

# Cocoa Livelihoods Program: Phase I Evaluation/Phase II Baseline *Executive Summary*

Final Report Prepared By:  
Management Systems International

July 2014

This publication was produced for the World Cocoa Foundation. It was prepared by Management Systems International.



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## *Executive Summary*



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WCF # MSI-01-2013

MSI # 607900.01

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## Acronyms

ADP	Agricultural Development Program (Nigeria)
ANADER	National Agency for Rural Development (Cote d'Ivoire)
ASI	Agribusiness Systems International (ACDI/VOCA)
BSC	Business service center
CEA	Cocoa extension agent
CLP	Cocoa Livelihood Program
COCOBOD	Cocoa Board (Ghana)
CRIN	Cocoa Research Institute of Nigeria
CNRA	National Center for Agricultural Research (Côte d'Ivoire)
CSR	Corporate social responsibility
CTA	Cocoa Transformation Agenda
CTA	Technical Centre for Agricultural & Rural Cooperation
FBS	Farmer business school
FFS	Farmer field school
FIFFA	First Investment Financial Assistance
FO	Farmer organization
GAP	Good agriculture practice
GIZ	<i>Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)</i>
IITA	International Institute for Tropical Agriculture
LBC	Licensed buying companies
LBA	Licensed buying agents
MIFED	Microfinance and development
MOU	Memorandum of understanding
NCDC	National Cocoa Development Committee
OISL	Opportunity International Savings and Loan
ONCC	National Office for Cocoa and Coffee
SOCODEVI	Société de Coopération pour le Développement International
WCF	World Cocoa Foundation

## Acknowledgements

The MSI team would first like to thank our partner Ipsos and their team for conducting the household survey across all four countries. We would like to thank Rob Petrin, Meghann Jones, Mary Choi and their team for the diligent work processing the vast amount of survey data and working to provide us with the needed quantitative findings for this evaluation. In addition, we would like to thank the staff at the Ghana WCF office and technical partners in the other three countries who supported the evaluation team during the field work, provided logistical support and shared their knowledge about the CLP program and the cocoa industry.

We appreciate all of the time and effort the partners and farmers gave to this evaluation. We would also like to thank the cocoa farmers who took time out of their days to talk with us and share their stories of cocoa farming. We would like to acknowledge the technical and government partners who sat with us for hours explaining their contributions to CLP I and their experiences with the cocoa sector.

We greatly appreciate WCF giving us the opportunity to work on this evaluation, as well as providing support and understanding throughout the whole process. And lastly, we would like to thank the MSI home office staff, which provided support throughout the process.

## **Executive Summary**

Phase I of the Cocoa Livelihoods Program (CLP I) was a five-year program in Cameroon, Côte d'Ivoire, Ghana and Nigeria, managed by the World Cocoa Foundation (WCF) with a consortium of six international NGOs. It was launched in February 2009 and was completed in January 2014. Together with CLP Phase II (2014-2018) the goal was to double the incomes of 200,000 smallholder cocoa-farming households. CLP I had three primary approaches to reach this goal: supporting farmer organizations to improve cocoa farmers' negotiating position when selling their crops, providing productivity training to help farmers improving their cocoa yields, and providing farm management training and support for farmers to diversify and improve their competitiveness.

The purpose of this evaluation was to assess the effectiveness of CLP Phase I project interventions and to inform the design and implementation of the second phase of the program. The primary audiences for this evaluation are the World Cocoa Foundation, funding partner and the technical and industry partners who will implement the second phase of CLP. This evaluation assesses the impact of CLP's key interventions, including training in good agricultural practices (GAP) provided through farmer field schools (FFS) and training in agricultural entrepreneurship through farmer business schools (FBS), microcredit programs to improve access to inputs, business service centers (BSCs), and the creation and strengthening of farmer organizations (FOs). The key outcomes studied in this evaluation are the impacts of the program on cocoa yields, farmers' incomes and farmers' investment decisions.

### **Methodology**

The findings of this evaluation are based on qualitative and quantitative research methods. A qualitative research team conducted over 90 semi-structured interviews with key informants, groups of project beneficiaries and implementers in the four target countries, and reviewed program documents and performance monitoring data. A quantitative research team conducted a household survey of 2,770 cocoa farmers in the four countries; it contained questions on several topics, including demographic and family characteristics, cocoa-farming practices, cocoa yields, production of other crops and nonagricultural income. This survey was based on a baseline survey completed for the project in late 2010.

### **Key Findings**

Evidence from the evaluation of CLP I suggested that the program had a positive effect on the cocoa sector in the four target countries. One of the most important effects that was observed were the changes at a systematic level. When prompted to state the most positive impacts of CLP I interventions, several CLP staff members and implementing partners agreed that CLP I's biggest impact was in creating an important common platform to bring together all the stakeholders in the cocoa sector. For the first time, cocoa exporters and other industry partners, who act primarily as competitors in the cocoa market, worked together through matching grants to improve farmers' yields and incomes. In addition, national extension agencies in three of the four target countries (Ghana, Nigeria and Cote d'Ivoire) adopted the training methodology promoted by CLP I. While private input suppliers began to develop competing packages to sell inputs to farmers on credit, which was spurred by a microfinance program developed by Technoserve.

Beyond these impacts, CLP I also delivered results under the three project objectives: 1) improving efficiency of cocoa marketing, 2) increasing farmer productivity and, 3) improving cocoa farm management. These results are discussed below.

### *Cocoa Marketing*

CLP I aimed to increase the price farmers received for cocoa by helping them form and strengthen farmer organizations/cooperatives. In all countries, except Ghana, WCF worked with its partner, SOCODEVI, to strengthen existing farmer organizations through intensive training and coaching. The evaluation team found evidence that SOCODEVI's approach of closely coaching these cooperatives was an appropriate methodology to build the capacity of these organizations given the challenges they faced, such as, building professional management systems, avoiding embezzlement, and building trust among their members. Monitoring data provided by SOCODEVI suggested that this approach had succeeded in expanding membership in farmer organizations. The membership of the 36 farmer organizations trained by SOCODEVI was up 68% with the largest gains being in Nigeria where membership was up by 183%.

In Ghana, there was not an existing history of farmer organizations in the country before the program began, so CLP I worked instead with the extension agents to use training groups as a basis to form informal farmer groups. The evaluation team found evidence that these efforts had successfully created many small farmer organizations across the country, including one association which had successfully aggregated 60 small FFS training groups into a formal organization with 1,800 members.

In group interviews with farmers, the evaluation team found evidence that membership in farmer organizations had helped farmers get a fair price for their cocoa. Farmers in Côte d'Ivoire, Nigeria, and especially Cameroon reported that they lost significant income by selling to private buyers who either offered a lower price or used tactics such as falsifying their scales or paying for only a portion of the cocoa on the pretext that the quality was too low. By working through a cooperative, farmers reported that they could avoid these losses in income.

Quantitative data from the follow-up household survey did not provide conclusive evidence on how these micro trends have contributed to the regions that CLP I was implemented in. Overall, the reported membership of the cooperatives more than doubled in Nigeria and Ghana, with a smaller increase in Côte d'Ivoire. It is likely that CLP I interventions contributed to the growth of the cooperatives in these countries, however it is difficult based on the evidence to separate the impact of CLP I from other factors. Notably, during the same period, the evaluation team found that cocoa exporters had significantly increased their direct support to cooperatives through corporate social responsibility (CSR) and sustainability programs, which also increased the support that these groups received. In contrast to the increases in membership in Nigeria, Ghana and Côte d'Ivoire, overall membership in Cameroon declined from 2010 to 2013, suggesting that the increases in membership in farmer organizations was supported by the CLP training, but that the program may not be driving the overall change in the intervention regions.

### *Farmer Productivity*

The centerpiece of CLP I's intervention was a package of training in cocoa productivity called Farmer Field School (FFS), which is based on a methodology of hands-on experience and demonstration. Prior to the beginning of CLP I, the International Institute for Tropical Agriculture (IITA) piloted the FFS methodology, and CLP I successfully brought FFS to scale by training 138,000 farmers. Beyond the farmers CLP I reached directly, the program also led to an improvement in the methodologies used by national extension agencies. CLP I delivered training through the national extension agencies in three of the four target countries (Ghana, Nigeria and Côte d'Ivoire) starting in 2012, and in each country the extension agency enthusiastically adopted these training methods as their dominant approach to training farmers. This marked a significant change in the services these extension agencies offered before CLP I. In Côte d'Ivoire, for example, key informants reported that the primary service offered by the national extension agency prior to CLP I was to establish demonstration plots, which were not accompanied by any hands-on training. By contrast in the FFS methodology, farmers divide a plot into the old and new methods and spend 6-9 months testing the recommended farming methods together so they can see the impact of the new farming methods in contrast to the old. In Nigeria, the government bought into the training system and signed a MOU with WCF to

provide \$1.2 million to scale up the CLP package (FFS, FBS and FO support) to 70,000 farmers in five additional States between 2014 and 2015, after CLP I had ended.

In group interviews in all countries, farmers reported improving their agricultural practices and consequently improving their cocoa yields and income after receiving FFS training. Farmers typically reported doubling their cocoa yields after adopting the recommended practices. These increases were surprisingly large, since many of these farmers did not report increasing their use of fertilizers or replanting with hybrid trees. Interviews with industry partners suggested that a 25 percent increase in yields was expected from improved farming practices, while an increase use of fertilizers and hybrid tree varieties would be necessary for increases in the range of 100-150 percent. However, the large gains seem plausible in the context of the data from the 2013 household survey<sup>1</sup>, which showed large short-term fluctuations in cocoa yields. This evaluation found that the yields of a typical farmer changed by several hundred kilograms per hectare from the baseline survey in 2010. In this context of large short-term fluctuations, it is possible that even if the average gains from improved farming practices are relatively small, the increases for individual farmers may be very large.

Group interviews suggested several avenues by which cocoa farmers realized large gains in productivity by adopting the practices taught in FFS training. Most importantly, many farmers reported improving their crop protection practices (i.e. using pesticides and fungicides), which significantly decreased their losses from pests and fungi. The evaluation team also found evidence that in many cases, farmers already had good soil quality and high-yielding cocoa trees, but were getting yields far below their potential because of poor farm maintenance. In Ghana, for example, one representative of the national extension agency reported that 60 percent of cocoa trees in the country were already hybrids. In this context, it appears that by improving their farm maintenance and crop protection practices, farmers may have been able to realize larger increases than expected.

While the qualitative evidence from group interviews showed that FFS had an unexpectedly large impact on the yields of farmers who successfully implemented the recommended practices, data from the follow-up household survey did not definitively show whether the yields of all farmers who received FFS training increased. Depending on the year of training, farmers had a change in reported yields which was above or below the average of farmers who didn't receive training, but in most cases, these relationships were not statistically significant. Because of the wide variation in farmers' reported yields, it appears that the real effects may have been obscured by short-term fluctuation.

In addition to productivity training, CLP I worked with its partner, Technoserve, to pilot a microcredit program to expand access to crop protection products and inorganic fertilizers. During CLP I, the program operated on a relatively small scale, reaching 5,322 farmers in Ghana and 4,821 in Côte d'Ivoire. However, the evaluation team found evidence that Technoserve built the institutional infrastructure to expand this system and make it self-sustaining. In Ghana, Technoserve built a partnership with Opportunity International Saving and Loans (OISL) to extend credit to farmers trained in FFS to purchase pesticides and fertilizers. In Côte d'Ivoire, Technoserve built relationships with exporters, cooperatives, and input suppliers to share the risk of loans for inputs among all of the stakeholders. Aside from building this infrastructure, a major finding of the evaluation was that CLP I's work in this area appears to have stimulated a market for similar credit input schemes. Numerous cooperatives interviewed in Côte d'Ivoire reported buying pesticides directly from input suppliers on credit, through packages that were unavailable before CLP I. Thus, on the one hand, this program appears to have stimulated a thicker market for crop protection products, while building the infrastructure to begin supplying fertilizers on a larger scale, since fertilizers are higher cost and still too high risk for input suppliers to bear the risk themselves.

### *Farm Management and Diversification*

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<sup>1</sup> The 2013 household survey refers to the survey conducted for this evaluation that was administrated by Management Systems International & IPSOS in October & November 2013.

The final major component of CLP I's programming was to provide training in farm management business practices. WCF's partner, GIZ provided a weeklong training program called Farmer Business School (FBS), which reached 175,286 farmers across the four countries. As in the case of FFS training, the evaluation team found evidence that this intervention had created systemic change in national extension agencies. In Ghana, the Cocoa Board (COCOBOD), which delivers extension services to cocoa farmers, integrated the FBS training into their standard training cycle, along with FFS. In Côte d'Ivoire, it was similarly integrated into the national extension agency's services. This appeared to be an important impact, as many key informants believed that FBS training provided an essential complement to the technical training provided by FFS. Farmers in group interviews frequently reported that they had begun treating cocoa farming as a business and analyzed their investment decisions more closely.

FBS training also encouraged farmers to diversify their farms in order to mitigate risk, smooth income, and make their farms more competitive. In group interviews in all countries, farmers reported that they had increased production of other crops after FBS training. However, the household survey did not provide strong evidence to determine whether there was general trend for farmers to increase the numbers or quantities of other crops grown.

### **Key Lessons Learned and Recommendations**

The evaluation team identified several lessons learned and recommendations which may inform the implementation of the second phase of CLP. These were:

#### 1. Access to fertilizers and hybrid cocoa varieties remains a key constraint for cocoa farmers

The most common feedback farmers gave in group interviews was that the FFS training taught them good agricultural practices and tried to give them priority access to planting material, however there was never enough planting materials (i.e. hybrid seedlings and fertilizer) available, so the farmers couldn't implement these learned practices. In the case of hybrid varieties, the government in each country supplies planting materials through a national research organization. While FFS trainings have created demand for these varieties, farmers and key informants in all countries reported that the supply was insufficient to meet the demand. While this supply bottleneck appeared to be the main constraint, the evaluation team found evidence that CLP's approach to setting up community nurseries had improved the efficiency of distribution. Fertilizer use remained low in all countries, primarily because of its high cost relative to other agricultural inputs, but also due to late distribution by governments to farmers. Key informants from input suppliers, microfinance institutions, and cocoa exporters confirmed that the cost of fertilizers is too high for either farmers or any one private firm to bear the risk in most cases. The multiparty risk-sharing arrangements developed by Technoserve could offer a market solution to expand supply of fertilizers.

#### *Recommendations:*

- Coordinate CLP II activities with other current efforts to increase the supply of improved planting materials. This includes working with government research entities to increase the availability of hybrid pods and seedlings, and more timely fertilizer distribution.
- Expand the system of creating community/group nurseries to distribute cocoa pods with farmers.
- Expand credit schemes for fertilizers and other inputs - paying close attention to the profitability of the investment for farmers.

#### 2. Other stakeholders in the cocoa sector play a major role improving cocoa productivity.

The evaluation team found that private firms, national governments, and certification organizations are all engaged in large scale efforts to improve the productivity of the cocoa sector in West Africa. Exporters

reported that they had major corporate social responsibility and sustainability programs that extended services to farmers in addition to their activities under matching grants with WCF. In all countries except Cameroon, national extension agencies also provided training services to farmers across the country. Likewise, every farmer organization the evaluation team interviewed had either become certified or was in the process of becoming certified. Despite this profusion of cocoa sector interventions, CLP I appears to have made an impact on the sector, improving training curriculum in all four countries and coordinating the activities of cocoa exporters and national extension agencies. For example, the evaluation team found that FFS trainings had been a prerequisite for farmers to join some cooperative and seek certification. Many of the nine exporters that held matching grants under CLP I also used the FFS and FBS training methods for their matching grants, which has further harmonized training efforts. In interviews with CLP I staff, it appeared that the program's coordinating role had come about somewhat unintentionally; the original goal of the program was to deliver services directly to farmers, but the project took on a coordinating role with exporters and national extension agencies in order to make implementation as efficient as possible. For the second phase of this project, WCF can expand on this role, focusing on coordinating the efforts of all the stakeholders to improve cocoa productivity.

*Recommendations:*

- Make harmonization of cocoa sector interventions an explicit goal of CLP II.
- Consider including farmer organization representatives on the CLP II steering committee to provide feedback and share insights on the challenges farmers face.
- Work to integrate FBS training into the training curriculum of the national extension agencies and certification organizations.
- Create partnerships with certifying organizations to coordinate efforts, helping to eliminate training overlap.

3. CLP I's monitoring and evaluation system didn't sufficiently capture data on key outcomes.

This evaluation was limited in its ability to assess the final impact on the intended outcomes related to cocoa productivity. These outcomes were: (1) improving farmers' agricultural practices, (2) increasing cocoa yields, and (3) increasing cocoa farmers' incomes. The project collected data on these variables through a series of household surveys---a baseline survey conducted by Mathematica, a midterm survey conducted by Dalberg, two internal surveys, and this final survey. Because the three midterm surveys were based on a different instrument and a much small sample size, it was only possible to use the baseline and final surveys to evaluate change in key outcomes. The module of these surveys that covered good farmer practices gathered data on use or nonuse of a series of agricultural practices, but in most cases, large majorities of farmers report applying each practice. These surveys did not capture data on the quality of application of each practice, which made it difficult to track improvements in farming practices. Data on yields was collected through a module in the survey in which farmers report their farm size and the volume of cocoa produced in the last 12 months. Analysis of the data from this survey and the baseline survey found that large short-term fluctuations in reported yields made it impossible to assess the long-term trend in yields and the impact of CLP I interventions on yields. It is not clear to what extent the short-term fluctuation in self-reported yields reflects a real trend or is due to measurement error. Data on income was subject to the same short-term fluctuation, which made it impossible to draw statistically significant conclusions. For future studies, CLP II could either adopt a more rigorous method of measuring yields, or if cost is prohibitive, it may be most effective to focus resources on collecting data on agricultural practices. Options for improving data on yields could include collecting data more often, measuring cocoa plantations, measuring crop cuttings, or developing measures to validate the cocoa data.

*Recommendations:*

- Develop indicators to measure the quality of farmers' agricultural practices which can be collected through farm visits and working in collaboration with GAP trainers. Farm visits and observations

should be planned around the cocoa season and should take place at different stages in the season to be able to capture all practices as they are being implemented.

- Redesign monitoring and evaluation system for tracking key outcomes, such as yield and income, based on a cost assessment of different measurement systems.
- Work to develop standardized M&E system across the cocoa value chain to be able to measure each critical point in the chain. This should be developed and implemented through partnering with key industry partners and government agencies when possible.

#### 4. Farmer Field School training is most effective when it provides hands-on experience

Evidence gathered in this evaluation suggested that FFS training was most effective when it provided the maximum amount of hands-on experience and demonstration for farmers. In one important example, FFS trainers reported that correctly pruning cocoa trees was a difficult practice to teach because it is counterintuitive for many farmers that removing branches could ultimately increase yields. FFS was most effective where the farmers were taught to do this correctly in the field and then had a chance to see the difference it made in the final harvest. While the evidence suggested that this was the main strength of FFS training, there were some indications that a change in the implementation of FFS training partway through the program could have weakened the focus on demonstration and practical experience. The training cycle was reduced from nine months to six months in every country except Ghana, which meant that the training was no longer aligned with the harvest cycle. Both farmers and trainers in all countries where this change was made, reported that this made it difficult to teach some practices and meant that farmers didn't necessarily see the final result. The evaluation team also found evidence that in some cases the FFS training cycle didn't always adapt to local needs. For example, in Southwest Cameroon, farmers reported that it rained so frequently that drying their cocoa in the sun was not possible, but the FFS training curriculum recommended sun drying.

#### *Recommendations:*

- Align FFS training cycle with the cocoa growing season to the extent possible.
- Adapt training curriculum based on local needs and trainers' feedback.