



Cocoa
Fertilizer
Initiative

Cocoa Fertilizer Initiative

2012 - 2017

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Looking back, moving forward: reflecting on five years of the Cocoa Fertilizer Initiative



Go back just five years and the position of fertilizer in the cocoa industry was viewed in a very different light than it is today. The input was generally not accessible and, even if it was, it was too expensive. The fertilizer formulae hadn't been updated in nearly 50 years. And the current generation of cocoa farmers were farming without the benefit of government-subsidized extensions that existed in the 1960s and 1970s.

The Cocoa Fertilizer Initiative was established in Abidjan in 2012. Our joint mission—with the fertilizer and cocoa industries, cocoa traders, civil society organizations, and government—was to mitigate some of the issues around the accessibility/affordability of fertilizer, and return soil fertility to the cocoa soils of Côte d'Ivoire. With serious problems caused by superannuated farms and depleted soils, the cocoa sector was—and is—in urgent need of investments.

Our combined efforts have resulted in much-needed innovation. This document presents clear insights the ways in which the Initiative has contributed to fertilizer, soil fertility, and crop nutrition becoming key issues on the agenda of cocoa-sector stakeholders. It considers the growing adoption of fertilizer among farmers and cooperatives; and best practices for delivery models, fertilizer readiness, public-private cooperation, and sustainable return on investment.

We hope this information will help all stakeholders in the cocoa industry to reflect on the progress that's been made, before we turn, once again, to the challenges in front of us.

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When we started, people were asking, ‘Do we really need fertilizer?,’ and now fertilizer is fully integrated as a critical element in the service package in cocoa. Now people are working with fertilizer instead of just talking about it.”

— Lucian Peppelenbos
Director of Learning and
Innovation, IDH



The Initiative convinced them to move, to do something about cocoa. Today, farmers, fertilizer suppliers, the cocoa industry—everyone is convinced that we need to look at soil restoration on cocoa farms.”

— Jonas Mva Mva, Cocoa Program Director, IDH

Forging solutions: the power of the collective approach

Our collective approach has been key to the progress made thus far, and the partnerships and investments established because of the Initiative will continue to propel the cocoa sector forward.

Five years ago, poor soil fertility was an obstacle to profitability in the cocoa sector. Now, as the journey to unlock increased productivity for cocoa farmers continues, fertilizer use combined with good agricultural practices (GAP) and improved planting materials are recognized as key elements that can enable cocoa farmers to maintain or enhance their harvests.

There have been some big successes. For one, companies have set targets on volumes of fertilizer to be distributed to farmers. By leveraging the supply chain to reduce costs, the Initiative has helped to lower the price of fertilizer by approximately 20 %. And the farmer business case is building, with innovations in the private sector seeking to tackle risk sharing. Thanks to partnerships between supply-chain partners, financiers, and coops, there are now models in place to ensure successful delivery of fertilizer to the farmers. We have also gained crucial insights on soil status, and research into soil rejuvenation aims to lead the way to a sustainable future.

PARTNERS AND THEIR ROLES

The World Cocoa Foundation (WCF) has been a major catalyst, aligning the cocoa industry with its CocoaAction strategy, of which the Initiative was a pillar. CocoaAction coalesced into a voluntary community of interested and innovative companies convened by the WCF: this community's unique makeup allows it to drive the results of the Initiative into the next stage of its evolution.

Through the Initiative, relationships were built with fertilizer suppliers. With the cocoa-industry players acting as trust generators, the fertilizer suppliers became interested and engaged in exploring alternative models of distribution and purchase. Their willingness to take risks to stimulate the market has been an indispensable element of the achievements made during the last five years.

Le Conseil du Café-Cacao is an organization with a mandate to support, assist, and improve legislation, stability, and development in the coffee and cocoa sectors. In Côte d'Ivoire, Le Conseil has stepped up to the role of coordinating the sector, a task that has given significant credibility to the Initiative's activities, interventions, and innovations. For example, Le Conseil has been instrumental in mandating the research agency CNRA, and the extension agency ANADER, to conduct research and develop training manuals.

IDH filled the roles of incubator and secretariat, helping to motivate investments and form risk-sharing initiatives. Renske Aarnoudse (Country Manager CDI, IDH), was relocated to Côte d'Ivoire, where she helped the Initiative to maintain momentum. Regular meetings were ensured, projects were driven on the ground, and—crucially—the development of knowledge and the facilitation of policy dialogue were catalyzed (with Le Conseil). IDH has also been a co-investor in the Initiative.



Forward momentum: the dynamic legacy of the Cocoa Fertilizer Initiative

The Initiative's dynamism, its willingness to hit the ground running and determine how to deal with problems as they arose, created an environment in which major innovations could take root and flourish.

The dynamic nature of the Initiative will continue under the Public-Private Partnership Platform (PPPP) managed by Le Conseil. As partners old and new gather under PPPP's umbrella, the cross-sector response will remain vigorous and adaptable. The Initiative succeeded in bringing together private and public partners from the cocoa and fertilizer sectors: the PPPP has the chance to continue in the same vein.

The challenges that lie ahead are not small. There remains a need for stronger monitoring and data, and more experience sharing among partners. There is a need to reach consensus on renewed fertilizer recommendations. The baseline obstacle to fertilizer adoption remains the accessibility and affordability of the input. Data collection and interpretation—and the use of that data to refine the design of new Service Delivery Models (SDMs)—are vital if the perceived risks of financing fertilizer are to be mitigated. Significant time, effort, and funds have been invested into this research, and the investment must continue.

One example of this is the IDH Farm & Coop Investment Program, which convenes partners to accelerate learning through constructive dialogues on best practices and is designed to stimulate such investment. IDH will run the Farm & Coop Investment Program in Côte d'Ivoire with a heavy emphasis on learning and, as such, the pilot and prototype approach will be used to drive its projects. Studies on SDMs and farmer segmentation are ongoing and will be further used to inform this approach.

As the Initiative transitions into PPPP, it will see the big companies focusing on three topics: coops as independent service providers, farm development plans that can support farmers in a more entrepreneurial decision-making process, and the research agenda (to which a handful of companies—Nestlé, Mondelez, Barry Callebaut—are committed). Fertilizer companies are interested in pursuing the business model through coops, and want to grow the number of coops they work with. These companies are also clearly expressing their interest in the knowledge agenda.

Learning from the Cocoa Fertilizer Initiative:

insights for future partnerships

During the course of the last five years, we have all shared valuable experiences and learned important lessons. In the following sections, you'll find thoughts and recommendations on everything from Global Challenge Corporation's evaluation report to designing Service Delivery Models (SDMs) and identifying fertilizer-ready farmers. While many are refracted through the lens of IDH's experience—we interviewed our own team to gather their thoughts on the Initiative—all can be used as learning insights.

The Global Challenge Corporation's evaluation report: offering key insights

The evaluation report from Global Challenge Corporation is valuable precisely because it shows how far we've all come and offers key future insights. The report clearly acknowledges the importance of fertilizer, and that fertilizer distribution systems need improvement. It also acknowledges the importance of the Initiative in setting the agenda, and highlights that it takes a dynamic platform to make this happen.

Strong recommendations are also made on how to continue implementing the project's goals, further validating a fact that the Initiative brought to the agenda—namely that addressing the accessibility and affordability of fertilizer is vital. The notion of fertilizer-readiness is also recognized as important: in short, how can we make sure that fertilizer is distributed to farmers who are ready to apply it correctly?

The report also points to a key learning for the future in that it notes the limitations of monitoring and evaluation (M&E) thus far. Although fertilizer usage in Côte d'Ivoire has increased, M&E at farm level has been weak. Certainly, the emphasis thus far has been on driving joint activities rather than monitoring individual activities. This focus has been effective in enabling the Initiative to adapt to a changing landscape and address challenges as they arise. But it has led to a weakness in monitoring that could yet be addressed through company action plans: regular meetings



(perhaps every three or six months) where companies come together to report on how they are progressing (in terms of their company action plan). These could become an effective monitoring tool in the future.

The volumes of fertilizer driven through the Initiative's projects remain important, despite the fact that they were relatively small. They're important because they were accompanied by extension services, and because they fostered experience in key areas, such as SDM design, finance prototyping, and coaching. And while overall data collection has not been the strongest point of the Initiative, some partners (like Advans) have collected useful information showing a positive fertilizer effect on yields. For the future, we all need to ensure more of this data is collected effectively.

REPORT

Rebuilding cocoa extension services

During what IDH Cocoa Program Director Jonas Mva Mva calls the “good times”—the 1960s and 1970s—cocoa trees were healthy. Farmers were applying fertilizer made from chicken manure and food waste. And where they broke cocoa pods and left the shells to decompose, they noticed the trees were healthier than on the rest of the farm. This awareness of soil fertility was unfortunately short-lived. In those good times, government extension services supported farmers with access to inputs. But the bust that hit cocoa-producing countries in the 1980s brought the government extension services, and the good times, to an end.

Ask Jonas Mva Mva about the moment that he began to believe that the Initiative could work, and he'll tell you a story from the early days of the Initiative about a shipment of 10,000 tonnes (11,023 tons) of fertilizer traveling from supplier OCP in Morocco to Abidjan. It was a risky consignment, given that OCP had no guarantee the fertilizer would be sold.

What was essentially enough fertilizer for a year's supply took three years to sell: illustrating the system failure that drove the establishment of the Initiative. A system failure caused by lack of finance and poor fertilizer availability—and one that could not be solved by the actions of one company alone.



As farmers began to purchase the fertilizer, however, something interesting began to happen. Companies started to engage. Local fertilizer suppliers began to compete, and a supporting economy supplying fertilizer competitively took root. All of a sudden, the reasoning behind the Initiative was validated: bring the fertilizer industry together with the cocoa industry, and coalitions of key players could start improving the productivity and livelihoods of the cocoa farmer. With this one historic shipment of fertilizer, made by a fertilizer exporter and sold by service providers in Côte d'Ivoire, the methodology of convening international suppliers, local organizations, and even whole industries was proven to have potential: and the Initiative gathered momentum.

Nearly 40 years after the good times ended, the partnerships forged by the Initiative have begun to replace the support once provided by those long-defunct government extension services. In fact, the work of the Initiative hasn't just brought fertilizer into Côte d'Ivoire: it's brought fertilizer to the farms. It has also brought the price of fertilizer down—allowing more farmers to afford this vital input.



The case for the agro dealer network: a future role for the Ivorian cocoa sector

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**For a cocoa farmer,
if you want return on
investment, fertilizer
is key.”**

— Jonas Mva Mva, Cocoa
Program Director, IDH

Agro dealers can ensure a farmer has access to the right quality fertilizer, at the right moment, and at the right price. As Jonas Mva Mva reflects, “The Initiative’s idea of an agro-dealer network was to identify who was distributing inputs and then train individual sellers on the product they are selling. This way, they could become technical advisers to farmers and even have a small team to monitor and follow implementation of the fertilizer.”

It’s a measure of the adaptability of the Initiative that the African Fertilizer and Agribusiness Partnership (AFAP) identified the necessary risk sharing as more applicable to SME agro dealers than to cooperatives, and initiated a training project to train agro dealers. The Ivorian cocoa sector, however, wanted to press ahead with training coops because that’s what the sector

has historically done. AFAP adapted their training to focus on coops, but it didn’t work. In the end, the sector aligned with AFAP’s initial strategy.

Coops are not agro dealers, but both agro dealers and coops will play key roles in the future of the Ivorian cocoa sector. The sector has traditionally been focused on coops, and has made efforts to professionalize them. But there is also a case for professionalizing SME agro dealers, which may be in a better position to receive training and deliver the inputs and support the cocoa farmers need.

REPORT

The fertilizer-ready farmer: maximizing return on investment

As the evaluation report highlights, facilitating a farmer's access to fertilizer is vital. The challenge for the Initiative has been how to do that without imposing impossible risks on farmers, cocoa-industry players, or financial institutions.

The work of the Initiative on supply-chain logistics and pricing has been one key aspect in facilitating access. As mentioned earlier, the Initiative has helped to lower the price of fertilizer by approximately 20 %, through leveraging the supply chain to reduce costs. Work around effective SDM design and the notion of the "fertilizer-ready" end user have also been crucial components in facilitating access.

When the notion of being fertilizer ready came to the fore, the focus shifted from universal uptake of fertilizer to targeted availability. Fertilizer readiness became a designation (albeit informal) that shows a farmer is likely to utilize fertilizer effectively enough to have a positive impact on yield, and therefore on the return on investment. Cocoa industry players began facilitating access to fertilizer for reliable cooperatives and farmers by identifying candidates ready to take on finance. But in order to identify such candidates, IDH had to examine the question: what does it mean for a farmer to be willing to invest in a farm?

Training is a key component of fertilizer accessibility: if a farmer is trained in correct application procedures and coached on the specific needs of his farm, that farmer is more likely to generate yield improvements. If the same farmer is also required to make savings up front—in order to invest in the costs of training and/or of the newly accessible fertilizer—then the willingness/ability to save acts as a self-selection mechanism. In a nutshell: the farmer who can save is the farmer who represents the lowest risk. That's lower risk for the coop subsidizing fertilizer costs, and for the financial institution or fertilizer company facilitating the supply of the input.

Renske Aarnoudse, Country Manager CDI, IDH, is keen to underline the ways in which the Initiative has impacted the cocoa industry's understanding of viable SDMs. For example, she recollects how at the project's start, various fertilizer payment models were considered as being theoretically practical: cash-and-carry, fertilizer for beans, and credit. Renske notes that as theory moved into practice, partners realized that there wasn't a single farmer

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Can we just distribute fertilizer to anyone who says he is a farmer because he has a cocoa tree? We need to think about getting fertilizer to farmers who are ready to use it.”

—Jonas Mva Mva, Cocoa Program Director, IDH

or coop that used just one of these distribution models exclusively. A farmer might pay for some fertilizer with money saved; but later in the season, that same farmer may receive fertilizer on credit. Or farmers may pay for fertilizer with both beans and cash. The key point is that the sector has learned there is a proxy: if a farmer actually saves money, it means that farmer is dedicated, and more likely to carry out the right preparations on the plantation. (And those very preparations make the use of fertilizer more effective and, as a result, more likely to generate revenue.) That same farmer will also be more engaged in meeting any repayments after the harvest.

Thus, the various distribution models prototyped by the members of the Initiative played into the realization that if you talk fertilizer readiness, you also talk finance readiness. An entrepreneurial mindset was clearly identified as a key factor in identifying a fertilizer-ready candidate.





Three theoretical service delivery models prototyped under the Initiative:

1 Cash-and-carry

Companies work to make fertilizer more available in remote locations, where it can be bought by farmers who now have access to the product. The cash-and-carry model is very low risk and is widely used, but uptake is weak where farmers don't have sufficient access to funds at the start of the season.

2 Fertilizer for beans

Several projects focused on fertilizer for beans, with coops or exporters taking on high levels of risk to provide fertilizer and later receive repayment through the delivery of beans. Some projects had moderate success with this approach, particularly where a premium offered for quality beans covered the price of fertilizer. Others had challenges with high default rates and were not able to identify which farmers were to receive fertilizer. The fertilizer-for-beans model has now evolved into "beans for fertilizer," whereby farmers save a portion of the fertilizer's cost and repay the balance with beans the following season. Savings are made through access to a savings account.

3 Credit

Farmers receive credit through their cooperatives. They usually make an upfront payment through savings to the cooperative—which orders, receives, and distributes fertilizer (often with assistance from a microfinance institution [MFI] and/or cocoa exporter). Farmers repay the cooperatives, and the coops repay the lender. Around 80 % of current fertilizer distribution facilitated by cooperatives runs through credit schemes operating from fertilizer supplier to cooperatives.

REPORT

From learning to adoption: driving impact with knowledge



Fertilizer needs to go hand in hand with knowledge. There are a million myths about how to use fertilizer, and 99% of them are just that: myths.”

— Lucian Peppelenbos,
Director of Learning and Innovation, IDH

Farm development plans arose as part of the Initiative-led transition from training to training and coaching. When the Initiative began, training was largely about certification, and there was an assumption that farmers would adopt what they learned. But the Initiative’s partners discovered that adoption rates were low, and the question became how to ensure training resulted in adoption. In addition, cocoa-industry players engaged in training all had their own training materials. It wasn’t clear whether everyone was telling the farmer the same story, and so the Initiative worked on developing standardized content: what should the farmer be trained on when they are taught good agricultural practices (GAP)?

This is where farm development plans (FDP) come in. As Renske Aarnoudse reflects, “It’s all very well knowing that you can prune trees, but the FDP answers the question, ‘When I am on my farm, how do I know which trees to prune?’”

A farm development plan detailing how a plantation will be developed is discussed and agreed on with an individual farmer: for example, the farmer will create a plan for the farm’s rehabilitation, replanting, or fertilization together with a coach. Many of the aspects of the FDP, including these tasks and others, have been thoroughly detailed over the last five years. Now it’s possible for coaches to visit a farmer on the plantation and provide guidance right where it is required.

Two manuals have been developed so far: one for farmers, one for trainers. Except, as Renske noted, the manual for the farmers was an 80-page document, which no single farmer is likely to leaf through and absorb: “So now partners are saying that it’s good that we’ve aligned on the content, but it would be much better to align on training tools.” Coaching and training materials can get the right information, and the right knowledge about best conditions for fertilizer application, to the people who need it. But they need to come in the right form. Coaching success stories remain anecdotal after this pilot phase of the Initiative, but companies are positive. Overall, they see a difference in farmers. Moving forward, companies are collaborating on dedicated training tools, and the momentum established as a result of the Initiative looks set to continue.



A challenge for the future remains how to build on the knowledge the farmers gain. Historically, training curricula have been the same year after year, so while farmers may have attended multiple years’ training sessions, they haven’t learned anything new. And on the training/coaching side, the Initiative’s partners have already realized that turning graduates from the agro-technical college into coaches might require a little extra training on how to make the most effective connections with farmers.



The science of the cocoa tree: using research to improve soil fertility

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When you look at the soil today, nothing has been given back to it for 60 years. It is time to give back.”

— Jonas Mva Mva, Cocoa Program Director, IDH

Underpinning everything that’s happened so far, and all the challenges that lie ahead, is our knowledge of the cocoa tree. Research and a deepening understanding of the influence of variables such as tree age, shade, and soil conditions are core requirements for the accuracy of assessments of farm development plans.

The last soil map of Côte d’Ivoire was created in the 1970s. Thanks to the work of the Initiative, there is now a new soil map, which will be of great value to companies and research institutes engaged in developing new fertilizer formulae. The CNRA soil mapping report details the project’s discoveries and process.

The soil map is just the start: it’s good, but the sector needs fertilizer recommendations. The current gaps in our fundamental knowledge about the cocoa tree and how to drive its productivity need to be addressed.

Moving forward, there are high hopes for the multi-factor trials that aim to address this gap in the knowledge base. A five-year project, this in-depth research will encompass multiple countries beyond Côte d’Ivoire. Led by Wageningen University and the International Institute of Tropical Agriculture (IITA), the trials will factor in plant physiology, soil, nutrition, light, water—all the elements that affect how the cocoa tree grows and therefore which fertilizer formula might be most effective. Each company involved will take charge of at least one of these trials: crucially, all work will follow the same scientific protocol. It’s an innovative project. Fittingly, the idea for it sprouted during a field visit of the Initiative’s science committee.




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