

KNOWLEDGE PRODUCT



**HOW SOLIDARIDAD ENHANCED FARM
PRODUCTIVITY UNDER THE MONDELÉZ
COCOA LIFE PROGRAM**

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INTRODUCTION




Cocoa Life is Mondelēz International's cocoa sustainability program. Launched in 2012, the program is designed to address the cocoa sector challenges to ensure the sustainability of cocoa production in Ghana and other cocoa-growing countries and contribute to community developments in cocoa regions. Thus, the overall strategic objective of the program is to assist cocoa-growing communities to strengthen their capacities to determine and achieve their own long-term goals geared toward driving their economic development and prosperity. The program's alignment with Solidaridad's multi-annual strategic plan to promote good practices and supportive business ecosystems birthed a strategic partnership between Mondelēz International and Solidaridad with the latter leading the implementation of the Cocoa Life program in the Eastern region of Ghana since October 2018.

Maximizing productivity is crucial for sustaining cocoa production in Ghana, amidst evolving trends in land use, climate change, and the prevalence of poverty among cocoa farmers. Key stakeholders in the cocoa supply chain have been looking for cost-effective and innovative solutions to address these challenges. Prominent among these innovations are Good Agricultural Practices-based Farm Development Plans, digital farming expertise, and agroforestry models.

Solidaridad under the Cocoa Life program introduced cocoa farmers to innovative production techniques to enhance productivity in cocoa-growing communities to increase farmers' incomes. The adoption of various techniques by farmers increased productivity levels from the current national average of 500 kg/ha to 1.2 and 1.5 tons/ha. These include the adoption of good agricultural practices, utilizing improved planting material and accessing credit for agro-pesticides, fertilizers and soil amendments aside from government support and rehabilitation.

In the long term, it is expected that farmers benefiting from these interventions will start making the needed investments in their cocoa farms to ensure sustainable production with consequential income improvements.



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GOOD AGRICULTURAL PRACTICES (GAP)

Good Agricultural Practices (GAP) are a set of principles, regulations, and recommendations designed to ensure sustainable and efficient cocoa farming. These practices are aimed at improving the quality and quantity of cocoa beans, protect the environment, and enhance the livelihood of farmers. To ensure that cocoa farmers under the Cocoa Life program adopt these best practices, Solidaridad provided comprehensive training structured into 12 modules. Each year, 22 training sessions were organized, offering both theoretical knowledge and practical applications. Practical sessions were conducted on demonstration plots, allowing farmers to gain hands-on experience and better understand the implementation of these practices.

TRAINING MODULES

Land Preparation: Land Preparation: For optimum growth and development, cocoa farmlands need to be prepared adequately before planting. Under this module, farmers were trained to identify and implement important steps involved in proper land preparation, including:

- Clearing underneath vegetation at the end of the wet season or at the start of the dry season to facilitate the felling of undesirable trees.
- Leaving resulting debris or weeds to rot, rather than burning them, to preserve potential humus in the soil.

Cocoa Nursery Establishment: To ensure the availability of quality planting materials, reduce seedling distribution costs, and maintain vigorous seedling conditions through reduced transportation time, farmers received technical training on cocoa nursery management and supported to raise individual and community cocoa nurseries. The seeds supplied by the Seed Production Division of the Ghana Cocoa Board. Seedlings raised from the nurseries were distributed to participating farmers for planting, ensuring the use of high-quality planting materials to enhance the productivity of cocoa farms.

Planting: Under this module, farmers were trained in lining, pegging and holing to maintain recommended spacing between plants to optimize land use, facilitate husbandry practices, increase yield per unit area, and boost income.

Soil Fertility Management: Insufficient soil cover can lead to soil erosion and fertility loss. Additionally, overuse of land depletes essential nutrients. Farmers were taught to combat this by covering the soil and incorporating plants for biomass to maintain soil fertility.

Shade Management: For this module, farmers were trained in various shade management techniques to ensure optimal shading for cocoa trees throughout their growth stages. Techniques such as intercropping were emphasized to provide appropriate shade levels. Shade is crucial at all stages of cocoa growth, with approximately 75% shade needed during juvenile stages and about 25% after maturity.

Weed Management: Cocoa farmers under the program were trained in manual weeding techniques to ensure the best conditions for maximum nutrient uptake, root space, and to minimize breeding sites for pests. Weed control is essential during the first three years of cocoa tree development.

Pruning: Under this module farmers were trained on proper pruning techniques to improve air circulation, reduce pest and disease infestations, shape the tree for easier harvesting, balance energy between leaves and pods, and allow more sunlight to reach the canopy of the cocoa trees. This is to help in increasing productivity.

Pest and Disease Management: Regular monitoring of cocoa farms for pests and diseases is essential for ensuring productivity. Farmers were taught preventive measures, such as early removal and disposal of infected pods by burying or burning them. Pesticides were recommended only as a last resort.

Harvest and Post-Harvest: Farmers were trained in proper harvesting techniques, including optimal timing, using appropriate tools to avoid damaging the trees, and extracting beans without injury. Training also focused on meeting cocoa quality standards.

Cocoa Farming as a Business: For this module, farmers were equipped with the knowledge to transform their farms into successful enterprises. Training included fundamental business concepts and principles, empowering farmers to harness their entrepreneurial abilities to maximize farm profitability.

Good Environmental Practices: Training focused on increasing awareness of sustainable farming practices that benefit the environment. Farmers were educated on environmental protection, deforestation, climate change, biodiversity, waste management, and water conservation.

Health and Safety: Farmers were sensitized on knowledge and tools needed to ensure their safety and that of other farmworkers to support the well-being of their communities.



INTEGRATED TRAINING APPROACHES

Solidaridad used multiple extension approaches tailored to the existing community knowledge to deliver training on good agricultural practices (GAPS). These approaches included farmer field schools (FFS), group training, demonstration farms, and video-viewing clubs.

FOUR-WAY APPROACH TO DELIVERING TRAINING ON GAPS

Solidaridad conducted GAP training for cocoa farmers in the project communities using FFS, demonstration farms, and video viewing clubs. Additionally, project beneficiaries were also given technical training on good agricultural practices for the production of food crops such as plantain, cassava, maize and vegetables using the FFS and the demonstration farm approach, where organized group training took place in the communities over a defined period to cover all technical agronomic topics with field demonstrations and practices. Solidaridad facilitated the development of a learning plot (demonstration plot) for the testing of the skills and knowledge of farmers who receive training. The learning sites were farms or plots belonging to one of the farmers at a convenient location for practical exercises.

Farmer Field School (FFS)

For effectiveness of this training approach, farmers were put in groups of 30 and organized for training in their communities. Twenty two sessions were organised per year. This comprehensive training covered the 12 modules under the good agricultural practices for both cocoa and food crops such as plantain, cassava, maize and vegetables.



Cocoa Life participants at a Farmer field school

Farmer coaching

One of the approaches used for the GAP training was farmer coaching. Under this approach, programme officers provided personalized guidance to individual farmers directly on their farms. Officers addressed specific challenges faced by farmers and demonstrated how various agronomic practices are carried out on the farm. This hands-on approach served as an avenue to monitor farmers' adoption of GAPs training received.

Demonstration farms

Drawing from our experience in delivering technical training, we utilized community demonstration farms to facilitate practical training on good agricultural practices in cocoa production.

Demonstration farms of about 1 acre belonging to farmers were adopted in each community at strategic locations for easy access and observation by farmers and other community members. All practical demonstrations, including pruning, weeding, and application of fertilizer and agrochemicals, were conducted on these plots. Farmers were able to have hands-on experience with new techniques and skills to effectively implement practices on their farms without challenges. These demonstration farms played a critical role in convincing farmers to adopt new techniques. By witnessing the positive changes and results first hand in these demonstration farms, farmers were more inclined and motivated to implement the new agricultural practices on their own farms.



Cocoa Life participants at a demonstration farm

Use of Video Viewing Clubs (VVCs)

To reinforce the learning and adoption of best practices introduced through the farmer field schools, video-viewing clubs were formed in all communities. These clubs augmented the FFS training by offering additional learning opportunities through educative videos. Each community was equipped with speakers, projectors, and pen drives containing GAP video content. In communities where many of the producers were women with other responsibilities and time constraints that prevented them from attending FFS training on farms, special video viewing sessions were organised for them.

These sessions, which focused on various agronomic topics in cocoa farming, were held in the evenings for organized groups. The video-viewing sessions were facilitated by trained community-based facilitators who asked questions and elicited discussions about practices for better understanding by the groups. Following these video sessions, groups arrange on-farm visits to put into practice the lessons learned on the farms.



Cocoa Life Participants at the video viewing sessions

RESULTS



95.1% of farmers (owners/ caretakers/sharecroppers) in Cocoa Life communities are active members of farmer organizations



10,619 farmers (**2,898** women and **7,721** men) currently registered under Cocoa Life



677,702 cocoa seedlings distributed



7,692 farmers increase their cocoa farm income per hectare



10,409 farmers (**2,759** women and **7,650** men) trained in good agronomic practices



133 cocoa nurseries established



1.0 MT/Ha average cocoa farm yields (T/Ha)



679,516 of cocoa seedlings produced in nursery



122 demonstration plots established



4,528 farmers increased their income from non-cocoa farm sources

LESSONS LEARNT

1. Capacity Reinforcement training of field officers on GAP and facilitation skills:

Reorientation of field officers on program objectives was key in aligning with project goals and enhancing their capacity to effectively implement the project. Going forward, it is essential to periodically review and reinforce this orientation throughout the project implementation to continuously build and strengthen officers' capacity.

2. Farmer coaching

During GAP training for farmers on cocoa and food crop production, the use of farmer coaching proved highly effective in facilitating the adoption of GAPs by farmers. Unlike the more general farmer field school approach, the use of farmer coaching addressed individual farmer's specific needs, leading to an increased adoption rate of GAP. However, this approach proved resource-intensive, limiting its widespread implementation. To optimize resources, capacity-building sessions were conducted for community animators. These animators assisted field officers in farmer coaching, leveraging their proximity to farmers for accessibility and support. Despite its resource-intensive nature, farmer coaching significantly enhances the adoption of GAPs among farmers.

3. Farmer Field School

The adoption of GAP training by farmers was observed to be directly linked to the availability of resources required by farmers to adopt new techniques. Additionally, it was noted that farmers with adequate resources were more likely to adopt GAPs compared to those facing resource constraints. The primary challenges identified were the lack of access to youth service groups and financial resources to support the adoption of agronomic practices. Going forward, it is crucial to establish youth service groups in all communities to address on-farm service needs effectively. Additionally, farmer groups must be linked with Village Savings and Loans Associations (VSLAs) to

facilitate easier access to loans to support farmers in adopting new techniques. It is important to note that the adoption of GAPs by farmers is significantly dependent on their access to finance and farm services.

4. Demonstration farms

Farmers showed more enthusiasm toward training on good agricultural practices done on demonstration plots, as it provided practical examples. The challenges in adopting practices were easily identified and practical solutions were provided to farmers for easy adoption. The tangible evidence observed on the demonstration farms effectively addressed farmers' doubts compared to theoretical explanations alone. It is recommended that this approach be consistently adopted to enhance learning and facilitate better adoption of practices.

5. Use of Video Viewing Clubs (VVCs)

The use of Video Viewing Clubs as a complementary tool to farmer field schools has proven to be an innovative and effective method to engage a lot of farmers who cannot join mainstream sessions due to time constraints. This is particularly useful for female farmers, as the viewing sessions create a convenient option for them to benefit from the training on GAPs. The challenge encountered during implementation was the inability to update videos to reflect new and improved approaches as they emerged. Additionally, the maintenance and operation of Video Viewing Club (VVC) tools, including speakers and projectors, presented difficulties because of frequent breakdowns that couldn't be promptly addressed.

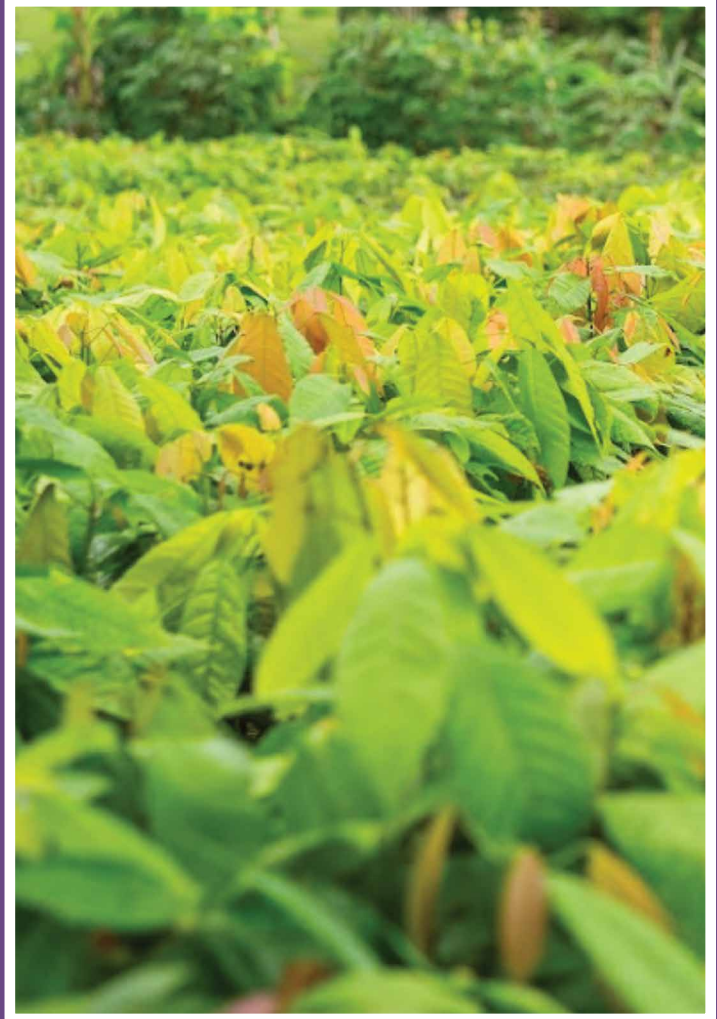
Moving forward, it is essential to select facilitators with a basic understanding of electronic gadgetry and provide them with regular training on VVC tool maintenance. Furthermore, training videos should be periodically reviewed and updated to ensure they meet the evolving needs of farmers.

6. Establishment of cocoa nurseries

The establishment of cocoa seedling nurseries in some project communities helped to meet the demands of some farmers for cocoa seedlings, either for the establishment of their new farms or replanting old farms. This activity should be continued, as it is very necessary for sustainable cocoa production.

One key challenge was the sourcing of the cocoa seed pods from the Seed Production Department of the Ghana Cocoa Board. The typical delay of pods for the establishment of these nurseries tends to discourage farmers, as they arrive after the nursery season has passed. In the later stages of the project, Solidaridad attempted to establish connections with multiple SPD stations to make it easier to source cocoa pods.

If this key activity is to be implemented in subsequent projects, there must be strong collaboration between the implementing partners and the SPD, such that there will be a timely delivery of cocoa pods for cocoa nursery establishment.





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