

Improving Access to Solar Irrigation Finance for Cocoa Farmers in Ghana: Co-Design Workshop

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CGIAR Sustainable Farming Program

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Front cover photo: Workshop participants in front of the IWMI office, Accra. (*photo:* Amissah Klinsman/IWMI).

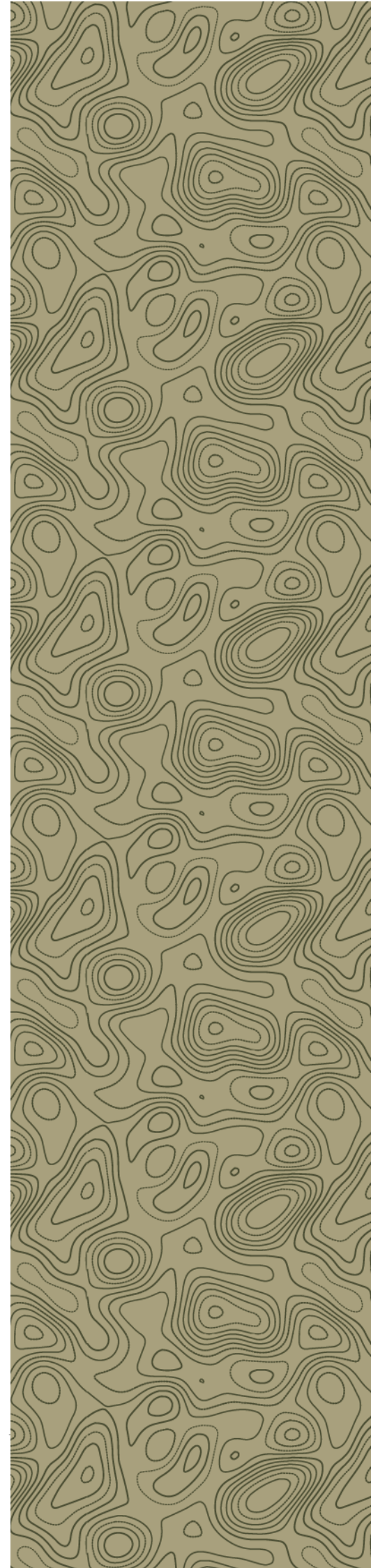
Back cover photo: Solar panels (*photo:* William Quarmin/IWMI)

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Introduction

Agriculture remains the backbone of Ghana’s economy, contributing about 20% to national GDP and employing nearly 40% of the population (Statista, 2024). Within this sector, cocoa stands out as a crucial export crop and source of livelihood for approximately 800,000 smallholder households (Statista, 2024). However, the cocoa industry is increasingly under threat from erratic rainfall and prolonged dry spells due to climate change, leading to declining yields and threatening household incomes (Obahoundje et al., 2025; Ofori-Boateng and Insah, 2014). Sustainable water management interventions, such as solar-powered irrigation, present a climate-resilient solution capable of stabilizing yields under climate-induced water stress conditions and supporting year-round production (Awafo and Owusu, 2022). Despite its promise, the technology remains largely out of reach for smallholder farmers because of its high upfront costs and limited access to affordable financing (Minh and Ofori, 2022).

The International Water Management Institute (IWMI), through the CGIAR Excellence in Agronomy and Sustainable Farming Programs, is using a partnership-driven approach to co-design and promote innovative financing modalities that support cocoa farmers in adopting solar-powered irrigation. This process has involved a series of interactive engagements, including workshops and bilateral discussions with a wide range of partners, including the Ghana Cocoa Board (COCOBOD), Pumptech, Interplast, Access Bank, farmers, and cooperatives.

The work started with empirical research on effective demand for solar-powered irrigation among Ghanaian cocoa farmers (Gbodji et al., 2023), which confirmed strong interest but also revealed financing as the key barrier to adoption. Building on these results and on interactions with farmers and partners during a validation workshop, a second study was designed to identify which financial modalities would be attractive to farmers. The study, based on a discrete choice experiment, highlighted the importance of affordable loan conditions, such as longer loan durations and group ownership (Gbodji et al., forthcoming). When these results were presented to partners in a subsequent workshop held a IWMI in 2024, Access Bank identified an opportunity to align with the Mastercard Foundation’s BRIDGE-In Agriculture (BIA) Impact Fund, which the bank is mandated to deploy in Ghana. This facility provides farmers with subsidized credit at a 4% interest rate, a 3-4 year repayment period, and a six-month moratorium, while the irrigation equipment could serve as collateral. Importantly, it is available to both individual farmers and farmers’ groups or cooperatives.

With this financing modality identified, the next challenge for partners was determining how to operationalize it in a way that converts farmer interest into actual borrowing and investment in solar-powered irrigation. Therefore, on 10 July 2025, IWMI convened a co-designed workshop to discuss the most appropriate strategies for leveraging this financial opportunity. The workshop brought together 26 participants from financial institutions, irrigation equipment suppliers, farmer cooperatives, research organizations, and the Ghana Cocoa Board (Figure 1).

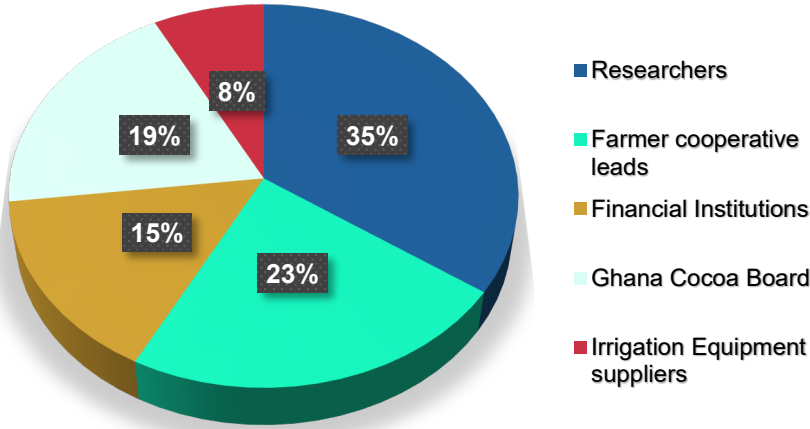


Figure 1. Share of participants by stakeholder group (N = 26).

Impact of Climate Change and Implications for Cocoa Farming in Ghana: What COCOBOD is Doing

The first session of the workshop covered the Impact of climate change and implications for cocoa farming in Ghana and explored what COCOBOD is doing. Cocoa farming is a vital part of Ghana's economy, supporting over 800,000 households and contributing significantly to GDP and foreign exchange earnings. As the world's second-largest cocoa producer after Côte d'Ivoire, Ghana plays a major role in Africa's production of over 75% of the global cocoa beans. Millions of smallholder farmers depend on cocoa for their livelihoods, and the sector is a key source of rural employment, particularly for women and the youth. However, cocoa farming is increasingly threatened by climate change. Cocoa thrives in temperatures between 21–25°C, but average temperatures in Ghana could rise by up to 2.5°C by 2050. This warming is already causing heat stress, which reduces flowering and yields, with yield drops estimated to reach about 37% in dry

years (Obahoundje et al., 2025). Cocoa also depends on consistent rainfall, but climate change is driving longer dry seasons and more intense flooding, leading to poor pod development and crop loss. Over 90% of cocoa farms in Ghana are rain-fed, making them especially vulnerable. Warmer, wetter conditions are further fueling outbreaks of pests and diseases, such as capsids and black pod, which increase production costs and reduce yields. As suitable cocoa-growing zones shift to higher altitudes, some farmers encroach on protected forests, contributing to deforestation, biodiversity loss and land-use conflicts. These climate-driven challenges are reducing farm incomes and worsening rural poverty, with women and youth disproportionately affected because of their limited access to resources. Beyond Ghana, the impacts are global, with Africa accounting for the majority of the world's cocoa production; declines in major producing countries like Ghana could lead to global supply shortages, price spikes, and serious implications for the chocolate industry.

To safeguard Ghana's cocoa sector from the mounting threats of climate change, the Ghana Cocoa Board (COCOBOD) is implementing a range of climate adaptation and resilience strategies. One key intervention is the promotion of agroforestry systems, which involve planting shade trees on cocoa farms to protect crops from excessive heat, enhance soil fertility, and preserve biodiversity; as part of this, COCOBOD now encourages all newly established cocoa farms to plant a diversity of shade trees from day one, embedding climate resilience into farm design. COCOBOD also supports the development and distribution of climate-smart cocoa varieties that are more tolerant to drought, heat, and disease. To help farmers prepare for adverse weather and pest outbreaks, COCOBOD is working with partners to establish early warning systems that provide timely weather forecasts and alerts on emerging pest and disease threats. In addition, the board is investing in irrigation infrastructure as well as soil fertility and water conservation practices, such as mulching and cover cropping, to reduce dependence on rainfall and protect against erosion. As part of its efforts to promote irrigation, COCOBOD over the past 6-7 years has installed solar-powered irrigation systems for about 60 selected farmers (Figure 2). This initiative was aimed at raising awareness about the feasibility and benefits of cocoa irrigation, especially under increasingly erratic rainfall

Key notes

- **Economic and social importance:** Cocoa farming supports over 800,000 households in Ghana, contributes significantly to GDP and foreign exchange, and provides employment for millions, particularly women and youth.
- **Climate change impacts:** Rising temperatures (up to 27.5°C by 2050), unpredictable rainfall, and increased pest/disease outbreaks are already reducing yields and affecting pod development, especially since over 90% of Ghana's cocoa farms are rain-fed.
- **Growing environmental pressures:** Climate change is shifting suitable cocoa zones to higher altitudes, causing farmers to encroach on protected forests, leading to deforestation, biodiversity loss, and land-use conflicts.
- **Global supply chain at risk:** As Africa produces over 75% of the world's cocoa, climate-related production declines in Ghana threaten global supply, causing potential price spikes and risks to the chocolate industry.
- **COCOBOD's climate adaptation measures:** To build resilience, COCOBOD is promoting agroforestry, distributing climate-smart cocoa varieties, installing early warning systems, supporting irrigation (including solar-powered systems for 60 farmers), promoting soil conservation, training farmers, and encouraging income diversification.

patterns. Recognizing the importance of building farmer resilience, COCOBOD also runs training programs to educate farmers on good agricultural practices, sustainable land use, and climate-smart techniques. Moreover, the board encourages farmers to diversify their income sources by integrating other crops and value-added activities, thereby reducing their vulnerability to cocoa-specific climate-related shocks.

In conclusion, urgent and coordinated action is needed at all levels to protect the sector and the livelihoods it supports. It is essential to empower farmers with the right tools, knowledge, and resources. With strong collaboration among the government, industry, researchers, and farming communities, Ghana can reduce the impacts of climate change and build a more resilient and sustainable future for its cocoa industry.



Figure 2. Example of a COCOBOD-installed solar-powered irrigation system located at Assin Fosu, Ghana

Financing Modalities for Solar-Based Irrigation for Cocoa Farming – A Choice Experiment

Given that cocoa yields can decline by up to 37% during dry years (Obahoundje et al., 2025), solar irrigation offers a promising solution for safeguarding production. However, adoption remains low due to financial barriers. Following the opening session, the International Water Management Institute (IWMI) presented its ongoing work on inclusive finance for cocoa irrigation investment under the Sustainable Farming Science Program, highlighting innovative approaches to address the key constraints faced by cocoa farmers. These include uncertainties around borehole drilling, the high upfront cost of solar-powered irrigation systems, and limited access to institutional finance. To address this, IWMI conducted a discrete choice experiment with farmers to understand their preferences and willingness to pay for different financing options. [The findings from IWMI's research](#) (Gbodji et al., 2026) now provide a clear evidence base to guide how the Bridge-In Agriculture loan from Access Bank can be more effectively targeted to support cocoa farmers.

Mastercard Foundation’s BRIDGE-In Agriculture (BIA) loan is an innovative financing scheme designed to offer affordable short- to medium-term credit to agribusinesses. It features low interest rates and flexible collateral arrangements, making it accessible to a wider range of enterprises than traditional loans. The facility aims to promote dignified and sustainable employment opportunities for youth and women in the agricultural sector.

Modalities for Access Bank’s Agric-bridge loans

Key notes

- **Inclusive and flexible financing:** The Bridge-In Agric Loan offers between GHS 10,000 and GHS 10 million (USD 875 – USD 875,000) at a flat 4% interest rate, with flexible terms including bullet payments, a moratorium of up to 6 months, and repayment options aligned to agricultural cycles.
- **Tiered collateral requirements:** Collateral requirements vary by loan size - larger loans (GHS 1M –10M or USD 87.5K – 875K) require up to 60% cash collateral or asset charges, while smaller loans (GHS 10K–500K or USD 875 – 44K) require approximately 20%.
- **Support for climate-smart agriculture:** The loan is positioned to facilitate access to solar-powered irrigation, helping cocoa farmers mitigate water-related risks and improve resilience amid climate change.
- **Broad sector eligibility:** It supports a wide range of sectors, including agribusiness, food processing, agri-tech, logistics, aquaculture, livestock, extension services, and agricultural R&D, among others.
- **Job creation and gender inclusion:** The program targets the creation of 400,000 dignified jobs for youth in the agri-supply chain, with a strong focus on women and youth-led businesses, and a 70% women participation target.
- **Collaborative implementation:** A consortium led by CrossBoundary, with banks (Access, Fidelity, FNB), tech partner Pesewa, training institutions (Africa Skills Hub, Mind Builders Africa), and funder Mastercard Foundation, ensures end-to-end

The BRIDGE-In Agriculture (BIA) Loan is a blended finance product tailored to expand lending to agribusinesses and agriculture-adjacent sectors. Its design prioritizes inclusivity, affordability, and flexibility, making it suitable for a wide range of cocoa farmers. The loan aims to create dignified and fulfilling employment opportunities for youth and women, increase the flow of capital into agriculture, lower borrowing costs, and reduce traditional collateral requirements. Loan amounts range from a minimum of GHS 10,000 to a maximum of GHS 10,000,000 (USD 875 – USD 875,000), making it accessible to a wide range of businesses, from smallholder enterprises to mid-sized agribusinesses.

The loan is offered at a flat interest rate of 4%, with upfront fees of 3%. Repayment terms are designed to suit the cyclical nature of agricultural operations, with a tenor of up to two years, monthly repayments, and an optional moratorium of up to six months. Additionally, bullet payments may be arranged in alignment with specific value chain cycles, providing

borrowers with the flexibility needed to manage cash flow throughout the farming or processing season. Further details on the requirements for loans are presented in Table 1. Loan requirements become more stringent as the requested amount increases. For example, individuals applying for larger loans (GHS 1 million to GHS 10 million or USD 87.5K – 875K) are required to provide cash collateral of approximately 60% or secure the loan against the equipment being financed. In contrast, applicants seeking smaller amounts (GHS 10,000 to GHS 500,000 or USD 875 – 44K) may only be required to provide a lower cash collateral of around 30% or similarly secure the loan with collateral equivalent to the equipment.

Table 1. Requirements to access the loan

Criteria	Details
Business Registration	Cooperatives, Associations, Sole Proprietorship, Limited Liability
Minimum Operating Period	At least 6 months
Revenue Requirement	Must generate revenue through a business account from any bank
Impact on Youth	Should employ youth (full-time, part-time, seasonal), with emphasis on female youth
Impact on Farmers	Must impact smallholder farmers in any form
Loan Amount	Minimum: GHS 10,000; Maximum: GHS 1,000,000 (USD 875 – USD 875,000)
Tenor	24 months
Interest Rate	4% flat
Upfront Fees	3%
Tier 1	Amount: ≥ GHS 1,000,000 (USD 87,500) Collateral: 70% legal mortgage / 60% cash Financials: 2 years audited financials Bank Statement: From 2023 to date
Tier 2	Amount: > GHS 500,000 (USD 44,000) and < GHS 1,000,000 (USD 87,500) Collateral: 60% legal mortgage / 50% cash Financials: 1 year audited financials Bank Statement: From 2023 to date
Tier 3	Amount: GHS 10,000 (USD 875) – GHS 500,000 (USD 44,000) Collateral: 40% legal mortgage / 30% cash / 40% fixed & floating asset Bank Statement: At least 6 months
Turn-Around Time	6 weeks (without GIRSAL)
Application Link	Apply here
Impact Requirement per GHS 100,000 Disbursed	10 youthful workers (7 female, aged 18–35 years) 16 smallholder farmers impacted

Exchange rate = 11.43

Table 2. Partner Roles & Responsibilities

Partner	Role & Responsibility
CrossBoundary Advisory	Designs, oversees, and monitors the program, facilitates investments, and ensures accountability.
Access Bank, Fidelity Bank, FNB Bank	Provide and manage loan disbursements, adapt lending tools to agriculture, and build SME support ecosystems.
Pesewa	Develops and maintains the loan application portal, integrates systems, and oversees platform transition.
Africa Skills Hub & Mind Builders Africa	Deliver sector-specific training for SMEs, women, and youth, and assess training impact on jobs and performance.
Mastercard Foundation	Funds the program, provides strategic direction, and supports youth and women entrepreneurs through grants and capital.

Approaches for Promoting the Adoption of Solar Irrigation in Ghana's Cocoa Sector

During this session, the participants were organized into three breakout groups. Each group was tasked with discussion of three topics. First, the groups identified effective approaches for disseminating credit information (about the BRIDGE-IN Agriculture Loan) to support the adoption of solar-powered irrigation in the cocoa sector. Secondly, the groups explored strategies for successfully leveraging the BRIDGE-IN Agriculture Loan opportunity. Finally, the groups were asked to discuss any issues that might arise in promoting the loan facility and the next steps for rolling out their proposed approaches. The breakout groups were carefully structured to ensure representation of all participant categories. The group leaders later presented key insights from their discussions during plenary discussion.

Channels for Communicating Credit Information

In summary, the groups identified a range of information dissemination channels through which the BRIDGE-IN Agriculture Loan can be promoted to farmers, including lead farmers, bankers, cocoa extension agents, cooperative leaders, community information centres, radio programs, WhatsApp groups, announcements made in churches and mosques, and collaborative approaches are presented below:

Lead farmers: Lead farmers are typically respected and experienced individuals within farming communities who act as role models or early adopters of new technologies and practices. They are often selected based on their willingness to learn and share knowledge, good standing in the community, and success in farming. These individuals receive training or information from technical experts or program staff, which they disseminate through informal demonstrations, community meetings, or farmer-to-farmer interactions. The strength of this method lies in the trust and peer credibility it brings; farmers are more likely to adopt a new practice if they see someone they can trust using it successfully. However, the reach of lead farmers is often limited to their immediate communities, and their ability to explain more complex financial products like loan terms may require additional support or training.

Bankers: Bankers, particularly agricultural loan officers or relationship managers at institutions like Access Bank, serve as formal sources of information on credit products. They play a key role in explaining loan requirements, interest rates, repayment structures, collateral demands, and application processes to potential borrowers. Their communication typically occurs at bank branches, business forums, workshops, or on-farm meetings when they are organized in partnership with agricultural stakeholders. The advantage of this approach is the authority and accuracy bankers offer when discussing financial products. However, they may not always be familiar with the agricultural context, or the specific challenges faced by smallholder farmers, and farmers may perceive them as intimidating or unapproachable without prior sensitization.

Cocoa extension agents: Cocoa extension agents are field-based officers, typically from government institutions such as COCOBOD, who provide technical support, training, and advice to cocoa farmers. They are trusted by farming communities and often serve as the first point of contact for information on good agronomic practices, pest and disease control, and input access in rural areas. Given their established rapport and routine interactions with farmers, extension agents are well-positioned to disseminate information on new technologies like solar irrigation and complementary financing options.

However, during the discussions, participants, particularly those from COCOBOD, emphasized a critical concern: COCOBOD should not take the lead in communicating the Bridge-In Agric Loan. This may lead farmers to mistakenly perceive loans as grants or government subsidies rather than repayable financial products. Nonetheless, participants agreed that COCOBOD's role as a regulator and facilitator was important. Their extension officers will be essential for providing field-level support, clarification, and reinforcement of information once loans are introduced through other channels.

Community information centres: These are local public address (PA) systems, often loudspeakers mounted in central locations, used to make announcements about community events, government campaigns, or emergency

alerts. In some towns, they are run by local information officers or traditional authorities. They are effective in reaching wide audiences quickly, especially in rural areas where literacy is low and access to digital tools is limited. Announcements can be made in local languages and repeated to reinforce recall. However, this method is one-way and time-bound, so it does not support dialogue, clarification, or detailed explanation. It works best for simple, action-oriented messages, such as alerting farmers about upcoming meetings, deadlines, or new programs.

Radio programs: Radio remains one of the most accessible and influential communication tools in rural areas of Ghana. Agricultural radio programs, aired on local or regional stations, can reach a large audience across diverse locations. These programs may include interviews with experts, success stories from farmers, jingles, and call-in segments. Radio is especially powerful for raising awareness, building interest in a topic (like solar irrigation), and reinforcing messages through repetition. It is also useful in breaking gender and literacy barriers, as both men and women, literate and non-literate individuals, frequently listen to radio programs. However, the downside is that it lacks direct follow-up, and listeners may not always take immediate action without additional support or motivation to do so.

WhatsApp groups: WhatsApp is increasingly being used in agricultural development as a tool for fast, interactive communication. Farmer groups, cooperatives, extension agents, and NGOs often create WhatsApp groups to share updates, flyers, videos, voice notes, and answer questions. It enables two-way communication and real-time engagement, which is valuable for clarifying loan terms, reminding farmers about application deadlines, and sharing success stories from borrowers. Its effectiveness depends on access to smartphones, digital literacy, and data connectivity, which may be uneven in rural areas. Moderation is also required to ensure that accurate and relevant content is consistently shared.

Church and mosque announcements: Religious institutions are deeply embedded in rural and peri-urban communities and play an important role in social lives. Announcements made in churches or mosques during services or prayer meetings are often trusted, widely heard, and taken seriously by their congregations. These platforms are especially effective for reaching broad, mixed audiences, including women, elderly people, and those who might not attend farming or banking events. Religious leaders can lend moral legitimacy to development initiatives, enhancing community buy-in. However, the message delivery is passive and non-specialized, often depending on the religious leader's interpretation or willingness to support the initiative.

Combining communication channels: Using two or more of the above methods in combination can greatly amplify impact. A key takeaway from the workshop was the strong preference for a collaborative communication approach, rather than relying on a single method. While participants acknowledged that this may be more resource-intensive, they believe that combining multiple channels, such as cooperatives, bankers, lead farmers, religious spaces, community radio, and digital platforms, will be more effective in reaching and engaging farmers. For example, a radio campaign can raise awareness at scale, while cooperative leaders and lead farmers follow up with face-to-face explanations. WhatsApp groups can reinforce messages and keep conversations ongoing. Bankers and extension agents can provide technical and financial clarity during community meetings. A multichannel approach ensures repetition, credibility, broad coverage, and a higher likelihood of action, especially when introducing complex products such as solar irrigation financing.

A key message emerging from the discussion was the need for clear, culturally sensitive communication that emphasizes the nature of the facility as a loan, not a grant, to avoid false expectations. Participants noted that this distinction is especially important in rural contexts, where government involvement may lead to assumptions of subsidy or aid. While COCOBOD's involvement through its extension services is considered vital for field-level engagement, the consensus was that COCOBOD should serve as a facilitator rather than the lead communicator to avoid misinterpretation of the loan's terms. Instead, banks should lead on communicating technical details of the loan, including financial terms, eligibility, and repayment structures. Meanwhile, cooperatives and lead farmers will act as trusted local influencers and messengers, helping to disseminate information and encourage uptake. Extension agents and researchers will support the process through on-farm assessments, capacity building, and community engagement to ensure that the communication and implementation strategy is both effective and grounded in local realities.

Implementation Approaches: The Role of Cooperatives

Participants strongly recommended prioritizing well-structured, credit-worthy, and vibrant cocoa cooperatives as the primary entry point for engaging farmers in implementation efforts. Cooperatives were viewed not only as mobilization platforms but also as essential vetting structures that could help identify, recommend, and even guarantee suitable borrowers. Their existing leadership structures, group cohesion, and experience in collective decision-making make them well-positioned to coordinate loan dissemination and support compliance. Moreover, the cooperative can serve as an intermediary between the bank and the farmer, while playing the role of a loan guarantor. Participants agreed that focusing on farmers who are members of these organized cooperative, especially those who meet well-defined eligibility criteria, was the most practical and effective approach to take advantage of the BRIDGE-IN Agriculture Loan. The workshop suggested some key eligibility criteria for cooperative selection such as the formal registration of the cooperative, a robust organizational structure, effective management, and the maintenance of accurate financial records. Finally, there was a consensus about the necessity of piloting this cooperative-mediated approach with 1-2 cooperatives before scaling it up.

Other Considerations to Successfully Roll Out The BRIDGE-IN Agriculture Loan in Cocoa

Having identified some communication channels and agreed upon using cooperatives to mediate the loans, another important issue discussed at the workshop concerned how to ensure that the right farmers (within eligible cooperatives) who can actually take up the loan are selected. The workshop recommended some selection criteria - including farm size, tree age, maintenance practices, productivity levels, farm registration, and the use of farm records (either digital or paper-based). Farmers with a history of engaging in Good Agricultural Practices (GAPs) and maintaining basic record-keeping were considered more likely to meet loan requirements and demonstrate creditworthiness. These eligible farmers could be identified using the Cocoa Management System (CMS)¹, a digital database developed by the Ghana Cocoa Board to streamline and modernize the management of Ghana's cocoa sector.


Some additional suggestions were made for successful roll out of the loans to eligible farmers. It was argued that many farmers may find it difficult to repay loans in cash, so offering the option to repay with produce could make the process easier and more appealing. Additionally, repayment schedules should align with the cocoa harvesting season from September to December, when farmers have income, making it easier for them to meet their obligations. Participants also noted that it is important to engage farmers before the dry season begins in December to ensure financing and preparation are in place for borehole drilling. Since the best time to drill a borehole is during the dry season, when it is easier to assess water availability and ensure a successful outcome, good timing is critical for the success of irrigation investments.

Next Steps: Piloting Cooperative-mediated Financing

To move from planning to action, the following steps were proposed to guide the development and rollout of an effective communication strategy for promoting the Bridge-In Agriculture Loan to support the adoption of solar irrigation among cocoa farmers:

- 1. Establish a small working committee:** Participants recommended creating a dedicated working committee to oversee the piloting of the proposed cooperative-mediating approach to promoting the

¹ The Cocoa Management System (CMS) is a comprehensive national database developed by the Ghana Cocoa Board (COCOBOD) to digitize and streamline the management of Ghana's cocoa sector. It captures detailed information on cocoa farmers, including their identities, farm ages and sizes, locations, yields, income levels, and farmer demographics. The CMS also records and tracks purchasing clerks, service providers, and suppliers of key production inputs such as fertilizers and pesticides, along with their capacities and pricing. Registered farmers have Cocoa Identification Cards, linked to the national identification system (Ghana Card), which will serve as their official ID within the cocoa sector. The system is also designed to enhance traceability, transparency, and accountability across the value chain, laying the foundation for improved planning, resource allocation, and long-term sectoral development.



Bridge-In Agriculture Loan. This committee was to be responsible for coordinating activities across partners, designing targeted communication materials, identifying cocoa cooperatives, and leading the rollout of the pilot. Participants noted that the committee should include representatives from all the relevant stakeholder groups, such as financial institutions, COCOBOD, and irrigation experts.

2. **Identify and partner with vibrant cooperatives for pilot Outreach:** It was agreed at the workshop that the working committee should identify strong, well-organized farmer cooperatives through which the pilot will be implemented. COCOBOD was to provide a list of cooperatives that meet the eligibility criteria based on the information they have on their registry.
3. **Collect Data and Refine Farmer Selection Criteria:** To ensure the loan reaches suitable and high-impact beneficiaries, further data will be collected to refine farmer selection criteria. This process will consider variables such as farm age, maintenance practices, productivity levels, investment behavior, and past engagement with Good Agricultural Practices (GAPs). The CMS database, along with field assessments, will support this targeting process. This data will help Access Bank, through the selected cooperatives, to confidently identify creditworthy farmers and tailor loan delivery accordingly.

Conclusion

The Bridge-In Agriculture Loan presents a bold opportunity to transform cocoa farming in Ghana by bridging the gap between financial access and climate-smart innovation. The co-design workshop played a critical role in moving this opportunity one step closer to implementation by aligning evidence on farmer demand with the practical considerations of lenders, cooperatives, and technology providers. Through the discussions, participants converged on cooperative-mediated financing as a feasible and scalable pathway to operationalize the loan, recognizing cooperatives' role in farmer mobilization, vetting, and risk sharing. This shared understanding led to agreement on piloting the cooperative-mediated approach with one or two cocoa cooperatives as a next step to test feasibility and generate lessons for potential scale-up.

Annex A. Meeting Agenda.

Time	Activity	Remarks
08.30 – 09.00	Registration	IWMI Staff
09.00 – 09.10	Welcome by IWMI and COCOBOD	Dr. Giulia Zane (IWMI) Dr. Richard Acheampong (COCOBOD)
09.10 – 09.20	Impact of climate change and implications for cocoa farming in Ghana: What COCOBOD is doing.	Dr. Richard Acheampong (COCOBOD)
09.20 – 09.30	Financing modalities for solar-based irrigation for cocoa farming – A choice experiment	Mr. Kekeli Gbodji (IWMI)
09.30 – 09.40	Modalities for Access Bank's Agric-bridge loans	Mr. Mac-Neil Bruce (Access Bank)
09.40 – 09.50	Q&A	
09.50 – 10.10	Coffee Break	
09.50 – 10.20	Q&A	All participants
10.20 – 11.00	Breakout discussion topics: <ul style="list-style-type: none"> • What are the most effective channels for disseminating credit information to promote the adoption of solar irrigation in the cocoa sector? • What approaches should be used to effectively support access to credit (like the Bridge-In Agriculture Loan) adoption of solar irrigation among cocoa farmers (<i>Who should be involved? What roles should they play? What issues need to be addressed for success?</i>) • What are the next steps? 	IWMI
11.00 – 11.30	Reporting back from the breakout session	
11.30 – 12.00	Meeting closure: IWMI and COCOBOD	Dr. Giulia Zane (IWMI) Dr. Richard Acheampong (COCOBOD)
12.00– 1.00	Lunch and networking	

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