



**IREN AGRI**

INSTRUMENT ANALYSIS  
OCTOBER 2025



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## IREN Agri

LAB VEHICLE ANALYSIS

October 2025

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The Lab identifies, develops, and launches sustainable finance vehicles that can drive billions to a low-carbon economy. The 2025 Lab cycle targets three thematic areas (mitigation, adaptation, and sustainable agriculture and food systems) and five geographic regions (Brazil, East & Southern Africa, India, Latin America & the Caribbean, and The Philippines).

## AUTHORS AND ACKNOWLEDGEMENTS

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## SUMMARY

IREN Agri is designed as a blended debt fund, jointly developed by Societe Generale and Ksapa, that aims to improve the productivity, resilience, and sustainability of key agricultural value chains in Africa. To do so, the fund partners with cooperatives and smallholder-linked agri-SMEs to design and implement customized transformation plans, enabled through the provisioning of affordable medium-term financing, and supported by multi-year offtake commitments as well as specialized technical assistance and digitalization support.

Assessed against the Lab criteria, IREN Agri is:

- **Innovative:** With unique commitment from a major regional bank, IREN Agri improves access to medium term finance for chronically underserved agricultural cooperatives and agri-SMEs, leveraging flexible, co-designed transformation plans, multi-year offtake agreements, and structured repayment pathways to reduce investor risk.
- **Actionable:** Direct involvement from Societe Generale and their Côte D'Ivoire branch (SGCI) provides immediate lending capacity for 2026 piloting, as well as significant legal and fund management capacities. Ksapa, with years of experience supporting smallholder farmers around the world, provides tailored technical assistance, innovative financial expertise, and a scalable technology platform. Having been co-developing the initiative for more than 2 years, many partnerships – including with national government entities, off-takers, and non-profit partners – are in place to support initial piloting.
- **Financially Sustainable:** IREN Agri will leverage private capital, provided by SGCI (under the condition that borrowers meet predefined eligibility criteria), as the primary lending capital for initial piloting. As the fund scales, first loss equity and concessional debt help to crowd in additional private capital, ultimately making up over half of the envisioned EUR 100 million fund. As a track record is established, and further scaling enables a more diversified borrowing base, the share of commercial capital is likely to increase.
- **Catalytic:** Assuming proper disbursement and offtake partners can be secured, the overall structure of IREN Agri can be replicated across value chains and geographies, far beyond the initial and highly conservative serviceable available market estimate of EUR 500 million across just six West African countries. The initial blended fund structure targets more than 50% private capital, suggesting the potential to leverage hundreds of millions of euros of private capital through future replications.

Based on this performance against the core Lab criteria, the Lab secretariat recommends endorsing IREN Agri.

As part of preparation for 2026 piloting, key next steps include finalizing term sheets with committed offtake partners, as well as finalizing the design of training modules delivered via SUTTI, the Ksapa digital platform. Critically, the proponent teams seek the support of a concessional guarantee to derisk SGCI's future commitments for the pilot.

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## CONTEXT

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*Smallholder agriculture, vital to African economies and livelihoods, faces increasing climate pressure compounded by the lack of adaptation finance available to farming communities. Value chain approaches can engage exporters and cooperatives to drive urgently needed transformations.*

Africa's agricultural economy, including key export commodities like cocoa, cotton, and cashew, is increasingly threatened by climate change. These crops, central to rural livelihoods for tens of millions of people, face multiple, interconnected threats: rising temperatures, erratic rainfall, prolonged droughts, and increased pests and diseases.

As a result, major cocoa-growing areas in Côte d'Ivoire, for example, could see yields drop by about 40% by 2050 (Kongor et al., 2024). Similar reductions in suitable growing areas are projected for cashew, an important and growing export crop in Côte d'Ivoire, as well as in other countries like Benin and Burkina Faso (Gruter et al. 2022; Metangbo et al. 2023). Rainfed crops like cotton and rice are also extremely vulnerable to rainfall variability and prolonged dry spells.

Such climate threats jeopardize not only future crop production but also millions of rural livelihoods that depend on it. In Côte d'Ivoire, for example, where a fifth of the national GDP derives from agriculture, more than a million smallholder farmers rely on cocoa production as their primary source of income (Kongor et al., 2024; Asoko Insight, 2021). Despite their critical role in national economies and clear vulnerability, such smallholder farmers frequently lack access to the financing they badly need to adapt and respond to such pressures (Voora et al., 2019). Indeed, recent estimates suggest that smallholder farmers and agricultural SMEs in sub-Saharan Africa face a financing gap of over USD 100 billion (IFC, 2024; ISF Advisors, 2022). Access to medium-term finance, essential for upgrading agricultural infrastructure, replanting climate resilient varieties, or diversifying income, is particularly limited.

While recognition of smallholders' role in building low-carbon, climate-resilient agricultural systems is growing, traditional finance approaches have struggled to reach them at a suitable scale or on viable terms. Blended finance provides a pathway for doing so by derisking commercial investments and reducing borrowing costs through concessional capital. At the same time, new operational partnerships, combining specialized innovation and agility with the scale and balance-sheet strength of larger, established institutions, help to further de-risk such investments, enabling value chain transformation and extending the benefits of blended finance approaches to those most in need.

# DESIGN AND POSITIONING

## 1. INTRODUCTION TO THE VEHICLE

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*IREN Agri I is a blended debt fund supporting climate-smart agriculture in West Africa's export value chains. Through local offtake agreements, it seeks to unlock medium-term financing for cooperatives while enhancing resilience and overall productivity.*

### 1.1 INVESTMENT THESIS: A TWO-PRONGED APPROACH TO ENHANCED SMALLHOLDER RESILIENCE

IREN Agri, developed by Ksapa and Societe Generale (SG), aims to enhance the climate resilience of rural communities in key African value chains, beginning with cocoa and later expanding to commodities such as cashew, cotton, rubber, and rice. To do so, it will provide medium-term debt financing, technical assistance, inclusive digitalization, and foster access to multiyear offtake agreements to partner cooperatives and agri-SMEs, while leveraging Ksapa's expertise in agricultural sustainability and SG's regional banking networks.

**Ksapa** is a social enterprise that designs and implements agricultural development projects across the Global South, with expertise in inclusive digitalization and sustainability in value chains. A critical component of their program delivery is their proprietary SUTTI (Scale-Up Training Traceability Impact) platform, which connects smallholders with local technical assistance providers, funders, local buyers and corporate off-takers. The platform also provides services such as impact measurement, pricing information, weather alerts, traceability mapping, and e-learning modules, delivered in a low-tech format accessible to individuals regardless of phone type, regular internet connection, or literacy.

**Societe Generale** is a leading European Bank present in 62 countries across the world. The Bank has been supporting the development of economies for 160 years, providing corporate, institutional, and individual clients with a wide array of value-added advisory and financial solutions. SG maintains strong corporate banking relationships with many commodity off-takers, and its subsidiary SG Côte d'Ivoire is a leading commercial bank in the country.

This positioning has shaped IREN Agri's initial focus on Côte d'Ivoire and informed the decision to prioritize cocoa as the fund's first targeted value chain. Cocoa is a cornerstone of West African agricultural exports, supporting about 2 million smallholder farmers, and is among the crops most acutely threatened by current and future climate impacts (Schulte et al. 2020).

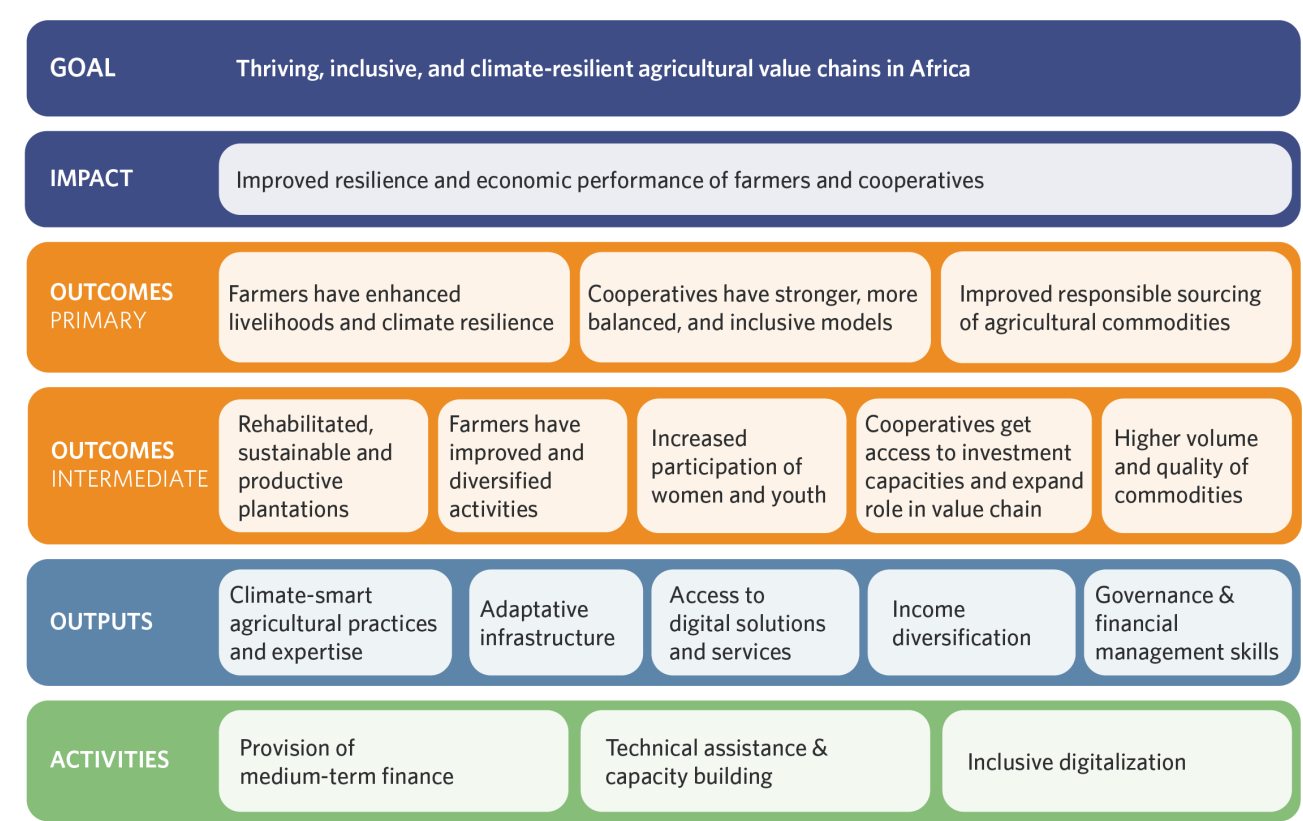
IREN Agri's investment thesis is grounded in increasing the incomes of rural communities, improving crop resilience to climate shocks, and strengthening overall food security. To do so, it adopts a dual strategy approach focusing on:

1. Financing productivity, processing, and logistics improvements for a cooperative or agri-SME's primary or target commodity (for example, cocoa).
2. Financing secondary income sources such as intercropping, cassava processing, or beekeeping, which provide a safety net when market downturns or climate events impact primary crops. Looking forward, additional sources of revenue for rural communities will be explored when relevant (e.g. carbon credits, biochar, etc.).

IREN Agri aims to build thriving, inclusive, and climate-resilient agricultural value chains through the delivery of medium-term finance combined with technical assistance, capacity building, and digital

tools. As shown in the theory of change (Figure 1), loans enable farmers and cooperatives to invest in improved and diversified production, processing, and infrastructure, thereby increasing climate resilience and enhancing food security. Income diversification is especially worth noting, given anticipated yield declines for key commodities such as cocoa, driven by climate change. Training on good agricultural practices & regenerative agriculture, financial management, governance, and digitalization, along with access to climate and market services, strengthens farmers’ decision-making and promotes participation from women and youth, who are often excluded. Ultimately, these activities improve the consistency, quality, and volume of primary commodities, strengthening and stabilizing supply chains and adding value for international off-takers.

**Figure 1: Theory of Change**



Critically, IREN Agri’s approach emphasizes flexibility, recognizing that effective adaptation strategies can vary between crops, countries, communities, and even individual farmers. IREN Agri offers a menu of financing options, or *levers*, that cooperatives and agri-SMEs can select from to co-design tailored transformation plans suited to their specific needs and context, in collaboration with their relevant off-taker partners. Section 1.3.2 provides more detail on these levers.

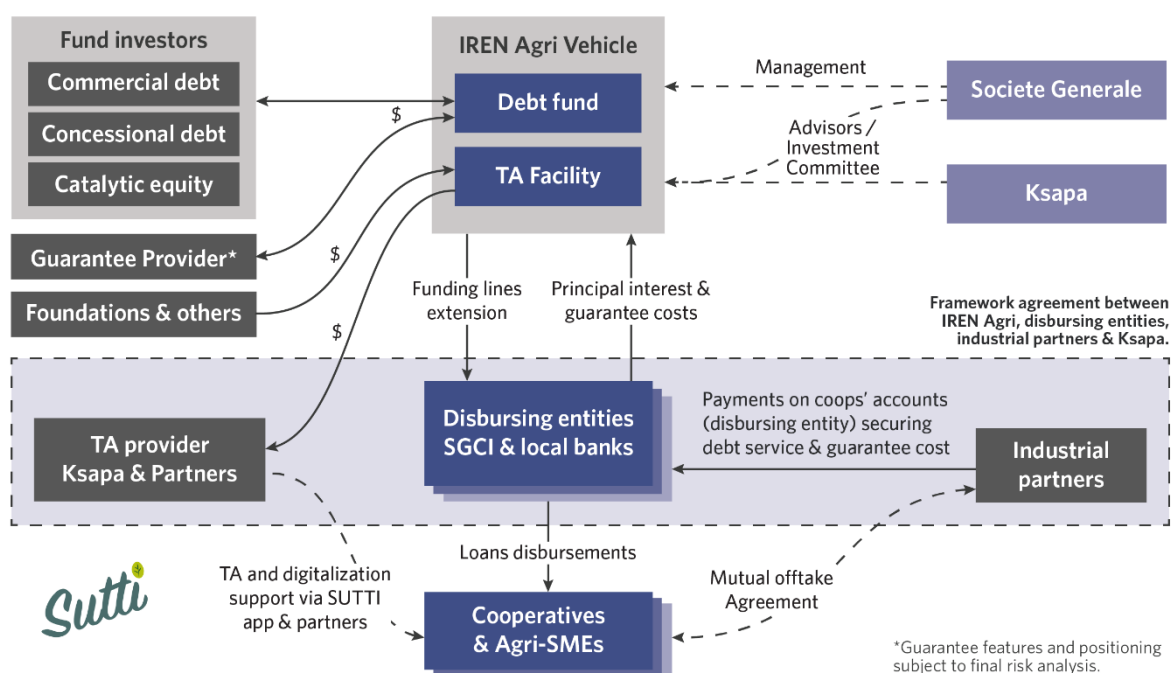
### 1.2 VEHICLE MECHANICS: A DEBT FUND FOR COOPERATIVES WITH RISK-MITIGATED DELIVERY

IREN Agri is envisioned as a medium-term blended finance debt fund, managed by SG and likely domiciled in Luxembourg. As shown in Figure 2, the fund aims to employ a layered capital structure of senior debt, concessional debt, and catalytic equity. Philanthropic grants will help offset technical assistance costs that would otherwise be included in the total loan to cooperatives. A partial credit portfolio guarantee per value chain further mitigates investor exposure.

Delivery of medium-term debt financing and technical assistance relies on the positioning and experience of Ksapa and SG. On the TA side, Ksapa will operate in a hybrid format, managing both on-the-ground agricultural specialists as well as Ksapa’s proprietary, farmer-centric digital platform, SUTTI, that combines on-demand training with offline functionality, voice and image-based content, data collection capabilities and compatibility with basic feature phones. Already deployed with thousands of smallholders in Southeast Asia, SUTTI supports access to training content, real-time monitoring of farm practices, climate alerts, and market updates, improving accessibility and data flow in low-connectivity environments.

On the financing side, IREN Agri addresses the challenge of direct smallholder lending by providing funds to commodity-focused smallholders’ cooperatives, or in some cases, for value chains in which cooperatives are uncommon, to agricultural SMEs. Indeed, studies have shown that leveraging experienced and already established businesses is the most effective pathway to lifting millions out of poverty through financial inclusion (J-PAL, 2023). Pipeline of such borrowing entities is secured through SG’s existing banking relationships with major commodity off-takers, who themselves have established relationships with cooperatives and SMEs as part of their regular business.

**Figure 2: IREN Agri Vehicle Mechanics**



Framework agreements among partner off-takers (including international exporters as well as national distributors or wholesale chains), disbursing entities, and partnered TA providers are a key feature of IREN Agri, helping to formalize operational partnerships and align financing, offtake, and TA delivery. Partner off-takers commit to purchasing pre-agreed commodity volumes during the loan term, providing predictable, long-term revenue streams to service debt and improving cooperative (and/or agri-SME) bankability.

Meanwhile, disbursing entities – local SG branches during initial scaling phases – will channel loans directly into cooperative accounts at the same branches. When off-takers pay for commodities, their payments are routed through these disbursing entities, which then deduct loan repayments before releasing the remaining funds back to the cooperatives. By reducing repayment risk in this way, IREN Agri provides greater security for lenders and improves cooperative creditworthiness.

## 1.3 DETAILED INVESTMENT STRATEGY

### 1.3.1 KEY LOAN TERMS

Individual loan sizes provided through IREN Agri will range from EUR 300,000 to up to EUR 3 million, depending on cooperative size and readiness. Cooperatives with strong repayment performance will gain access to larger loans on a revolving basis, allowing incremental improvements in infrastructure and production. While the provisioning of short-term working capital is not currently envisioned under the fund, it should be noted that SGCI, the largest commercial bank in the country, will be more inclined to provide such financing to cooperatives that are screened and partnered with IREN Agri.

Proposed loan terms include tenors of approximately five years and target interest rates between ca. 10% and ca. 12% net of VAT in local currency, specifically intended to be affordable to cooperatives while ensuring fund sustainability. Such terms are considered well-suited for agricultural cooperatives and SMEs, as five-year tenors match the investment horizons for cooperative-level improvements, such as restoring degraded plantation areas or upgrading storage infrastructure.

Meanwhile, considering that average lending rates to agricultural SMEs in Sub-Saharan Africa often exceed 20% (if such lending is available at all) or otherwise require high-risk, personal guarantees from cooperative managers, the IREN Agri team expects loans to offer a more attractive alternative for participating borrowers (Aceli Africa 2025; World Bank 2016; Bank of Ghana 2025).

### 1.3.2 IREN AGRI'S MENU OF INVESTMENT OPTIONS

IREN Agri offers borrowers a menu of investment levers to co-design tailored transformation plans. While most levers are value chain specific, some, such as prerequisite levers and those focused on logistics (see Table 1), are replicable across value chains. In preparation for the upcoming pilot phase in Côte d'Ivoire, Ksapa and SG have worked with expert value chain partners Nitidae and Inades Formation in coordination with Ivoirian Ministry of Agriculture & Rural Development to identify options (levers) most likely to strengthen the resilience of cocoa cooperatives and their smallholder members, while also assessing their financial feasibility, ensuring that resulting income gains are sufficient to support lending and repayment, and avoiding unsustainable debt burdens. Having screened and analyzed more than 30 options, the team has identified eight priority levers to guide the initial offering. One prerequisite is for all borrowers to get access to early-stage technical assistance, including the co-designing process.

The proponent teams remain open to considering additional options, whether they be proposed by implementing partners or the cooperatives themselves. For example, intercropping approaches, cocoa by-products, and composting are still under assessment for inclusion in the initial offering to further restore soil quality, regenerate unproductive land, and reduce pressures on unconverted landscapes. Cooperatives engaged in pilot scoping have also suggested additional levers related to rice and rubber production and transformation.

**Table 1: Investment levers for pilot phase in Côte d'Ivoire**

| Lever Type              | Lever Description                                                                                                                                  |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Prerequisite            | Transformation plan co-design; trainings in good agricultural practices, governance and financial management, and the use of the SUTTI application |
| Production & Processing | Rehabilitation (including agroforestry) and/or replanting of abandoned or non-productive cocoa plantations                                         |
| Production & Processing | Fermentation and drying units                                                                                                                      |
| Production & Processing | Cocoa processing units                                                                                                                             |
| Logistics               | Storage units/warehouses (cocoa / diversification crops)                                                                                           |
| Logistics               | Vehicles to collect and transport commodities                                                                                                      |
| Diversification         | Materials and training for beekeeping                                                                                                              |
| Diversification         | Cassava processing equipment                                                                                                                       |
| Diversification         | Cocoa by-products valuation (compost, biochar, juices...)                                                                                          |

Annex 1 provides more detail on the complete set of levers currently under consideration and matches each lever with its environmental impacts (climate mitigation, climate adaptation, nature) and socio-economic benefits (productivity, gender considerations, and youth inclusion).

## 2. MARKET ADDITIONALITY ANALYSIS

*IREN Agri provides unique access to medium-term finance and digitalization to cooperatives and agri-SMEs while aligning their activities with those of off-takers and local disbursing entities, all underpinned by the participation of a major multinational bank.*

### 2.1 A UNIQUE COMBINATION OF THREE FEATURES

IREN Agri aims to contribute to closing the financing gap for agricultural aggregators, including cooperatives and SMEs, and support the climate resilience of farming communities by aligning their interests and activities with those of traders, industrial manufacturers, and local banks. We identified three features uniquely combined by IREN Agri that are rarely found together in other financial vehicles:

- 1. Provisioning of medium-term finance at concessional rates.** IREN Agri fosters investment capacity development to structurally reinforce aggregators and farming communities. Deploying affordable loans to cooperatives not only fosters financial access but is also an efficient way to improve the livelihoods of local communities, including poverty alleviation, gender balance, and youth integration, as explained in Section 5.
- 2. Adopting a value chain approach through offtakes.** By integrating farmers, cooperatives, and commodity buyers within a single framework, IREN Agri reinforces value chain relationships that help stabilize income streams for producers, thereby strengthening their economic and climate resilience. With offtake agreements embedded in the structure, a feature still uncommon in the market, the vehicle incentivizes cooperative participation while mitigating repayment risk for investors.
- 3. Offering a tailored set of services to aggregators.** IREN Agri offers financing to support a wide range of activities, from regenerative farming practices, such as agroforestry and intercropping, to

sustainable production at other levels of the value chain, as detailed in Table 1. Transformation plans, co-designed with loan subscribers & off-taker partners, help ensure that interventions are adapted to the local context, driving meaningful, long-term change.

The reviewed vehicles share one or two of these features, but none combine all features with a similar level of sophistication as IREN Agri. Three examples are provided below, and more details about the fourteen comparable vehicles mapped are available in Annex 2.

**Table 2: Analysis of three comparative instruments**

| Instrument                                                               | Overview                                                                                             | Similarities                              | Differences                                                                                      |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Food Securities Fund,</b><br>Clarmondial<br><br>Africa, Latin America | Blended finance fund providing impact-based loans to agricultural aggregators, including cocoa.      | Agri-fund leveraging offtake commitments. | Working capital loans, rather than medium-term finance, limit investment opportunities.          |
| <b>Kawa Fund,</b><br>Violet-led consortium<br><br>Brazil                 | Debt fund providing loans to Amazonian cocoa producers to finance inputs/equipment for agroforestry. | Regeneration of cocoa plantations.        | Targets farmers, not cooperatives, limiting scale.<br>No focus on diversification opportunities. |
| <b>Alterfin</b><br><br>Africa, Asia, Latin America                       | Loans to smallholder producer organizations, including cocoa in Côte d'Ivoire.                       | Similarly sized loans to cooperatives.    | Lack of committed off-takers impacts repayment risk.                                             |

In the pilot country, Côte D'Ivoire, most initiatives to increase cocoa producers' income rely on grant financing and cash transfers, which limit scale. Examples of such initiatives include Nestlé's and Hershey's Living Income Accelerator, in collaboration with IDH and the Rainforest Alliance.

## 2.2 SWOT ANALYSIS – A FUND POSITIONED TO SCALE

IREN Agri's consortium structure of Ksapa and SG delivers scalability and effective technical assistance, both critical given the current lack of large-scale, multiple-commodity funds supporting climate adaptation. As a bank with expertise in emerging economies and local presence in major West African countries, SG is well placed to organize the vehicle's regional expansion. Meanwhile, Ksapa's expertise in sustainable agricultural value chains will help IREN Agri identify the African countries and commodities with the most pressing adaptation needs and determine the best way to support them.

Ksapa's proprietary SUTTI app is a unique channel for hybrid in-person & digital TA delivery, reinforcing market linkages, and tracking impact metrics. Ksapa developed the suite because there are no software solutions that simultaneously meet all the equipment, connectivity, and literacy needs of smallholders. Moreover, it helps address concerns around cooperative onboarding, fund misuse, and lack of production traceability. Through the delivery of e-learning modules and in-person training, SUTTI will support IREN Agri's TA to accelerate climate benefits.

IREN Agri's main weakness lies in the relatively low level of return given the need to remain affordable for cooperative and SME borrowers. Although typical in the agricultural sector and in line with comparable impact debt funds, such low returns will require participation by mainly concessional and impact-driven investors rather than purely commercial investors. However, the risk-return profile could be improved

with additional revenue streams which are currently under analysis (such as carbon credits, monetization of impacts achieved & outcome-based financing, revenue-based financing). Crop and parametric insurance, increasing farmers' economic resilience, could be considered in specific value chains. These potential opportunities may broaden investor interest and are being explored by the IREN Agri team.

## IMPLEMENTATION AND OPERATIONALIZATION

### 3. IMPLEMENTATION PATHWAY AND REPLICATION

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*IREN Agri will be initially implemented through a EUR 10-15 million pilot targeting cocoa cooperatives in Côte d'Ivoire. Learnings from this pilot will inform scaling of the full EUR 100M fund by 2028, targeting additional commodities within Côte d'Ivoire, and later expansion to additional African countries.*

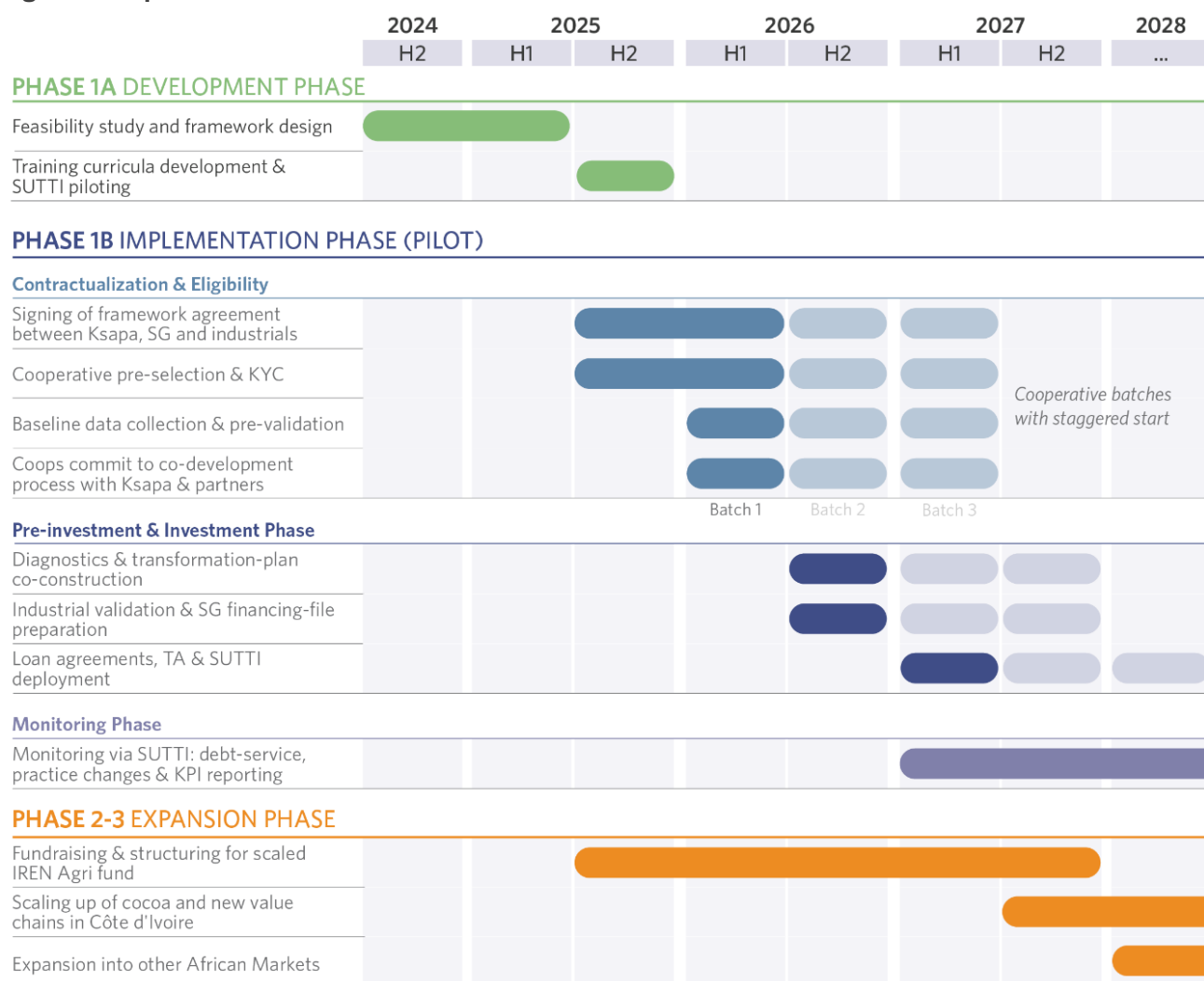
#### 3.1 NEAR-TERM IMPLEMENTATION PLAN

Beginning in 2026, IREN Agri's pilot will deploy approximately EUR 12.5 million, provided and disbursed by SGCI, to a target of ~25 cocoa cooperatives, via medium-term loans of around EUR 500,000 each. Final lending volume will depend on the number of off-takers and partnered cooperatives joining the pilot, as well as the specific investment needs of each cooperative. Strong institutional backing provides a strong foundation for piloting. This includes initial feasibility funding from the French Ministry of Economy, an MoU with the Ivorian Ministry of Agriculture, and support from the Conseil Café Cacao regulatory authority, which view the initiative as a key step to closing the cooperative-level financing gap.

The IREN Agri proponent teams are currently drafting term sheets with potential off-taker partners, ultimately aiming to secure partnerships with two or three for initial piloting. Cooperatives will then be screened and selected in collaboration with these off-takers and via on-site readiness diagnostics conducted by Ksapa, with assistance from INADES Formation and Nitidæ. These diagnostics will then inform a tailored TA package drawing from the levers detailed in Table 1. In-person training developed and managed by Ksapa in partnership with NGOs, industrial partners, and cooperative staff will ensure practical knowledge transfer to farmers, while Ksapa's SUTTI platform will enhance efficiency, transparency, and monitoring throughout the process.

### 3.1.1 FUNDRAISING STRATEGY/IMPLEMENTATION TIMELINE

**Figure 3: Implementation Timeline**



Key steps toward pilot implementation are captured in Figure 3 and further detailed in the bullet points below.

- **Development Phase (Phase 1A):** Key activities currently underway include finalization of impact goals, financing structures, and mappings of the cocoa value chain, as well as the co-designing of legal and governance frameworks. SUTTI training modules and digital tools will also be tested with a small set of cooperatives to refine content and workflows.
- **Implementation Phase (Phase 1B):**
  - **Contractualization and Eligibility:** Pilot implementation officially begins with the signing of a framework agreement between Ksapa, SG, and confirmed industrial partners. Between 15 and 25 cooperatives will then be screened and selected. Know your customer compliance checks and baseline diagnostics will be completed before finally securing formal commitments with each cooperative.
  - **Pre-investment phase:** Detailed transformation plans will be developed for each cooperative based on diagnostic findings and cooperative input. With approval from off-taker partners, the resulting financing requests will be submitted to SGCI.
  - **Investment phase:** When loan agreements are finalized and signed (notably, post satisfaction of compliance requirements and credit approval), SGCI will proceed with fund disbursement. TA will be delivered by Ksapa in collaboration with on-the-ground technical

partners, as well as via SUTTI Digital Suite, and will include agronomic and financial-management modules.

- **Monitoring phase:** SUTTI dashboards will enable real-time tracking of infrastructure roll-out, adoption of agricultural practices, as well as pre-defined impact indicators. Cooperative loan portfolio will be managed by SGCI.
- **Expansion Phase (Phases 2 & 3):** Phase 1 pilot learnings will then inform the fund's scale-up strategy. Phase 2 scaling will see the first iteration of the envisioned EUR 100 million blended debt fund, lending to additional cocoa cooperatives as well as those focused on other key value chains – such as cashew – in Ivory Coast and other West African countries. Assuming the success of the Phase 2 fund, Phase 3 will then see the structure further extended to other African markets and value chains.

In terms of pilot capital needs, proponent teams are now focused on securing guarantee support to de-risk SGCI's commitments to cover pilot loan capital. In line with standard lending practices, SGCI will ask cooperative borrowers to contribute a small portion of project costs (dependant on levers selected), helping to cover expected bank and guarantee fees, as detailed in Table 3. Finally, grant financing will be sought from philanthropies, DFIs, or via contributions from off-taker partners to cover technical assistance, travel, and other costs.

**Table 3: Indicative Capital and Fundraising Needs for Phase 1 Pilot**

| Use of funds                                                                   | Estimated needs | Capital provider(s)                                           |
|--------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------|
| <b>Investments</b>                                                             |                 |                                                               |
| <b>Infrastructure Investments (Loan Capital)</b>                               | EUR 12,500,000  | SGCI (via loans)                                              |
| <b>Bank &amp; Guarantee Fees</b>                                               | EUR 250,000     | Cooperative cash contributions                                |
| <b>Implementation</b>                                                          |                 |                                                               |
| <b>Training &amp; Technical Assistance*</b>                                    | EUR 2,050,000   | Philanthropies, DFIs, Industrial off-takers, SGCI (via loans) |
| <b>Other Implementation Costs (Travel, Provision, External services, etc.)</b> | EUR 575,000     | DFIs and Industrial off-takers                                |

*\*TA expenses not covered by grant capital will be charged to cooperatives and SMEs and potentially included in the financing offer, subject to credit approval*

### 3.1.2 STAKEHOLDER AND ENABLING ENVIRONMENT ANALYSIS

Beyond proponents Ksapa and SGCI, IREN Agri's pilot relies on a broad enabling environment. Between one and three cocoa processors are expected to join as industrial off-takers, securing multiyear contracts that underpin cooperative revenues and loan repayment. At the same time, chocolate manufacturers may provide additional demand downstream.

Development finance institutions are in discussion with the IREN Agri team to provide a portfolio guarantee and technical assistance, reducing risk and thereby strengthening the pilot and securing SGCI's position, with potential replication during scaling phase to attract private investors.

Technical assistance and implementation partners, led by Ksapa, INADES Formation, and Nitidae, will conduct cooperatives' transformation plan design, deliver training, support investments implementation, and support impact reporting. SGCI will manage disbursements, debt servicing, and compliance functions through its local branch network.

Additional partners, potentially including J-PAL, a global research center working to reduce poverty, or other independent impact auditors, will support monitoring and evaluation during scaling in Phases 2 and 3. Finally, solution providers will supply equipment and inputs, pre-screened by IREN Agri, and cooperatives themselves will implement investments, supported by Ksapa, its partners, and the SUTTI tool. See Annex 3 for more details.

### 3.2 POTENTIAL RISKS AND CHALLENGES TO INSTRUMENT SUCCESS

Agricultural lending in IREN Agri's target markets entails risks to operations, financial sustainability, impact, and the fund's broader reputation. To reinforce the confidence of investors and operating partners involved, IREN Agri intentionally incorporates multiple de-risking mechanisms at multiple transaction levels. Table 4 outlines the key risks considered most material, alongside the strategies employed to mitigate them.

**Table 4: Potential Risks and Mitigation Strategies**

| Risk Description                                                                                                                  | Mitigation Approaches                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Credit Risk:</b> Coop/SME failure to repay due to weak cashflows, governance gaps, or commodity price volatility               | Rigorous cooperative screening; focused TA to strengthen financial management capacities; multi-year offtake agreements by first-rank industrial partners in volumes sufficient to cover debt service; diversification across borrowers & commodities to mitigate volatility risks; potential to offer 1-year loan extensions (under certain circumstances); direct support for risk-mitigating climate-smart practices |
| <b>Partnership Risk:</b> Difficulties in identifying suitable interested offtake partners                                         | Concerted targeting of mature traders & industrial players that understand value chain climate risks and incentivized to mitigate them, with engagements to date indicating promising and growing appetite                                                                                                                                                                                                              |
| <b>Foreign Exchange Risk:</b> Currency depreciation impacts borrower repayment                                                    | Countries targeted for initial scaling are within CFA-franc zone, where the local currency is pegged to the euro; expansion to additional markets may require hedging                                                                                                                                                                                                                                                   |
| <b>Policy and Regulatory Risk:</b> Shifts in government policies impact agricultural lending, exports, or broader market dynamics | Strong relationships with government entities at local and national levels, including MoU with Ivoirian Ministry of Agriculture; continuous alignment of operations with national strategies, combined with ongoing risk assessments and policy monitoring                                                                                                                                                              |
| <b>Impact Risk:</b> Failure to achieve intended climate or livelihood outcomes                                                    | Initial lever analysis together with continuous monitoring via SUTTI will help validate expected impacts; clear KPIs with robust monitoring via SUTTI for ongoing learnings & strategy refinement                                                                                                                                                                                                                       |
| <b>Operational and Governance Risk:</b> Fraud or misuse of funds by cooperative/SME borrowers or partnered disbursing entities    | Extensive due diligence with borrowers selected based on relationships with offtake partners; potential to employ milestone-linked disbursements; partnership with only reputable banks and investors such as SGCI, all subject to similarly extensive DD                                                                                                                                                               |

IREN Agri safeguards its financial and operational sustainability through these measures, thereby developing an attractive approach for delivering smallholder finance in high-risk environments while simultaneously driving meaningful resiliency and livelihood benefits.

## 4. FINANCIAL MODELING OUTCOMES

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*IREN Agri's Phase 2 expansion to additional value chains in Côte d'Ivoire will be supported by a EUR 100M blended fund, consisting of senior commercial debt, concessional debt, and catalytic equity.*

### 4.1 QUANTITATIVE MODELING

#### 4.1.1 FUND MODEL OVERVIEW

The IREN Agri Fund model focuses on Phase 2 scaling, aiming to raise EUR 100 million to reach 350 cooperatives primarily in Côte d'Ivoire and in the cocoa sector, but also possibly extending to other West African countries and other value chains (yet to be confirmed). As previously mentioned, IREN Agri will work with each cooperative and the relevant off-taker partner to co-design a customized transformation plan, translating into a tailored investment and lending package, selecting primarily from a set of pre-defined investment options, or *levers*. As lever selection may vary by cooperative, the initial modeling assumes a single *illustrative* cooperative profile, with a total average loan amount of ~EUR 490,000, calculated using assumed portfolio-wide adoption rates for each lever. Additional cooperative profiles with varying assumed loan amounts will be added as part of future model refinement.

#### 4.1.2 FUND-LEVEL STRESS TESTING

In collaboration with proponent teams, Lab analysts developed an indicative fund model that allows for flexible adjustments to tranche sizes across catalytic equity, concessional debt, and senior debt, enabling sensitivity testing under various capital structures. For the base case, a structure of 10% catalytic equity, 35% concessional debt, and 55% senior debt was assumed, informed by available literature comparing blended agri-finance fund structures, and reinforced through working group feedback (ISF Advisors, 2025). Portfolio-wide default rates were assumed at 2%, in line with comparable funds in the sector (ISF Advisors, 2025). As the financial model includes a partial guarantee, as well as an intermediated repayment approach to reduce repayment risk further, default rate sensitivities were considered less material to initial stress testing than broader cost of capital assumptions.

Importantly, assumed cooperative lending rates were initially modelled at 9.9% (before local taxes such as VAT), markedly more affordable than other options that, even when they exist, likely remain inaccessible to most cooperatives. While affordability is critical in accomplishing the main goals of IREN Agri, the extremely tight resulting margins were identified as a major risk. With this in mind, Lab modeling focused on the spread between the cost of borrowing and the highly affordable interest rate envisioned.

As illustrated by the sensitivity analysis in Table 5, the assumed 9.9% borrower rates enabled senior debt servicing of only 7%, with any increases in senior debt interest requiring losses to be passed on to catalytic equity providers. Fortunately, IREN Agri enjoys a range of options to improve available cash flows, the first and perhaps most obvious being to modestly increase the interest rate charged to cooperatives. As captured in Table 5, a small increase to a cooperative lending rate of 11.9% improves margins without significantly impacting borrower affordability, given the highly competitive nature of the 9.9% initially assumed.

**Table 5: Senior Debt Interest Rates & Resulting Levered Equity IRR**

| Senior Debt Interest         |                    | 5%     | 6%     | 7%     | 8%     | 9%    | 10%   |
|------------------------------|--------------------|--------|--------|--------|--------|-------|-------|
| Resulting Levered Equity IRR | 9.9% Lending Rate  | 10.7%  | 6.67%  | 2.15%  | -4.17% | N/A   | N/A   |
|                              | 11.9% Lending Rate | 23.67% | 19.95% | 16.59% | 12.87% | 6.58% | 4.68% |

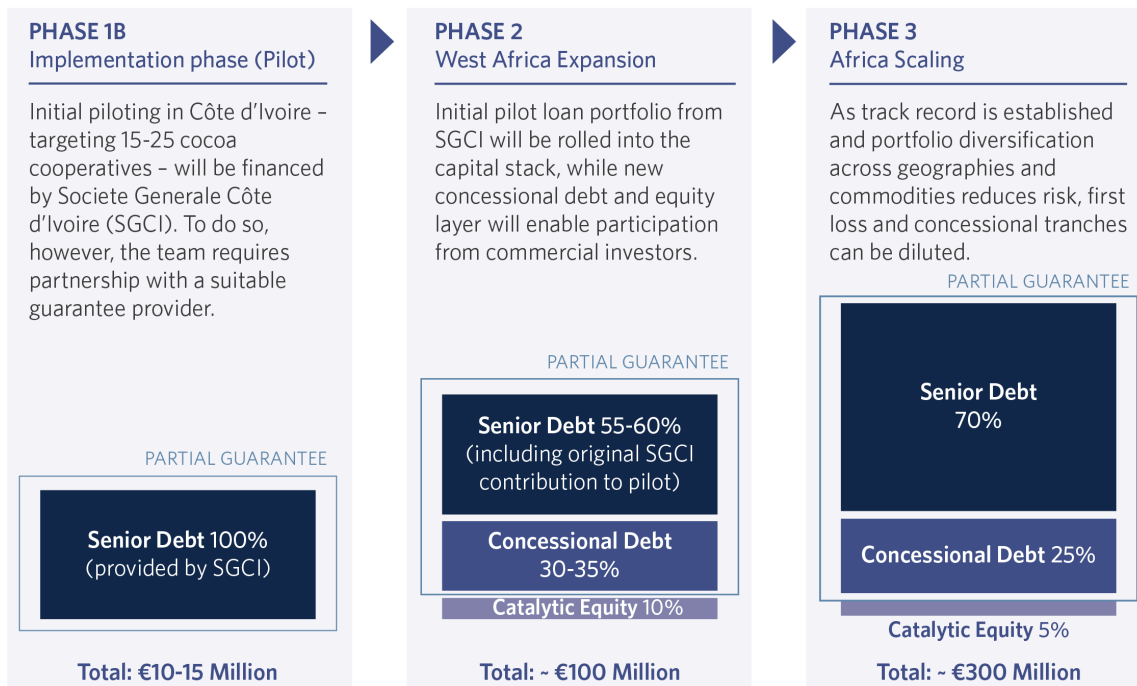
To sustain affordable lending rates, the IREN Agri team will need to secure competitively priced capital. This will be made easier due to the involvement of SG, a highly reputable international bank, as well as the risk-mitigating strategies employed by the structure.

Nonetheless, should market conditions prove less favorable, the team retains the flexibility to adjust other fund parameters, such as limiting guarantee coverage to specific subsections of the portfolio to reduce overall costs. Other potential upsides, such as carbon crediting, will also be explored in the coming months.

#### 4.2 PRIVATE FINANCE MOBILIZATION AND REPLICATION POTENTIAL

While IREN Agri initially targets scaling in Côte d'Ivoire, the fund's structure is designed to be suitable across countries and commodities within and beyond West Africa. As already explained, SG is well-positioned to facilitate this scaling through its relationships with major international commodity off-takers and its country-level branches, including SGCI in the initial pilot and scaling. Furthermore, other banking entities, potentially including recently divested SG branches, could also serve as disbursing entities in regions beyond SG's footprint.

**Figure 4: Capital Stack Evolution**



Note: Percentages are indicative, pending financial modeling and stress testing.

To demonstrate potential scale, the Lab assessed three initial target value chains—cocoa, cotton, and cashew—across just six countries: Côte d'Ivoire, Benin, Burkina Faso, Senegal, Ghana, and Cameroon. Data suggests there are likely more than 4,000 cocoa cooperatives, 15,000 cotton cooperatives, and nearly 2,500 cashew cooperatives. Partnering with just 5% of these cooperatives, with an assumed loan of EUR 500,000 each, suggests a serviceable obtainable market of over EUR 500 million. This estimate is likely conservative, given SG's regional reach, the planned use of revolving loans up to EUR 3 million, potential expansion of lending to SMEs in addition to cooperatives (depending on context), and the potential to expand beyond these three value chains to crops such as rubber, mangos, peanuts, and vanilla.

IREN Agri mobilizes private capital as part of its very initial piloting, distinguishing itself from many early-stage blended vehicles. As illustrated in Figure 4, the fund's pilot phase will be capitalized nearly entirely by SGCI, with critical support from a partner guarantee provider. In Phase 2, this initial portfolio would roll into the EUR 100 million fund, alongside new layers of catalytic equity and concessional debt added to incentivize additional commercial participation while retaining SCGI anchoring. In Phase 3, during which the Phase 2 blended fund approach is scaled to additional countries in Africa, an established track record and diversified portfolio help to reduce risk, enabling concessional capital to decline.

This phased approach, initiated with substantial commercial commitments from SGCI before evolving towards a more blended capital stack, offers a clear pathway for additional commercial investments. With the addition of strong offtake agreements and value chain data that helps to confirm the benefits of the approach further, IREN Agri would be well positioned to attract additional private capital from more traditional commercial investors, as well as potential contributions from corporate off-takers involved.

## 5. CLIMATE AND SOCIAL IMPACT STRATEGY AND PROJECTIONS

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*IREN Agri aims to strengthen farmers' and communities' climate resilience, enhance cooperatives' value creation, promote youth and gender inclusion, and regenerate degraded lands.*

### 5.1 IMPACT STRATEGY AND MEASUREMENT OF IREN AGRICULTURE

#### 5.1.1 SUTTI APP AT THE CORE OF IMPACT MANAGEMENT AND MONITORING

The SUTTI app will serve as the primary tool for collecting and monitoring impact data. Monthly surveys are conducted to collect data points from farmers and cooperatives for measuring progress against the baseline. Ksapa will collaborate with partner NGOs, potentially including J-PAL, to complement impact assessments by conducting baseline studies at the onset of farmers' and cooperatives' participation in the programs.

A framework of 14 output, outcome, and impact indicators was developed. Annex 3 presents a visual representation of how the fourteen indicators fit the Theory of Change (ToC). Importantly, this set of KPIs will be tested during the pilot and can evolve in the scale-up phase to account for any necessary adjustments. All the indicators will be compared against a baseline to assess the additionality of IREN Agri.

At the impact level of the ToC, IREN Agri will measure the local value creation, the number of beneficiaries, and the number of hectares sustainably managed, as seen in Table 7.

**Table 7: IREN Agri's impact indicators**

| Impact theme         | Indicator (Unit)                            | Calculation                                                                                                                                                                                                                                                                  |
|----------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Economic</b>      | <b>Local value creation</b><br>(EUR)        | Sum of estimated income increases to cooperatives and farmers, wages from jobs created for communities, and budgets allocated to local NGOs from partnerships.<br>The KPI will disaggregate the local value creation for cooperatives, farmers, communities, and local NGOs. |
| <b>Social</b>        | <b>Beneficiaries</b> (#)                    | Farmers and communities who benefit either and/or from training, digital solutions, jobs created, income increase.<br>The KPI will disaggregate three levels of beneficiaries: direct, indirect, and impacted.                                                               |
| <b>Environmental</b> | <b>Hectares sustainably managed</b><br>(ha) | Area of farmers' plantations with at least one climate-smart agricultural practice implemented through IREN Agri, from the TA or loan to the cooperative.<br>The KPI will disaggregate the hectares per type of climate-smart agricultural practices.                        |

Table 8 illustrates the results chain of IREN Agri's ToC using the demonstrative example of income diversification. It summarizes the output, outcome, and impact indicators that articulate income diversification (output), a means of improving the climate and economic resilience of farming communities.

**Table 8: IREN Agri's output, outcome, and impact indicators for income diversification**

| Indicator (Unit)                             | ToC level | Disaggregation                                                                                                   | Means of verification                                                    |
|----------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Local value creation</b><br>(EUR)         | Impact    | Cooperatives, farmers, communities, local NGOs.                                                                  | SUTTI's surveys, IREN Agri's financial records, cooperatives HR records. |
| <b>Jobs created</b><br>(#)                   | Outcome   | Women, youth.                                                                                                    | Cooperatives HR records                                                  |
| <b>Net income increase</b><br>(%)            | Outcome   | Farmers, cooperatives.                                                                                           | SUTTI's surveys                                                          |
| <b>Additional revenue streams</b> (#)        | Outcome   | Farmers, cooperatives. Commodities.                                                                              | SUTTI's surveys                                                          |
| <b>Hours of trainings</b> (h)                | Output    | Online and face-to face trainings. Agronomic and financial trainings. Women, youth. Farmers, cooperatives staff. | SUTTI                                                                    |
| <b>People benefitting from trainings</b> (#) | Output    | Direct, indirect, and impacted. Women, youth.                                                                    | SUTTI                                                                    |
| <b>Funds disbursed to cooperatives</b> (EUR) | Output    |                                                                                                                  | Cooperatives financial records / Local disbursers                        |

Table 8 is an illustration and presents only a selection of indicators. To understand the complete results chain of IREN Agri's ToC, refer to Annex 4, which provides the full list of indicators. For instance, providing loans and training (activities) for the implementation of sustainable agricultural practices (output) increases productivity yield (outcome KPI) in addition to increasing net income (outcome KPI). Ultimately, it enables more hectares to be sustainably managed (impact KPI) in addition to local value creation (impact KPI).

### 5.1.2 IDENTIFYING AND ADDRESSING COMMON SECTOR CHALLENGES IN CÔTE D'IVOIRE

**Socio-economic and environmental risks.** Financing the production of cocoa in Côte d'Ivoire exposes IREN Agri to socio-economic, environmental, and human rights issues, including decent wages, child labour, and deforestation. IREN Agri's stakeholders are well-positioned to mitigate adverse impacts. The traders and manufacturers who engage in the framework loan agreement have a long-term and sustainable vision of sourcing agricultural commodities, and work with international food companies that require their suppliers to comply with international standards. Moreover, to be eligible for the loans, the cooperatives must have passed SGCI's eligibility criteria and comply with the relevant co-designed transformation plan. IREN Agri's impact strategy also substantially mitigates those risks, as it aims to enhance the income and livelihoods of farming communities.

**Climate risks.** Côte d'Ivoire is the 55th most vulnerable country and the 139th most ready to adapt to climate change (ND-GAIN, 2025). The country is exposed to risks of heat, drought, and heavy rainfall affecting cocoa crops, as well as the damage of heat to human health and workforce productivity, which are projected to intensify in the future. Heat and drought will particularly affect production in the center of the country, which has a drier climate, while heavy rainfall is projected to worsen in the southwestern regions, which have a more tropical climate (ACLIMATAR, 2025). IREN Agri's model mitigates impacts from heat waves, wind breaks, and flooding, while also reinforcing the climate resilience of cooperatives and farmers by reducing their dependence on a single climate-exposed crop. See Annex 5 for more details.

## 5.2 PRE-INVESTMENT IMPACT MODELING PROJECTIONS

**Beneficiaries.** Based on field visits, the training delivered to one farmer or farm representative is likely to benefit five to seven other people from their staff, families, and communities.

**Value creation and Net income increase.** The estimated investment-to-impact ratio for an average Ivoirian cocoa cooperative is around 12, indicating that for one euro invested, EUR 12 of income is created over 10 years; on average, 30% of the gains go to cooperatives and 70% to farmers (methodological details and additional insights can be found in Annex 6). Concretely, based on economic assumptions lever by lever defined by external value chain experts, the activities of IREN Agri with one cooperative are projected to generate a net income increase of EUR 7.5 million on average over 10 years, of which EUR 2.1 million goes to cooperatives and EUR 5.4 million to farmers. Over 10 years, IREN Agri is projected to generate income increases of EUR 53 million for 25 cooperatives and EUR 135 million for 37,500 farmers during the pilot; as the project scales up, IREN Agri could generate EUR 741 million of additional net income for 350 cooperatives and almost EUR 1.9 billion for 500,000 farmers over the same time period.

**Productivity yield.** The rehabilitation of degraded plantations enhances climate resilience through improvements in productivity, soil health, carbon sequestration, and biodiversity. The loans disbursed during the pilot are projected to rehabilitate 500 hectares per cooperative, which represents 15% of the hectares under their operations. IREN Agri intervention enables significant yield improvements for the degraded and unproductive plantations, from a low 100kg/ha to the national average of 400-500kg/ha. Productivity gradually improves from year 1 and reaches 500kg/ha from year 6.

**Job creation & inclusion of marginalized groups.** Other socio-economic impacts include job creation and the empowerment of women and youth. For example, for each cooperative, the rehabilitation of degraded plantations is expected to generate eight jobs for youth in the first year, and cacao transformation units are projected to recruit 43 people per year.

### 5.3 PRELIMINARY GENDER STRATEGY

In Côte d'Ivoire, women represent two-thirds of the workforce in rural agriculture and are critical for food security, productivity, and community health and nutrition (AFD, 2024). However, they face a significant gender gap. The SIGI Côte d'Ivoire shows that only 5% of women own agricultural land compared to 25% of men, and they earn only 36% of the median amount earned by employed men (OECD, 2022).

Moreover, women have limited access to formal training and technologies to build climate resilience, as they are more illiterate and less educated than men (ADB, 2020). These inequalities undermine women's livelihoods, as they are already more vulnerable than men to climate change. Three-quarters of rural women live under the poverty line (AFD, 2024); moreover, discriminatory social norms related to the traditional role of women and to their abilities underpin women's economic disempowerment (OECD, 2022). Women's unequal participation in agricultural decision-making and access to finance may limit the environmental and socio-economic benefits of IREN Agri and similar funds.

To address the gender gap, IREN Agri will foster women's participation through three activities, as shown in Table 9:

**Table 9: IREN Agri's activities for gender equity**

| Activity type                   | Activity detailed                                                                                                                       | Contribution to gender equity                                                                                                                                                                                                                                                                                                |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Income diversification</b>   | Financing income diversification activities, traditionally women-led, in cooperatives, including cassava transformation and beekeeping. | These activities will provide additional sources of revenue to women and their families and create new jobs for unemployed women. Jobs created at transformation and implementation of organic inputs, too.                                                                                                                  |
| <b>Inclusive digitalization</b> | Inclusive digitalization through digital services available offline and with voice options.                                             | This will help overcome technology barriers, facilitating women's ability to conduct agricultural practices daily and building greater climate resilience in the long run.                                                                                                                                                   |
| <b>Trainings</b>                | Training on agricultural best practices and financial literacy, delivered through face-to-face sessions, including focused groups.      | Training will improve women farmers' agricultural and financial knowledge and their capacity to adapt to climate change. IREN Agri will ensure that modalities of in-person training sessions (including location and time) foster women's participation. Focus groups will also be considered to address cultural barriers. |

Moreover, to monitor impact and evaluate progress, IREN farmers' engagement in the field is assessed by examining the composition of respondents to surveys. At the fund level, IREN Agri will report the number of women benefitting from trainings (output), and the number of jobs created for women (outcome).

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## ANNEX 1: IMPACT ANALYSIS OF PILOT

Four types of levers (production, processing, logistics, and prerequisite) selected by IREN Agri for the pilot phase, and their environmental benefits (climate mitigation, climate adaptation, and nature) and socio-economic benefits (productivity, gender, and youth inclusion).

Note: levers in italics are under analysis.

**Table A1.1: Impact Analysis**

| Lever                                                                                   | Environmental Impact                               | Socio-economic impact                      |
|-----------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------|
| <b>Production &amp; processing</b>                                                      |                                                    |                                            |
| Rehabilitation of degraded cocoa plantations through agroforestry                       | Climate mitigation<br>Climate adaptation<br>Nature | Productivity                               |
| Cocoa fermentation and drying                                                           | Climate adaptation                                 |                                            |
| Cocoa transformation units                                                              | Climate adaptation                                 |                                            |
| <i>Transition from cocoa mono-plantations to agroforestry</i>                           | Climate mitigation<br>Climate adaptation<br>Nature | Productivity                               |
| <i>Transition from cocoa mono-plantations to intercropping</i>                          | Climate mitigation<br>Climate adaptation<br>Nature | Productivity                               |
| <i>Other processing</i>                                                                 | Climate adaptation                                 | Gender and youth inclusion                 |
| <b>Diversification</b>                                                                  |                                                    |                                            |
| Cassava processing units                                                                | Climate adaptation                                 | Gender and youth inclusion                 |
| Beekeeping                                                                              | Climate adaptation                                 | Gender and youth inclusion                 |
| <i>Cocoa by-products, including bio-inputs from in-farm composting</i>                  | Climate adaptation                                 | Productivity                               |
| <i>Other processing</i>                                                                 | Climate adaptation                                 | Gender and youth inclusion                 |
| <b>Logistics</b>                                                                        |                                                    |                                            |
| Storage units                                                                           | Climate adaptation                                 |                                            |
| Vehicles                                                                                | Climate adaptation                                 |                                            |
| <b>Prerequisite</b>                                                                     |                                                    |                                            |
| Governance & financial management, digitalization, good agricultural practices training | Climate mitigation<br>Climate adaptation<br>Nature | Productivity<br>Gender and youth inclusion |

## ANNEX 2: COMPARABLE FINANCIAL VEHICLES

Table A2.1: Comparable Vehicles

| Name                                                                     | Value chains                                                                          | Region            | Offtakes | Beneficiaries                 |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------|----------|-------------------------------|
| <a href="#">Amazon Food &amp; Forest Bioeconomy Financing Initiative</a> | Cocoa                                                                                 | Brazil            | Yes      | Cooperatives, SMEs            |
| <a href="#">Living Amazon Mechanism</a>                                  | Ingredients                                                                           | Brazil            | Yes      | Cooperatives, SMEs            |
| <a href="#">Kawa Fund</a>                                                | Cocoa                                                                                 | Brazil            | No       | Farmers                       |
| <a href="#">Livelihoods Fund For Family Farming</a>                      | Vanilla, coconut, cocoa, sugarcane, milk, shea, palm oil                              | Africa, Asia, LAC | Yes      | Cooperatives, NGOs            |
| <a href="#">Food Securities Fund</a>                                     | Cocoa                                                                                 | Africa, LAC       | Yes      | Cooperatives, SMEs            |
| <a href="#">Root Capital</a>                                             | Coffee, cocoa, macadamia nut, sorghum, staple crops                                   | Africa, Asia, LAC | No       | Cooperatives, SMEs            |
| <a href="#">Land Degradation Neutrality</a>                              | Cocoa, coffee, citrus, hazelnuts, timber, macadamia nut, ingredients                  | Africa, Asia, LAC | Partial  | SMEs                          |
| <a href="#">Alterfin</a>                                                 | Coffee, cocoa, nuts, oils, honey, fruits and vegetables, spices, cereals, aquaculture | Africa, Asia, LAC | No       | Cooperatives, SMEs            |
| <a href="#">Rabo Rural Fund</a>                                          | Cocoa, coffee, nuts, spices                                                           | Africa, Asia, LAC | No       | Local FIs, cooperatives, SMEs |
| <a href="#">Agri-business Capital (ABC) Fund</a>                         | Cocoa, coffee, cashew, fruits and vegetables, poultry, seeds, shea                    | LAC, Morocco      | No       | Local FIs, cooperatives, SMEs |
| <a href="#">Kampani</a>                                                  | Coffee, cocoa, inputs, fruits and vegetables, poultry, dairy nuts, rice               | Africa, LAC       | No       | Agri-SMEs, cooperatives       |
| <a href="#">OikoCredit</a>                                               | Coffee, grains, cocoa, fruit, nuts                                                    | Africa, Asia, LAC | No       | Local FIs, cooperatives, SMEs |
| <a href="#">IDH Farmfit Fund</a>                                         | Cocoa, coffee                                                                         | Africa, Asia, LAC | No       | Local FIs, SMEs, cooperatives |
| <a href="#">Landscape Resilience Fund</a>                                | Cocoa, coffee, rattan                                                                 | Africa, Asia, LAC | No       | SMEs                          |

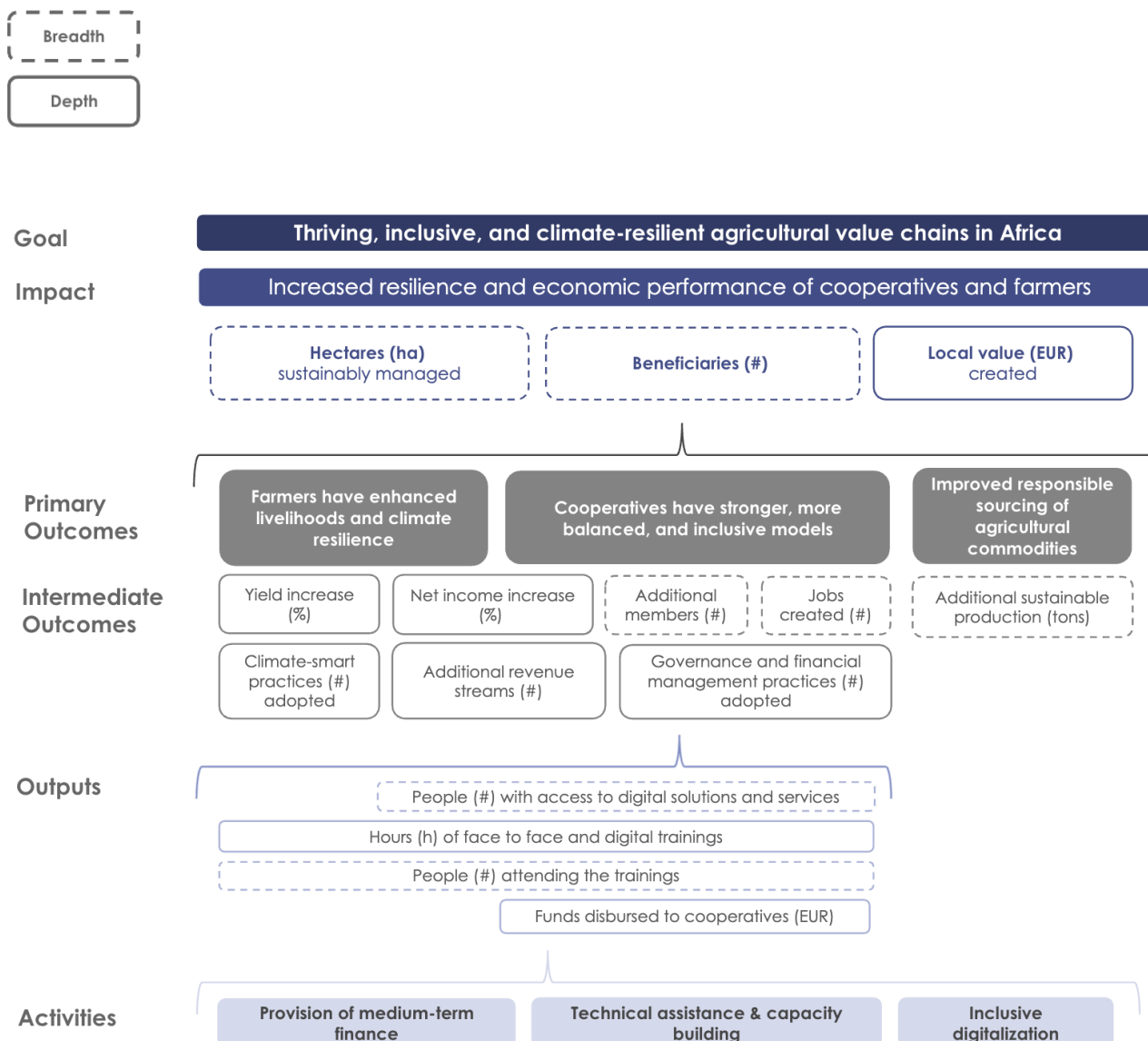
## ANNEX 3: INSTITUTIONAL NETWORK MAPPING

**Table A3.1: Institutional Network Mapping**

| Stakeholder                                         | Roles and Responsibilities                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Institutional partners</b>                       | MOU signed with Ivorian Ministry of Agriculture<br>Funding secured for initial studies from French Ministry of Economy<br>Support obtained from regulatory authority Conseil Café Cacao                                                                                                                                                                     |
| <b>Industrial Off-takers (Traders)</b>              | Up to three major cocoa processors are expected to be committed to the pilot and are reviewing term sheets. The role they are expected to play is to source and vet cooperatives, negotiate multiyear offtake agreements to maintain relations and purchase their production until loans are fully repaid, thereby directly enabling timely loan repayment. |
| <b>Industrial Off-taker Clients (Manufacturers)</b> | Large chocolate manufacturers anchor demand for cocoa and reinforce offtake commitments.                                                                                                                                                                                                                                                                    |
| <b>DFIs</b>                                         | Several DFIs are in discussions to provide portfolio guarantees and concessional finance, critical to de-risking the pilot and crowding in private capital.                                                                                                                                                                                                 |
| <b>TA &amp; Implementation Partners</b>             | Ksapa customizes and operates the SUTTI platform and coordinates and manages the overall TA provided to coops through NGO partners and solution providers; Nitidae conducts supply-chain diagnostics; INADES leads cooperative engagement and capacity building.                                                                                            |
| <b>Lending Partner</b>                              | SGCI is expected to act as the direct lender in Phase 1, managing KYC/AML, loan servicing and accounting via its local branch network. Disbursing entities – as employed in the Phase 2, scaled blended fund (and included in the vehicle mechanics diagram of this report) – are not needed during Phase 1, since the fund itself is not yet formed.       |
| <b>Monitoring &amp; Evaluation Partners</b>         | Impact evaluation methodology will be designed by IREN Agri, with J-PAL if possible. Data will be collected, aggregated, and KPIs calculated through Ksapa's SUTTI tool, while independent audit firms will conduct financial, ESG, and compliance audits.                                                                                                  |
| <b>IREN Agri Solution Providers</b>                 | Vendors of post-harvest equipment, agroforestry inputs, selected through co-development workshops; supply and service delivery to cooperatives.                                                                                                                                                                                                             |
| <b>Cooperatives</b>                                 | Implement infrastructure improvements; participate in SUTTI-enabled training; provide performance data.                                                                                                                                                                                                                                                     |

## ANNEX 4: KEY PERFORMANCE INDICATORS OF IREN AGRI

Figure A4.1: Key Performance Indicators



## ANNEX 5: SOCIAL, ENVIRONMENTAL, AND CLIMATE RISKS ANALYSIS OF THE PILOT

**Table A5.1: Description of socio-economic and environmental risks and mitigation strategies**

| Risk                 | Description in the context of cocoa in Côte d'Ivoire                                                                                                                                                                                                                                                                                  | IREN Agri's mitigation strategies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Living Income</b> | In Côte d'Ivoire, a typical male-headed cocoa farmer household is estimated to earn just 1/3 of a living income. Sharecroppers and farm workers earn still less. In Ghana and Côte d'Ivoire, between 30 and 58% of farming households live in extreme poverty. (Fairtrade, 2025)                                                      | One of IREN Agri's main goal is to increase cocoa farmers and communities' income. Improvements will be tracked before and after IREN Agri's intervention through the impact management and monitoring framework, with the aim to reach at least a living income and surpass the extreme poverty line.                                                                                                                                                                                                                                                                   |
| <b>Child labor</b>   | About 1.5 million children work in cocoa plantations in Côte d'Ivoire and Ghana, representing 45% of children in cocoa productive households. (Cocoa Initiative, 2025)                                                                                                                                                                | The SUTTI app surveys the age of farmers and cooperatives staff, which can be verified during IREN Agri's face-to-face trainings. Off-takers comply with child labor standards from the International Labour Organization (ILO). Cooperatives engaging in IREN Agri are the most mature and established ones, with more systems in place to limit child labor; their Fairtrade certified production complies with standards prohibiting work under 18. IREN Agri's approach to increase income and improve livelihoods is an efficient strategy to mitigate child labor. |
| <b>Deforestation</b> | Côte d'Ivoire lost 28% of its humid primary forest and 10% of its tree cover between 2002 and 2024, primarily due to agricultural activities. Deforestation was concentrated in the southern regions, where most cocoa production occurs, as the climate is more humid and the forests are more abundant. (Global Forest Watch, 2025) | IREN Agri partners with off-takers who have signed the Cocoa Forest Initiative or with the intention to sign it before the loan is disbursed. International chocolate companies based or selling in the EU would need to comply to the European Union Deforestation Regulation (EUDR) from December 2025. IREN Agri works with cooperatives and off-takers with farms mapped to monitor risks and buffer zones.                                                                                                                                                          |

**Table A5.2: Climate risk analysis of cocoa plantations in Côte d'Ivoire (from [ACLIMATAR](#)).**

| Climate risk |                | Level of risk                             |                                        |
|--------------|----------------|-------------------------------------------|----------------------------------------|
| Risk type    | Risk           | Past                                      | Future                                 |
| Crop         | Heat           | San Pedro: Low<br>Yamoussoukro: Medium    | San Pedro: Low<br>Yamoussoukro: High   |
|              | Drought        | San Pedro: Low<br>Yamoussoukro: Low       | San Pedro: Low<br>Yamoussoukro: Medium |
|              | Heavy rainfall | San Pedro: Medium<br>Yamoussoukro: Low    | San Pedro: High<br>Yamoussoukro: Low   |
| Human        | Heat           | San Pedro: Medium<br>Yamoussoukro: Medium | San Pedro: High<br>Yamoussoukro: High  |

**Table A5.3: Strategies to mitigate climate risks**

| Existing strategies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Future strategies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Financing shade trees and agroforestry systems on degraded plantations protects crops from heat, wind breaks, and flooding, and storage facilities preserve the quality of cocoa beans in case of drought. Practices implemented through agronomic training, including smart pruning, integrated pest and disease management, and cover crops, reduce the crop's vulnerability to climate change. (ACLIMATAR, 2025).</li><li>• Access to climate information, access to long-term financing, and income diversification also reinforce the adaptive capacity and resilience of farmers and communities against these risks by reducing their dependence on a single climate-exposed crop.</li></ul> | <ul style="list-style-type: none"><li>• Improved water management - such as irrigation systems, drainage, and erosion control - riparian buffer zones, and community fire management, to reduce vulnerability to drought and flooding risks. (ACLIMATAR, 2025).</li><li>• Collaboration with cooperatives, farmers, and local associations to prevent heat risk during working hours.</li><li>• If implemented for a particular value chain - climate insurance to provide short-term cash relief to farmers and cooperatives affected by climate events that impact production and cash flow.</li></ul> |

## ANNEX 6: PROJECTED NET INCOME INCREASE DURING THE PILOT

**Table A6.1: Net income increases to cooperatives and farmers from IREN Agri intervention**

| Timeframe                                           | Number of cooperatives in the program | Net income increase (EUR) |                         |
|-----------------------------------------------------|---------------------------------------|---------------------------|-------------------------|
|                                                     |                                       | Cooperatives              | Farmers and communities |
| 10 years (from implantation of transformation plan) | 1 (sample)                            | 2.1 M                     | 5.4 M                   |
|                                                     | 25 (pilot)                            | 53 M                      | 135 M                   |
|                                                     | 350 (scale up)                        | 741 M                     | 1,890 M                 |

The base case assumption for one cooperative is based on field studies in the context of the pilot. It uses the additional revenue from each lever and an average cooperative profile of the levers adopted. This profile is derived from the adoption rates of the levers in the portfolio of the 25 cooperatives engaged in the pilot. The net income increases for the scale-up are likely to be underestimated, as IREN Agri intends to work with more mature cooperatives, which are projected to adopt levers with a higher impact-to-investment ratio.

The simulated impact-to-investment ratio of IREN Agri can be defined by how much money lent generates net income increases for both farmers and cooperatives, over a 10-year period. Calculated in the context of the pilot, it amounts to 12, inclusive of the pre-requisite lever, and 9, exclusive of the pre-requisite lever. The investment-to-impact ratio varies per lever and is the highest for the rehabilitation of cocoa plantations (17), followed by the transformation units of cacao (9). The distribution of the net income increase between farmers and cooperatives varies per lever as well. For instance, 90% of the income increase from the rehabilitation of degraded plantations primarily goes to farmers, as intended. Other levers designed mainly to benefit cooperatives still benefit farmers considerably; for instance, 40% of the additional income generated from drying units will go to the farmers.