

Conservation Investment Blueprint: Conservation & Climate-Smart Lending Platform (C₂SLP): Agri-lending with Conservation Impact

By F3 Life and Financial Access, June 2019

i. Overview of the conservation need/opportunity

This Blueprint is based on F3 Life and Financial Access’s successful “Climate-Smart Lending” model which can be adjusted to generate biodiversity or conservation outcomes – the Conservation & Climate-Smart Lending Platform” (C₂SLP) approach.

The C₂SLP investment Blueprint, elaborated in section (ii) below, is based on requirements for improved environmental practice being included in farmers’ loan terms. Specifically, (1) farmers repay their loans with interest to agri-lenders (creating a financial return), and (2) build out environmental restoration systems on their farmland (creating an environmental return).

Agri-lenders are frequently dependent on outside sources of capital for their smallholder lending portfolios, which creates the opportunity for investment funds seeking double or triple bottom line returns ((1) financial, (2) environmental/biodiversity/climate and (3) social).

The C₂SLP system is flexible. Depending on the agro-ecological context, or investor priorities, different land-management measures can be specified in loan terms. This creates a system which is fundamentally scalable and flexible. As such, conservation objectives can directly target biodiversity (e.g. by including in loan terms requirements for native tree species or grass varieties.), or indirectly target biodiversity (by including in loan terms requirements for land management practices which support provision of ecosystem services which support biodiversity, e.g. watershed services which support downstream wildlife populations).

The Blueprint presented below is therefore literally that – a cookie-cutter methodology – which through the use of the C₂SLP toolkit can support biodiversity or conservation objectives. Four deals are also presented at different stages of development and with different financing needs. The conservation requirements attached to loan terms will be drawn from broader land-use strategies identified to meet conservation needs, for example within broader landscape management strategies where they exist. Because all deals outlined below in Table 1 are still at the development stage, investment needs and returns are indicative for purposes of illustration for the time being. Targeted investment terms are set out at Annex 1. The C₂SLP partners do not take debt or equity investment themselves. The use of their tools creates appropriate investment opportunities for third party investors and fund managers. See section (iii) for a description of the template investment opportunity.

Table 1: Deals in Development

Country	Stage of development	Current funding needs	Value Chain	No. of farmer targeted	No. of hectares targeted	Conservation need	Significance of conservation need	Conservation Need/Mechanism
Kenya (3 Landscapes)	Selection of preferred MFI	Debt: \$3M Technical assistance for deal roll-out: \$300,000 Technical assistance for final deal development: \$150,000	Dairy	10,000	10,000-20,000	Downstream biodiversity affected by worsening provision of watershed services	The Mount Kenya ecosystem and the Aberdares ecosystem are landscapes providing specific and multiple ecosystem values	Protected areas in the Mount Kenya/Aberdares area are dependent on availability of fresh water to meet ecosystem water demand. Smallholder farmers which do not implement effective soil and water conservation systems contribute to a flashier hydrograph, meaning a surplus of water after

								rainfall (which will ultimately be lost to the system) and a deficit at other times of the year. The C ₂ SLP mechanism incentivises smallholder farmers to adopt soil and water conservation measures which increase soil moisture retention, ground run-off as opposed to surface run-off and contribute to a less flashy hydrograph, meaning greater water availability downstream.
Uganda	Concept stage	TA for deal development: \$200K	Maize	10,000	10,000-20,000	Increase connectivity between protected forest reserves by increasing woodland cover in farmed areas	Northern Albertine Rift area of extremely high biodiversity and endemism. Threatened species that will benefit from the programme include the Eastern chimpanzee and the brown cheeked hornbill.	WCS has worked with other NGOs in the western region to promote forest protection by private farmers, supporting village savings and loans groups and training farmers in climate smart agriculture to increase resilience and reduce the need to clear forest land.
Rwanda (WCS)	Pre-Concept stage	TA for deal development: \$250K	Maize	10,000	10,000-20,000	Stabilising land use in the buffer zone of Nyungwe National Park.	Nyungwe national park is one of the last and best preserved fragments of tropical montane forest in Africa. It is a centre of endemism and critical habitat for many endangered species including chimpanzees.	WCS supports the protection and restoration of the national park, and has initiated village savings and loans groups in buffer zone communities around Nyungwe. WCS has developed the Ubwiza Bwa Nyungwe honey producing cooperative.
Rwanda (IUCN)	Pre-Concept stage	TA for deal development: \$250K	Very early stages of deal development.					

Environmental problems are (i) complex, (ii) require a variety of organisations to contribute to their amelioration from a multi-disciplinary toolkit, and (iii) although often universal and systemic, appear or manifest at the local level. The C₂SLP solution recognises these factors, bringing together a range of local actors with different capacities and functions to create a multi-disciplinary solution. Table 2 below summarises the different actors and how they are engaged in the project.

Table 2: Role of different actors in the C₂SLP model

<u>Actor/partner</u>	<u>Role</u>	<u>Example</u>	<u>When do they become involved?</u>
Project manager	Identify target landscapes, define the environmental problem and objective. Frequently will manage a grant which will allow all other partners to interact to solve the problem	Any national/international conservation/natural resource management organisation	Project/investment design stage
F3 Life	Provides the biodiversity-smart credit system, training to local lenders and ESG reporting tools	NA	Project/investment design stage
Financial Access	Provides the farmer on-boarding and credit-scoring system	NA	Project/investment design stage
Grant Fund	Provides start-up funding	Many	Either directly before or directly after project/investment design
Debt Fund	Provides biodiversity-smart capital to local lenders of on-lending to farmers	CPIC Fund	Directly after completion of project /investment design
Local lender	Manages last mile financial relationship with farmers, ensuring land-use change as a condition of credit access	Any local agri-lender	Directly after completion of project /investment design
Local provider of extension advice	Provides advice to farmers with respect to the land-use management practices they are being asked to adopt	TBT	Once investment secured
Farmers	Receive and manage credit and implement	NA	Once investment secured

The C₂SLP is replicable and scalable. In the early stage of this initiative, the best opportunities to reach scale and to maintain control is by keeping incremental TA investments within the perimeters of the identified landscapes and within the borders of targeted countries. The model will also work with selected partner financial institutions that have a country-wide branch coverage, have gained knowledge and experience with C₂SLP methodologies, processes and products and therefore will be able to benefit from economies of scale by involving them in smallholder investments for multiple projects across numerous landscapes.

ii. Describing how the Blueprint contributes to conservation goals

Contributions to Conservation Goal

Biodiversity conservation is dependent on supply of environmental goods and services within a landscape and from connected landscapes. The C₂SLP methodology facilitates scalable and replicable private sector investment in important ecosystem goods and services from agricultural land within landscapes, including: (1) habitat protection and restoration (especially corridors), (2) regulation of water timing and flows, (3) erosion control, (4) pollination, (5) regulation of climate, and (6) provisioning – food production to reduce extensification pressures. Depending on the landscape and conservation priorities, different ecosystem services can be targeted.

Key Metrics: Environment, Biodiversity, Society, and Governance

The impact of a climate-smart investment is that “conservation and management of natural resources are strengthened and sustained as a result of the investment”. The outcome of 3 investments in Kenya, Uganda and Rwanda, is that 30,000 clients/households adopt sustainable climate & conservation-smart agricultural and land management practices. Table 3 below provides potential metrics that can be used for C₂SLP.

Table 3: Potential metrics for C₂SLP

Specific Metrics	Standard Metrics from IRIS
These are to be designed on a case-by-case basis as a co-creation with the investor, agri-lender, smallholder farmer borrowers and project sponsor.	<p>The following are metrics from the IRIS catalogue likely to be appropriate indicators for the investment:</p> <ul style="list-style-type: none"> • <i>Land Indirectly Controlled: Sustainably Managed (PI6796)</i> • <i>Ecological Restoration Management Area (PI9556)</i> • <i>Type of Land Area (PD3922)</i> • <i>Area of Trees Planted: Total (PI4127)</i> • <i>Ecosystem Services Provided (PD8494)</i> <ul style="list-style-type: none"> ○ <i>Habitat protection/restoration</i> ○ <i>Regulation of water timing and flows</i> ○ <i>Erosion control</i> ○ <i>Pollination</i> ○ <i>Regulation of climate</i> ○ <i>Provisioning – food production to reduce extensification pressures</i>

iii. The business model

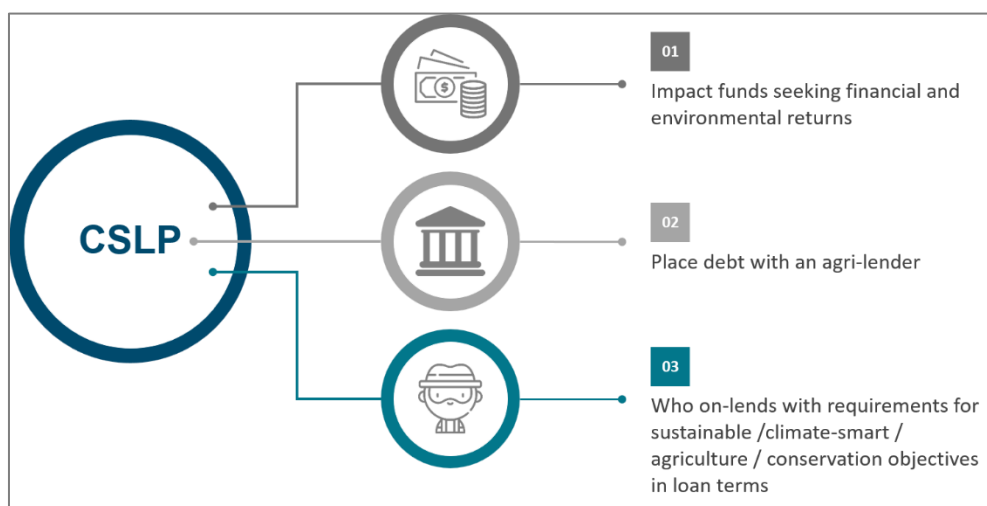
Overview

The C₂SLP Investment Model

The C₂SLP approach allows for the creation of debt investment propositions using its replicable, scalable investment model. This and subsequent sections explain the generic approach. Specific applications of the model, currently at different stages of development in Kenya, Uganda and Rwanda, are set out by way of early-stage investment proposition in Annexes 1, 2 and 3 to the CPIC Blueprint.

The generalised model is set-out in Figure 1 below:

Figure 1: Generalised C₂SLP model



The key steps in the C₂SLP process are:

1. An investor seeking (i) environmental, or (ii) climate, as well as (iii) financial returns places a debt investment with an agri-lender which targets credit-worthy smallholder or emerging commercial farmers. The debt agreement is a conventional loan agreement *but* includes in its loan terms requirements for agricultural practices which deliver environmental, conservation or climate benefits (explained below at the section entitled “a *climate smart credit product*”).
2. The agri-lender which receives the debt investment may be a bank, microfinance institution, credit cooperative or a non-traditional lender, such as an outgrower company providing inputs on credit to farmers. In taking the loan from the impact fund, they agree to on-lend the loan to smallholder farmers

and “cascade” to those farmers loan term requirements for farming practices which deliver environmental, conservation or climate benefits.

- The ultimate recipient of the debt is the smallholder farmer. Under the terms of their loan, they implement the agricultural practices designed to deliver the environmental, conservation or climate benefits targeted by the impact investor and can therefore be varied according to agro-ecological context and investor objectives.

Whilst the above is a proposition for a debt investment, and it is expected that in the long term the agri-lender will pay for both the use of the C₂SLP systems (see “*organisation and governance systems*” section below), first use-cases of the system will require technical assistance funding on a grant basis for:

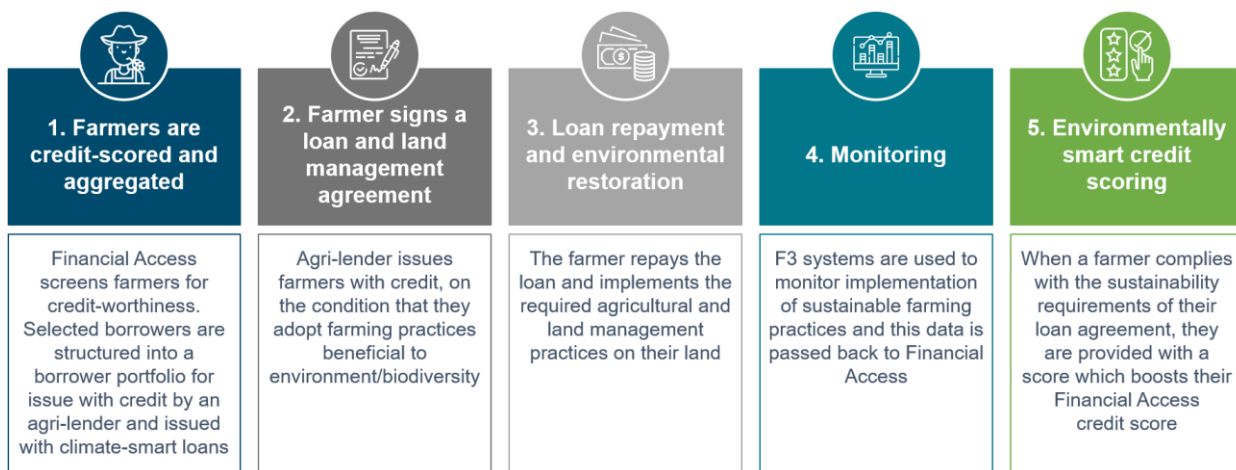
- Aggregating and credit-scoring smallholder farmers (where lenders are not already doing this themselves)
- Provision of training to the lenders in how to on-board the new system
- Provision of training to farmers in how to adopt new farming requirements
- Monitoring and use of the F3 Life system

The C₂SLP Process

The C₂SLP process is shown in Figure 2. Critical to the process is (i) monitoring of the measures that the farmer has implemented, and (ii) incorporation of information about that implementation into the farmer’s credit score.

Step 1 is the means by which financial inclusion is enhanced amongst this class of farmers, and makes use of the financial access enhanced farmer credit-scoring systems.

Figure 2: The C₂SLP process



A C₂SLP credit product

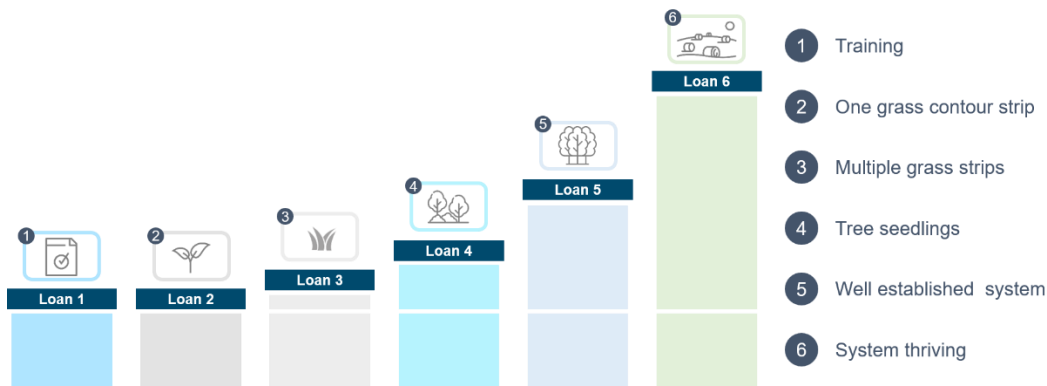
The C₂SLP model involves collaboration with credit providers and credit users to design credit products which can be deployed by the credit provider using their existing systems. All credit products include climate-smart agricultural or land management practices in their loan terms. Adoption of these practices through the C₂SLP approach can result in new credit access (financial inclusion), increased credit limits and/or reduced interest rates according to the needs of the specific context.

By way of example, the section below shows a climate-smart credit product with processes designed for a mixed farming context designed to enhance watershed service provision and increase farmer resilience to climate change. In this case, the credit product is an individual loan which can be provided in cash or for financing asset purchases. Eclimate-smart credit product will vary according to crop type, location of clients and the existing systems and processes of the lender.

This climate-smart credit product was designed to improve watershed services, and enhance availability and quality of water for downstream users, in a Ramsar wetland.

Figure 1 below is a representative example of a C₂SLP credit product, designed for a mixed farming system in areas of steep gradient. Systems should always be designed with the precise problem and desired outcome in mind, and to this extent, this system is flexible.

Figure 1: Representative example of a C₂SLP credit product



In this context, the environmental benefits of this system, designed for specific challenges, are shown in Table 4 below, although it must be emphasised that the measures can be adapted according to the challenge context and the impact project managers are seeking.

Table 4: Examples of environmental benefits from the C₂SLP process

Challenge	Measure	Impact
Degraded farmland provides sub-optimal level of watershed services, with consequential negative impacts for downstream biodiversity (indirect driver)	Land management measures to improve watershed service production, specifically those which reduce hydrograph flashiness	Improve water availability for downstream water uses, including biodiversity/wildlife
Lack of landscape level connectivity for important or threatened species (direct driver)	Land management measures to improve/protect corridors	Corridors enhanced/protected
Lack of on-farm wood production puts pressure on gazetted forests (indirect driver)	Land management measures which increase on-farm tree production	Increased on-farm tree production/reduced pressure on protected forest

Depending on (i) the crop grown by the farmer, (ii) whether it is a working capital loan or an asset finance loan, (iii) established processes of the local lender, loan amounts may vary. The following are some illustrative examples for a variety of crops (although care should be taken that these will vary according to location)

Table 5: Indicative loan amounts per Ha for crop types

Crop	Loan Amount (USD/Ha)
Ware Potatoes	8-900
Tea	3-400
Coffee	7-800
Maize	200

Table 6: Indicative costs per asset type

Asset	Cost (USD)
Efficient Jiko	20
Efficient Cookstove	40
Solar Panel	160
Improved Cow	700
Greenhouse	1500

Benefits of the C2SLP approach

Table 7: The benefits of the C2SLP approach

Benefit	Explanation
Replicable	The model has been developed for adoption in a variety of contexts and across a variety of value chains. F3 Life and Financial Access have either developed or have in development template climate-smart credit products for coffee, tea, sugar, maize, cocoa, dairy and cotton. Each of these can be simply adjusted, at low cost, for use in other contexts.
Scalable	<p>Global Market Size: There are 450 million smallholder farmers globally, of whom 15-20% are commercially bankable, and who currently attract USD 50 billion of debt annually. Whilst smallholder finance is growing in scale, a USD 150 billion financing gap remains (Dalberg 2016).</p> <p>East Africa Market Size: For the purposes of this Blueprint, F3 Life & Financial Access are targeting use-cases in East Africa where there are approximately 25 million smallholder farmers, of which up to 4-5 million are investable.</p> <p>Rationale for scalability: F3 Life and Financial Access see demand for the system growing for the following reasons:</p> <ul style="list-style-type: none"> • Pressure on financial institution boards to disclose climate risk on their books and steps taken to mitigate this risk¹ • Ratings agencies including environmental metrics in financial institution ratings² • Demand from agri-lender funders for environmental impact • Increasing regulatory interest in including environmental requirements in prudential guidelines for credit
Flexible	The requirements of a climate-smart credit product can be adapted according to (i) the objectives of the investor, which can define its environmental return, and (ii) the agro-ecological context.
Targeted	The approach has the ability, as far as is possible within the system, to define the targeted ecosystem good or service which will be enhanced through the placement of the investment. For example, if an impact investor is targeting improved watershed services, a series of land management measures can be (i) identified which serve that purpose, (ii) included in loan terms to contribute to that outcome.
Direct	C2SLP provides capital directly to the land-user, contingent on changing land-use and environmental practices.
Low-risk counterparties	The counterparty for a climate-smart investment is an agri-lender. Within emerging-market contexts, these are often the most credible and lowest risk debt counterparties, which are familiar with (i) the sectoral and country-risk in which their business operates, and (ii) are familiar with the investment needs of impact and other investors. By contrast, it is understood in the market that there is a poor pipeline of credible social impact investments, which are an appropriate destination for impact investment.
Established model	The C2SLP approach does not rely on any new model, but links together four established processes: <ol style="list-style-type: none"> (1) Agri-lenders are familiar with the debt structure because they already take loans from impact funds and earmark these funds for specific clients. (2) The environmental management measures included in loan terms are well-established and have been recommended by agronomists, in some cases, for many decades. (3) Farmer credit-scoring relies on a process established by Financial Access and deployed in numerous settings. (4) Farmer technical assistance is similarly an established methodology.

Costs to Farmers

The C2SLP approach is designed to impose low and incremental costs to farmers, such that the cost of implementation is offset by the benefit of access to credit and the terms on which it is provided. The precise costs to farmers will be dependent on crop type and agro-ecological context – which determines what measures they are asked to implement. A set of generic cost estimates for farmers in cocoa, maize, cotton, tea, sugar, coffee, potato and dairy value chains have been developed. These costs are understood on the basis of standard agronomic and agricultural economic models, and with further funding these models will be adapted to specific use-cases.

Costs to Financial Institutions

The cost to a financial institution is the cost of deal development, training and on-boarding a new product and system. These are not insignificant, and given the capital position of a financial institution is something

¹ <https://www.fsb-tcfd.org/>

² <https://www.novethic.com/sustainable-finance/isr-rse/top-rating-agencies-turn-to-esg-criteria-for-credit-quality-146954.html>

that external funding is needed for. This is justified given the public goods creation that participation of the financial institution will secure. The cost to the financial institution will vary by size and need, with an estimated fee of approximately \$300,000 TA need – although this will be negotiated on a case-by-case basis.

Interest Rates

Interest rates will vary by country, crop type and institution. The model targets agri-lenders with an APR of 20-30% although this is not always possible. It is hoped that by using our tools and accessing concessionary debt and in time reducing the risk profile of clients practising sustainable farming practices, some of the cost savings of access to capital on improved terms can be passed on to farmers.

Incentives for Financial Institutions to participate in the programme

FI’s are interested in participation for the following reasons:

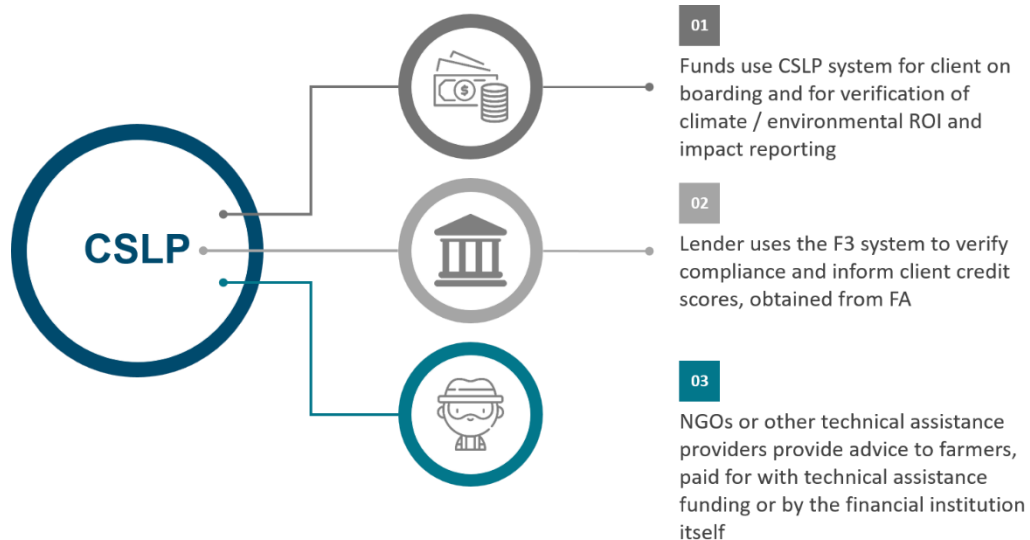
- Increase the channels from which they can raise debt
- Reduced cost of capital where strong public good provision
- Rating agency pressure to mitigate climate risk – affecting cost of capital if they don’t
- Meeting the needs of their stakeholders to engage in climate change risk mitigation

In the initial phases farmer selection and monitoring will be covered by grant funding. With full commercialisation, it is expected that FIs will pay for this themselves as the FA model for farmer selection is cheaper than FIs doing it themselves. Monitoring is designed to low cost, but FIs will also pay for this themselves, with the cost being offset by reduced default associated with climate losses.

Organisation and governance

Figure 2 below identifies the generic stakeholders in a C₂SLP transaction, necessary to any C₂SLP deal. F3 Life and Financial Access are currently developing C₂SLP deals in Kenya, Uganda and Rwanda. As stated above, deal development is currently most advanced in Kenya. Within this collaboration, a project manager is always required. It is also preferred that an environmental organisation act as project manager, contracting other actors and tool providers and defining targeted environmental outcomes.

Figure 2: Role of each stakeholder in the C₂SLP model



Products and services being sold

Revenue Model

A pre-condition for any investment is that sufficient value is created to incentivise transaction parties to enter into a proposed venture. Within a C₂SLP investment, there are revenue and profit possibilities for both the investment fund and the agri-lender which are described below. The agri-lender profits when the farmer profits, and the investment fund profits when the agri-lender profits. That is the basis of an established revenue model, to which environmental returns are also added.

Within the C₂SLP model, there are revenue models operating at two levels: (1) at the level of investment fund, and (2) at the level of the agri-lender, described in Table 8 below:

Table 8: Components of the C₂SLP revenue model

Investment fund revenue model	Debt investors place debt with a local agri-lender which pays interest on the loan. The interest rate will typically vary between 6-12%/annum dependent on a variety of market factors.
Agri-lender revenue model	Agri-lenders provide loans to smallholder farmers who pay interest on the loan. The interest rate will be set according to lenders policies.

The C₂SLP is a series of interrelated fin-tech systems. Members of the C₂SLP are individual actors with their own distinct revenue models. , F3 Life and Financial Access will develop and customize the investment opportunity for impact investors, for which they will receive a transaction origination fee.

F3 Life, which developed the C₂SLP approach, earns revenue from use of its climate-smart credit product templates and use of its monitoring and environmental risk scoring system.

Financial Access, similarly charges a fee for aggregating and credit-scoring farmers and an on-going fee for credit risk assessment, monitoring and reporting .

C₂SLP will be established as a software-as-a-service (SaaS) delivery model, which allows financial institutions to pay for key services and information without having to invest in expensive systems and people themselves. This pay-as-you go model in essence can entail the outsourcing of a large of key parts of the farmer credit and environmental risk assessment , as well as loan monitoring and reporting, at a fraction of the cost compared with the costs financial institutions would have to pay if they would build these systems and functions in-house. The services provided by C₂SLP will allow lenders to develop, maintain and monitor smallholder farmer lending portfolios with significantly reduced risk and at lower cost.

Environmental Return Model

The C₂SLP model specifically creates the opportunity for defined environmental returns alongside financial returns, and that within the context of an environmental impact investment approach, the environmental return model should also be specified as per Table 9:

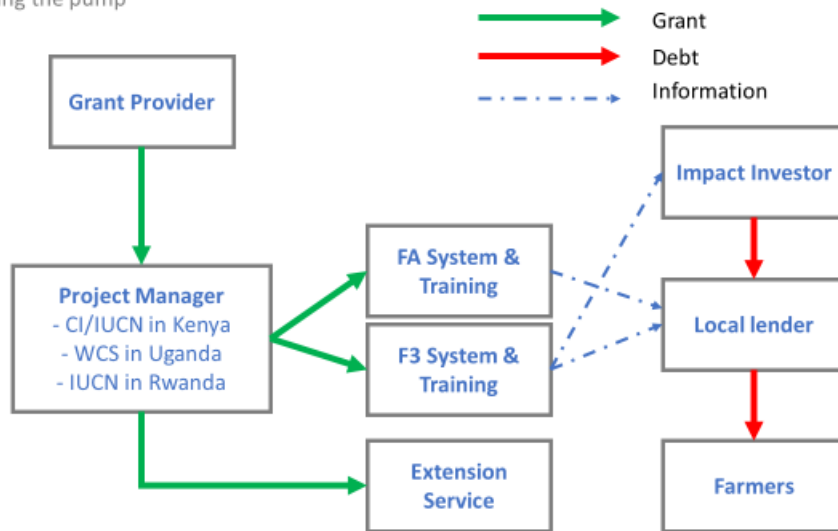
Table 9: Components of the C₂SLP environmental return model

Investment fund environmental return model	Debt investors state in their debt agreement with the agri-lender the required measures that that agri-lender clients must adopt.
Agri-lender environmental return model	Agri-lenders state in their loan agreement with smallholder farmers the required measures that that agri-lender clients must adopt.

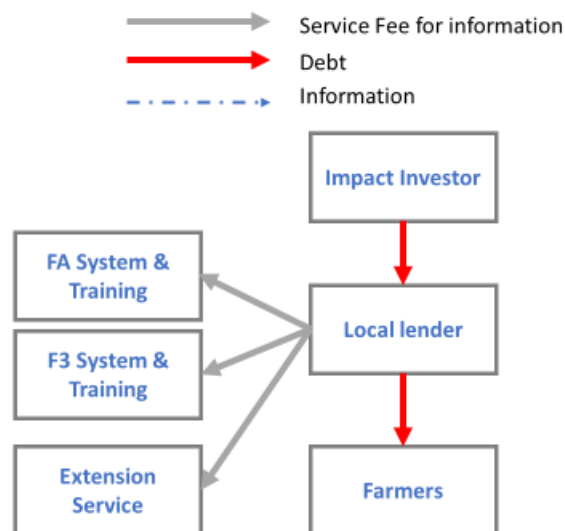
Cash flows and commercial sustainability

Figure 3: The flow of funds and information through the C2SLP ecosystem

Phase 1: Priming the pump



Phase 2: Maturity



Within the two revenue models described above, revenue is derived from interest on loans which accrues (1) firstly to the agri-lender, and (2) to the investment fund. Loans by investment funds to agri-lenders typically have a three-year tenor, and repayment can be either bullet or amortized over the life of the loan. Loans by agri-lenders to farmers are either seasonal (3-6 months) or annual depending on crop type and loan type. Again, repayment can be either bullet or amortized over the life of the loan.

Interest rate and revenue share

Impact funds will typically lend at between 6 and 12%/annum depending on the market and the risk profile of the debtor. Agri-lender interest rates also vary, depending on the value chain and country context. Smallholder agri-loan interest rates vary, typically between 25% and 50% APR depending on the market and the agri-lender.

Profit

Profit is the loan interest on these loans less the operational costs associated with making the loans, and will be distributed according to fund/agri-lender policies.

Long term sustainability

Both agri-lenders and emerging commercial smallholder farmers are dependent on access to debt for the long term sustainability of their businesses. The agri-lenders which will receive loans under the C2SLP model are already sustainable, but need further capital in order to achieve growth. The C2SLP is replicable and scalable. In the early stage of the initiative the most promising opportunities are to reach scale and to maintain control by keeping incremental TA investments within the perimeters of the identified landscapes and within the borders of targeted countries. F3 Life and Financial Access will be working with selected partner financial institutions that have a country-wide branch coverage, have gained knowledge and experience with our methodologies, processes and products and therefore will be able to benefit from economies of scale by involving them in smallholder investments for multiple projects across numerous landscapes.

External dependencies

The C2SLP model was developed to fit within agri-lending credit markets and therefore does not require additional laws to be implemented for the business model to function. Certain countries are currently at an early stage of requiring C2SLP requirements to be included in agricultural loan terms, which would greatly benefit uptake of the model.

Table 10: Dependencies on various actors being linked under contract:

#	Actor	Role
1	Investment fund	Provider of debt/loan under contract to the agri-lender
2	Agri-lender	Provider of debt/loan to the smallholder farmer
3	Smallholder farmer	Counterparty to the loan agreement
4	Technical assistance provider	Provider of advice to the smallholder farmer in how to adopt required farming practices. The provider of this advice can take a number of forms: local NGO, international NGO, specialized farmer advisors, or agri-lenders themselves where they have an extension service. In the long-term it is expected that the agri-lender will pay for TA, and indeed some already do. Indeed, a fundamental hypothesis of the C2SLP model is that farmers receiving good advice are better credit bets.
5	F3 Life	Provider of the C2SLP product templates and monitoring system
6	Financial Access	Provider of the farmer aggregation and credit-scoring and loan monitoring system
7	NGO/Research organisations	Typically, it is these organisations which will help set the environmental impact objective that informs the environmental investment return required by the investment fund. Additionally, NGOS and research organisations will also identify landscapes in which investment tools can be deployed and provide data which informs farmer credit-scoring
8	Loan guarantee fund	The loan guarantee fund will provide first loss insurance to the agri-lender. This is not an essential component of the model, but some lenders have indicated that a loan guarantee is a pre-condition to their entering the smallholder lending market.
9	Regulators	The C2SLP model in which positive environmental covenants are placed within loan terms, has traditionally not been an area where regulators would have sought to intervene. However, F3 Life & Financial Access are beginning to hear of a few instances, for example in Mexico, where the central bank is considering including requirements for sustainable

farming in loan terms. These types of conversations are at an early stage, but obviously have implications for scalability of our model.

Risk management

Table 11: Key risks and mitigation strategies

Risk	Mitigation strategy
A high default rate by smallholder farmers means that the local financial institution defaults on its debt	Part of the basis for selecting the partner will be a well-managed agricultural lending portfolio which indicates low risk of default. A loan guarantee for the agri-lender will be sought meaning that losses will be covered in the event of systemic default
Currency risk	All contracts issued by the investment fund will be in local currency or hedged if in foreign currency
One of the project partners fails to deliver their component of the project leading to overall project failure	All contracted partners will be fully-vetted before contracting reducing the change of contractual breach. Furthermore, all project partners will be placed on conditional and severable contracts. Where contracts are not met a failing project partner can be removed from the project
Poorly implemented farm conservation practices can result in damage to farm soils. For example, incorrectly constructed grass strips can lead to gulley erosion	Training and monitoring of farmers will explicitly seek to mitigate this risk
Over-indebtedness – farmers take loans higher than they can afford to repay	The financial institution partner selected by the Project will be required to submit information in respect to the social safeguards which they put in place to prevent this type of risk. It is a problem commonly faced by banks, MFIs and SACCOs and such financial institutions have developed appropriate methodologies to screen clients likely to crystallise this risk
Multiple-funding – farmers secretly take loans from more than one lender	As above
Inappropriate lending – farmers who are not suitable for credit take loans	As above
Misuse of loans – farmers direct loan funds to consumption rather than investment	As above
Default and loss of collateral – farmers are unable to repay their loans and lose collateral posted for the loan	As above

iv. The investment model

The financial instruments being sought to fund the business model

Table 12: Financial instruments needed to fund the business model

	Financial Instrument	Explanation
1	Debt	Debt is the main driver of the investment model.
2	Grant	Beyond proof-of-concept, it is intended that the model runs without grant inputs. However, in initial investments where the efficacy of the model is being demonstrated, grant investment will be required for the following: <ul style="list-style-type: none"> • Aggregating and credit-scoring smallholder farmers (where lenders are not already doing this themselves) • Provision of training to the lenders in how to on-board the new system • Provision of training to farmers in how to adopt new farming requirements
3	Loan guarantee	The agri-lender providing loans will receive a loan guarantee, partially insulating it from potential losses. This loan will be obtained on arms-length terms, potentially from an organisation such as Africa Guarantee Fund (AGF), which operates a green guarantee scheme.

The relative size of these instruments and basic information on their terms

Figure 4 shows the C2SLP deal development process. Deal development is a co-creation between the different entities involved: (1) investment fund (2), the agri-lender, (3) farmers, (4) NGO if leading, and (5) the C2SLP platform system partners (currently F3 Life and Financial Access). During this process, the deal terms are developed. As F3 Life and Financial Access are at a relatively early stage of deal development, they have yet to precisely specify the precise deal terms. Therefore, the investment heads of terms presented below and in Annexes 1-3 are indicative only. The cost of deal development is approximately US\$ 200,000 per deal, depending on context, and half the cost without the new farmer aggregation exercise.

Figure 4: C2SLP deal development process

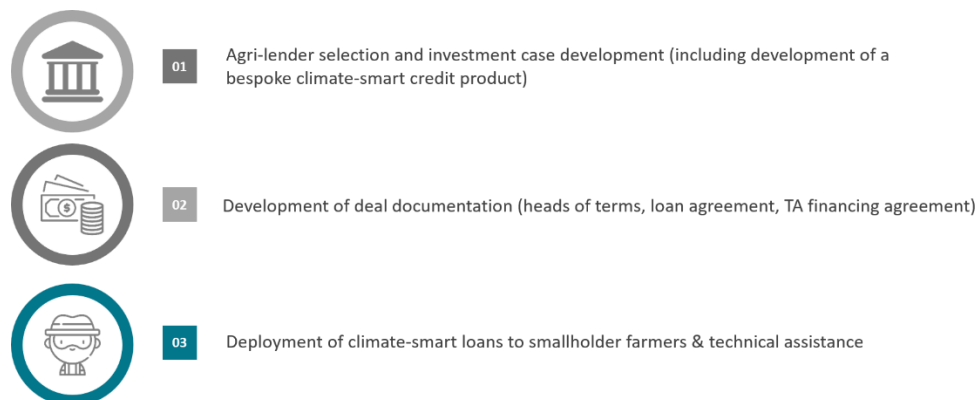


Table 13: Financial Instrument Sizes

#	Instrument	Phase	Size (estimated – deal currently under preparation)
1	Debt	Pilot	US\$ 500,000
		Scale-up	US\$ 3,000,000
2	Loan Guarantee	Pilot	US\$ 18,750 (annual cost for a 75% loan guarantee)
		Scale-up	US\$ 112,500 (annual cost for a 75% loan guarantee)
3	Grant for technical assistance	Pilot	US\$ 250,000 (estimated)
		Scale-up	US\$ 500,000 (estimated)

Risk mitigation instruments used and how these were incorporated into the investment structure

Table 14 sets out the actors with financial risk exposure and the mechanisms they can use to mitigate risk. The market is largely mature and the risk mitigation mechanisms largely commercially available.

Table 14: Financial risk mitigation mechanisms

#	Actor	Financial Risk	Mitigation mechanism
1	Investment fund	Agri-lender default	Blended finance first loss buffer
2	Agri-lender	Farmer default	First loss guarantee, loan collateral
3	Smallholder farmer	Crop loss	Crop insurance (if an agri-lender policy)

The exit strategy employed

Typically, within the smallholder agri-lending market, funds provide loans with a three-year loan tenor to agri-lenders (which on-lend this money to farmers usually for a period less than a year). 3-year loans would usually be refinanced at term. This means that investors in agri-lenders – typically impact funds as providers of wholesale finance, are able to achieve their exit after 3 years, or whatever other term is negotiated with the agri-lender.

Innovative features of the investment model

The C2SLP approach links together four established de-risked approaches or methodologies:

- (1) Agri-lenders are familiar with the debt investment structure because they already take loans from impact funds and earmark these funds for specific clients.
- (2) The environmental management measures included in loan terms are well-established and have been recommended by agronomists, in some cases, for many decades.
- (3) Farmer credit-scoring relies on a process established by Financial Access and deployed in numerous settings.
- (4) Provision of farmer technical assistance is similarly an established methodology.

The innovation lies in linking these approaches and providing data on the sustainability of farmer practices to better inform credit scores. It is a widely held industry belief that better data informs better credit decisions, and the Climate Smart Lending Platform partners make use of the growing inter-operability of API-first core-banking systems to deliver the necessary information.

Replicability and Scalability

The C2SLP Platform approach and tools are designed to be both highly replicable and scalable. The approach is replicable because the model has been developed for adoption in a variety of contexts and across a variety of value chains. F3 Life and Financial Access have either developed or have in development template climate-smart credit products for coffee, tea, sugar, maize, cocoa, dairy and cotton. Each of these can be simply adjusted, at low cost, for use in other contexts. Or new template climate-smart products can be developed for new crop types.

The approach is scalable because of the relatively maturity of the agricultural credit market. Additionally, there are 450 million smallholder farmers globally, of whom 15-20% are commercially bankable, and who currently attract USD 50 billion of debt annually. Whilst smallholder finance is growing in scale, a USD 150 billion financing gap remains (Dalberg 2016). Economies of scale are further assured because the more farmers are on-boarded within a particular supply chain or geographic region (by one or more FIs using C2SLP) the lower the service delivery costs of C2SLP will be. In particular the TA funding needed for development of deals will drastically reduce and ultimately won't be required once the climate-smart credit

product has been developed and tested, bankers trained etc. and credit has been granted to a minimum number of farmers, creating the required critical mass for scale.

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Annex 1: Targeted Investment & Returns

Description	Investment Opportunity/Requirement	Target Return
Impact Investor	\$3-5M Amortizing Term Loan 3-year tenor	3-10%/annum dependent on loan tenor and financial strength of investee/agri-lender
Technical Assistance Requirement	\$300,000 for deal development \$250,000 for FA/F3L system	-
Environmental returns Using Iris Metrics	Land Indirectly Controlled: Sustainably Managed (PI6796)	c 10,000-20,000 ha
	Ecological Restoration Management Area (PI9556)	c 10,000-20,000 ha
	Area of Trees Planted: Total (PI4127)	c 10,000-20,000 ha
	Ecosystem Services Provided (PD8494) (precise specification will vary according to deal)	<p>Provisioning Values/Services</p> <ul style="list-style-type: none"> Food Biological raw materials Biomass fuel <p>Regulating Values/Services</p> <ul style="list-style-type: none"> Regulation of climate Regulation of water timing and flows Erosion control Maintenance of soil quality Pollination Natural hazard mitigation <p>Supporting Values/Services</p> <ul style="list-style-type: none"> Habitat Nutrient cycling