

Financing Structure to Promote Access to Small Scale Irrigation and Access to markets

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Context: Large, unmet potential for small-scale irrigation

- Irrigation market is not yet demand driven

- Existing irrigation result mostly from Government initiatives and donor support for food security
- Limited initiation by private commercial farmers or smallholder farmers through small scale irrigation technologies (SSITs).
- Irrigation could improve yields and incomes, allow farmers three full growing seasons, and improve climate resilience.

Sept	Oct	Nov	Dec	Jan	Feb	Marc	April	May	Jun	July	Aug
Maize (Season A, long rains)				Soybeans/Beans (Season B, short rains)				Vegetables (Season C, dry)			



Results of Phase 1

- **Technologies:** Since March 2016, IFC and EUCORD implemented 25 ha of demonstrations on low to medium cost small scale irrigation technologies (SSIT)
- **4 pilot sites with 8 technologies in Phase-1:**

Cooperative	SSI Technology	Area (ha)
1. TWUNGUBUMWE	Sprinkler	5
	Californian network	1
2. JYAMBEREMUHINZI	Raingun	2
	Treadle pump	0.5
	Furrow gated pipe	1
3. ISUKA-IRAKIZA	Hand-hose with solar pump	4
	Micro-sprinklers with solar pump	1
4. ABIZERANYE	Hose-reel	10
TOTAL		24.5



Results of Phase 1

- **Technologies:** introduced 7 cost-effective small-scale irrigation technologies (SSITs) in 5 cooperatives
- **Service providers:** created a local network of 3 SSIT service providers (Balton, GCTC Ltd and Malaxmi/Acacia)
- **Financial incomes:** Most cooperatives increased incomes with lower cost technologies, particularly in season C

Technology	Irrig. Investment cost (USD/ha)	Generated Revenues (USD/ha)		
		Season A (Maize)	Season B (Soybeans)	Season C (Vegetables)
Rain-gun	1,485	656	-28	-
Gated pipe	441	655	30	1,134
Treadle pump	279	206	535	-
Solar pump	2,226	1,744	1,106	1,568
Sprinkler	1,900	478	-	-
Californian Net.	1,340	-190	-	-
Hose-reel	11,895	310	620	1,163

Pilot Project - Financial Performance



Financial Analysis (2017) - Statement of Comprehensive Income Summary

Rwf

Cooperative	Avg revenue	Cogs	Avg Gross Profit	Operating Expenses	Ebitda
Twungubumwe	8,793,000	7,385,000	1,408,000	479,400	928,600
Isuka Irakiza	10,870,000	10,800,000	70,000	18,000	52,000
Jyambere Muhinzi	62,000,000	59,050,000	2,950,000	1,001,500	1,948,500
Abizerana Kabarondo	-	-	-	-	-



☐ Performance of the 4 pilot-cooperatives has been analyzed using both qualitative and quantitative data from various sources:

- ☐ Scope assessment results (2017)
- ☐ Cooperatives financial statements (2017)
- ☐ Data collected by EUCORD (2015A - 2018A)
- ☐ One-on-one interviews conducted with the farmers and management of the cooperatives

Results of Phase 1

- **Technical:**

- Successful technologies for scaling-up: **Treadle and rain-gun**
- Technologies that need minor improvements: **Californian, gated pipe and sprinkler systems**
- Technologies that need major improvements: **solar pumps, which need back-up batteries**
- Technologies that need replacement: **Hosereel**



- **Overall:** Phase 1 confirmed that cooperatives are able to realize full economic benefits with irrigation by growing maize, soybeans and vegetable in seasons A, B and C, respectively
- **Capacity building:** professional and business trainings for about 100 cooperative managers and farmer leaders, and 57 irrigation technicians. The key areas were in:
 - ❖ Operation and maintenance of the irrigation equipment
 - ❖ Irrigation water management
 - ❖ Irrigation stakeholders and their roles
 - ❖ Gender issues in smallholder irrigation
 - ❖ Financial Management (*Farm records, financial plans, credit sourcing and management, Organizing for repayment of loans*)



Phase - 2: Cooperative Financing Model



Technical and financial challenges for creating a vibrant small-scale irrigation market

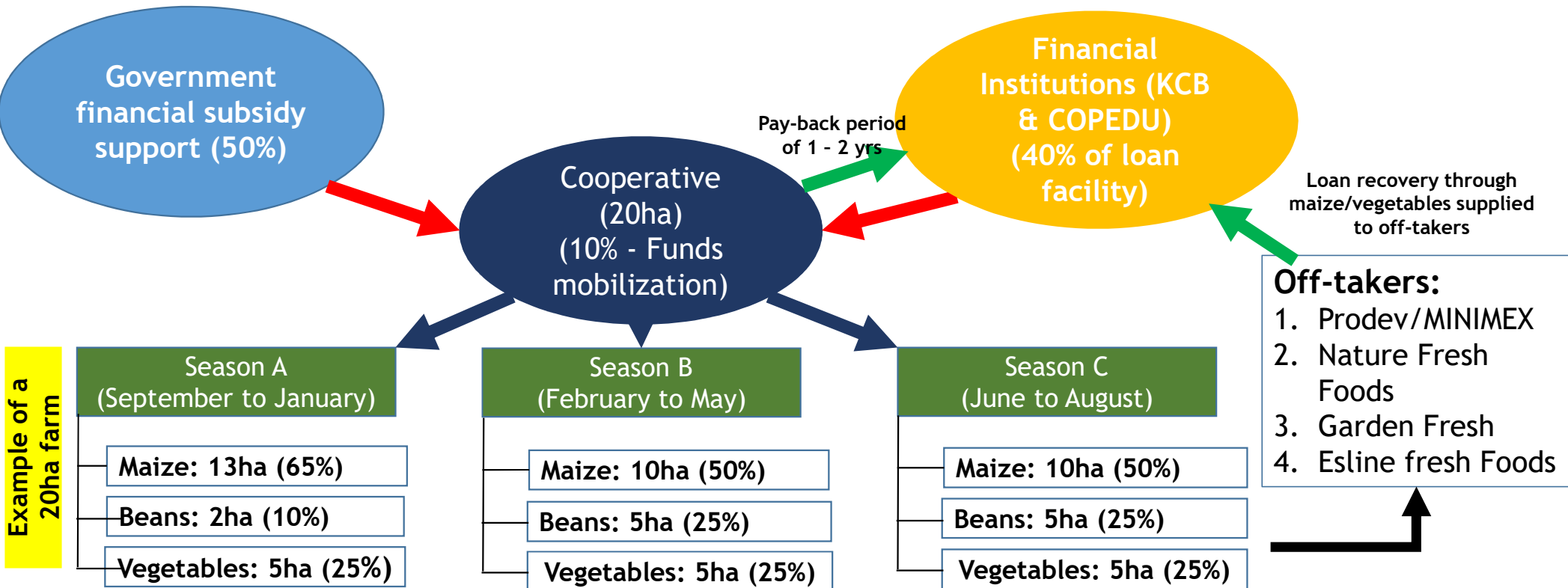
- **Technologies:** need to be low-cost
- **Cooperatives:** need to be professionalized to become commercial entity
- **Service providers:** need to engage with smallholders locally
- **Finance:** banks need guarantees to enter this new market
- **Capacity building:** farmers and technology providers need improved skills on irrigation and agronomy.



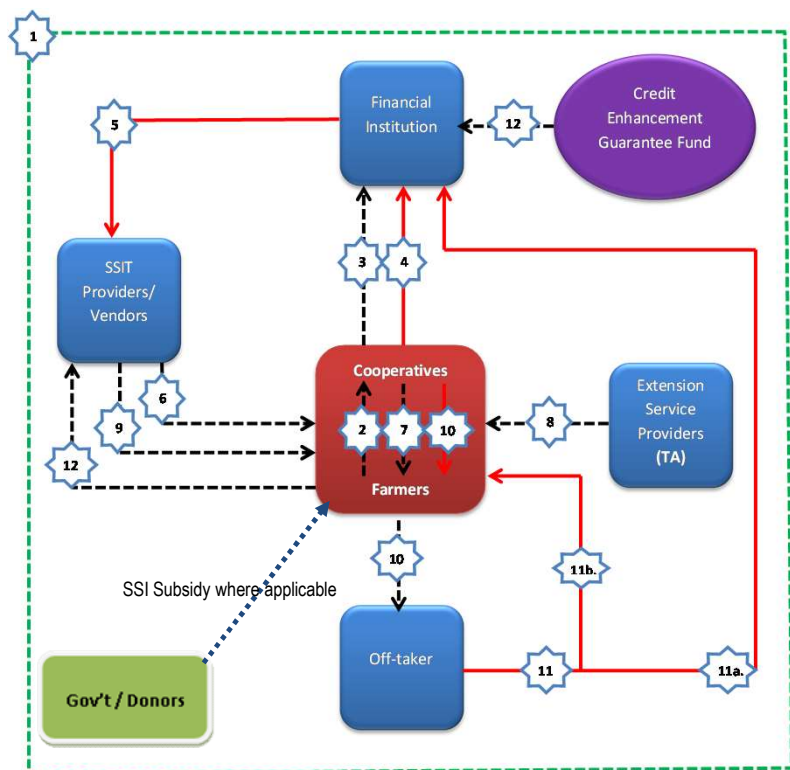
Solution to handle challenges: Need to create partnership with market actors

Phase - 2: Cooperative Financing Model

- **What:** A full irrigation package for Season A, B & C
- **Participants:** At least 10 potential cooperatives (out of 19) were identified for support with low cost SSITs
- **Model:** 50-40-10%



How the Asset Financing Facility for Cooperative/SHF will work



Framework Agreement



Normal Sequence

Cash Flow

Non Cash Movement

Sequence	Description
1	FIs, Cooperatives, SHFs, SSIT Providers/Vendors and Credit Guarantor enter into a Framework Agreement that outlines the process of the FI paying the SSIT Provider for the equipment through a loan product repaid by the Cooperatives
2	SHFs express their need to lease/hire equipment to the Cooperatives
3	Cooperatives after establishing actual need for equipment, apply for an asset financing facility to the FI
4	FI conducts its due diligence and appraisal. Upon approval, FI informs the Cooperatives which deposit their upfront payment of 25-30% of equipment cost
5	Upon receipt of the Cooperatives' contributions, the FI pays the SSIT Vendor directly the cost of equipment
6	The SSIT Vendor delivers the equipment to the Cooperatives, as per terms stipulated in the Framework Agreement
7	The Cooperatives hire/lease out the equipment to the SHFs that expressed interest, on a seasonal basis
8	The Extension Service Providers provide Technical Assistance - training in agronomy, etc.. before and over the course of the season, and also help in monitoring SHF and Cooperatives' performance throughout and after the loan tenor
9	SSIT Provider/Vendor provides maintenance at a per maintenance cost after installment of equipment
10	After harvest, Cooperatives aggregate, pay the SHFs (net of hiring costs), and deliver produce to the Off-taker as per contract, every season
11	Upon delivery of agreed produce, the Off-taker pays directly to Cooperatives' bank account (11a.) in FI that granted the loan to cover the loan repayment every season, and balance directly to the Cooperative (11b.), until loan maturity
12	In the event of loan default, the SSIT Provider/Vendor will buy back the equipment at a predetermined value per depreciation cycle. The Credit Guarantor will between 50- 75% of the loan upon repossession of the equipment and group collateral

Potential markets for the cooperatives



- **MINIMEX/PRODEV**

- **Commodity:** Maize



- **Nature Fresh Foods Ltd.**

- **Commodities:** Hot pepper; French beans; yellow dry beans; Broccoli

- **Esline Foods Ltd. and FreshPark**

- **Commodities:** Hot pepper; French beans

- **Garden Fresh Ltd.**

- **Commodities:** Hot pepper; French beans; Broccoli; baby corns; Passion fruits

Value Chain	Commodity	Company	Contact (email)	Phone
Vegetables	French Beans	PROXYFRESH Rwanda Ltd	Kevin@proxifresh.com	0780303403
		LOTEC Rwanda	lotecrwandaldt@gmail.com	0780443535
		GREEN HARVEST PRODUCT Ltd	www.sabana-sauces.com	0788455362
		GARDEN FRESH	gardenfreshwanda@gmail.com	0782424639
		NATURE FRESH FOODS	blessedmindm5@gmail.com	0788387808
		LOTEC Rwanda	rwirangirasylvia@gmail.com	0787500885
		ESLINE FOOD	besperance@gmail.com	0788500210
		BELLA EXOTICA AFRICA	emhabineza@gmail.com	0732304070
		EXOTICA FRESH RWANDA	john.baingana@gmail.com	0788302201
		CRINNOD	Crinnod Ltd < crinnod@gmail.com >	0785174220
		LE GEANT BUSINESS GROUP	alexnyiriminega@gmail.com	0788688886
		FIGHT FOR LIFE COOPERATIVE	fileco2016@gmail.com	0788739331
		SAFI PRICE Ltd	nkundajah@gmail.com	0788305548
		EDEN FRESH Ltd	muriukimk@gmail.com	0786346888
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Thank you

