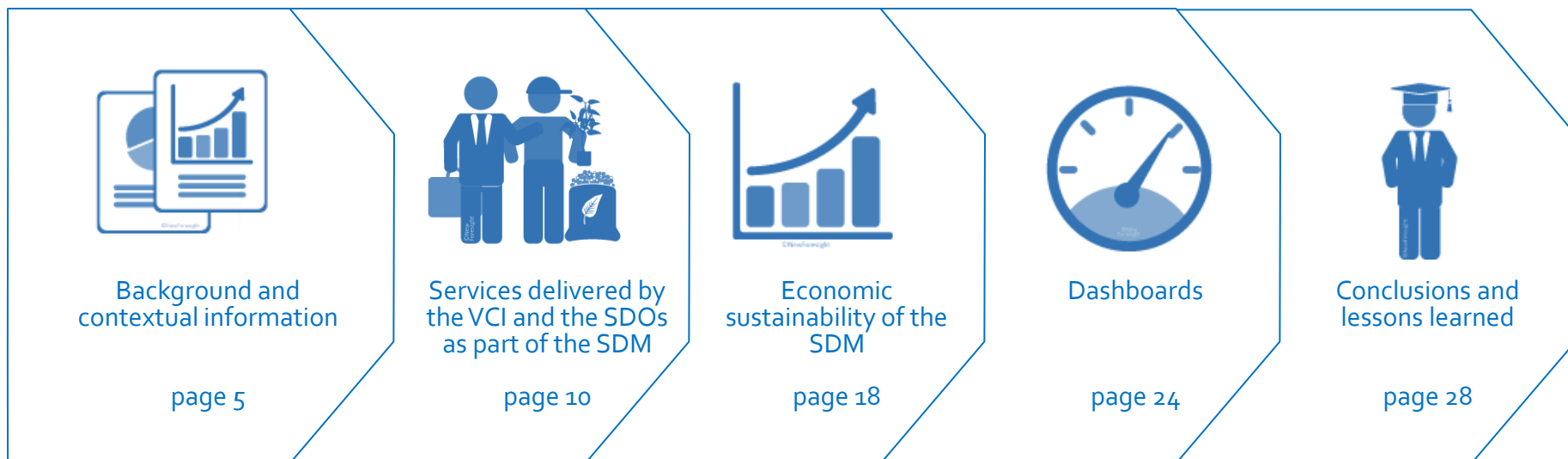




HRNS Uganda

Service Delivery Model Assessment
Case Study Report
June, 2015

Reading guide



The first chapter provides the methodology and background information of the case. In addition, the actors, flows and basic concepts of the SDM are introduced.

The second chapter explains the services delivered by VCI and SDOs in detail.

Third chapter assesses the economic sustainability of the model through detailed analysis of the impact of the SDM at the farmer, SDO and VCI level.

The fourth chapter analyses the overall performance of the SDM through ratios and indicators presented in dashboards.

The last chapter presents the conclusions and lessons learned.



In order to facilitate browsing through the document, a pointer is included to indicate the continuity of the narrative.

Foreword from IDH, The Sustainable Trade Initiative

Importance of Service Delivery

IDH and partners are investing significant funding and resources in the development of “service delivery models”: supply chain structures which provide services such as training, access to inputs and information to farmers required to increase their performance. But not so much is known about the performance and impact on the beneficiaries of Service Delivery Models (SDMs) – there are no hard data on effectiveness, and a lack of insight into best practices. As a result, many organizations may be reinventing the wheel when developing and investing in SDMs.

IDH is bringing together key partners to gain better insight into the cost-effectiveness, scalability and financial self-sustainability of SDMs. By analyzing different SDMs, IDH would like to learn together with partners on what works, where and why, and on how to improve the performance of SDMs by optimizing the model and, in some cases, even modifying the model and further developing it.

About this study

In the approach of this study, there is a strong focus on the “economic sustainability” of SDMs and the “Return on Investment” for farmers, service operators and value chain investors. The tool that is developed in this study offers the possibility to assess efficiency and effectiveness of a SDM at different stages of a SDM lifetime.

IDH acknowledges though that SDMs can and should also contribute to the social and environmental dimensions of sustainability of farms as well as farmer families and communities. Investment decisions would need to be taken based on a complete picture of a SDM, including the social and environmental Return on Investment.

With this study, IDH would like to create more intelligence on SDMs and, therewith, more effective service delivery to smallholder farmers which will support overall sector development. We hope that sharing this case report is a good starting point. To further enhance this work, we welcome new participants in the 2nd phase of the SDM study where we will analyze more cases and further develop the approach.

Thanks

IDH would like to express its sincere thanks to HRNS for their openness and willingness to cooperate with IDH in this study and to provide insight into their model. Also the feedback on the way of analyzing SDMs has been very useful for this study and for the thinking of the way forward.



The Hanns R. Neumann Stiftung approach

When IDH approached us with the suggestion to cooperate in developing a methodology for the assessment of service delivery models, we were interested immediately. There is a wide variety of approaches to support coffee producers, and the differences between them are not always visible. It is becoming increasingly important to create transparency in the effectiveness and efficiency of solutions, both to beneficiaries as well as investors. The focus of this study on economic parameters of SDMs is a good start in this direction!

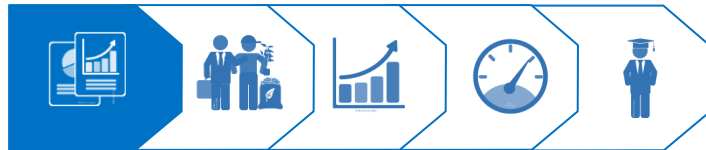
At the same time, we need to continue working towards the due integration of social, environmental and economical dimensions to be able to achieve a thorough assessment of the sustainable impact triggered by farmer support systems.

As Hanns R. Neumann Stiftung, we have already been engaged in supporting small coffee and cocoa producing farmers and their communities for a long time now. Our aim is to create a lasting improvement of farmer living conditions, foster cultivation, and optimizing their product sales. Considering the large number of small producers in our sectors and, in many places, their below-average yields and returns, we are deliberately operating at the bottom of the pyramid and working mostly with weak structures or unorganized farmers. We support them in the integration of sustainable production methods and help them to improve their on-farm management. Next to this, we better their access to markets and essential support services, often through organizing farmers in efficient and member-oriented organizations.

Smallholder farmers have huge potential to strengthen their family livelihoods, while at the same time contributing to solve our sector challenges. Through our projects, we intend to generate models that can serve as basis for revealing this potential based on win-win situations. Only if development prospects become tangible, communities will continue to produce coffee (and cocoa) and the younger generation will become more likely stay in rural areas.



Background and contextual information



Introduction to the methodology of this study

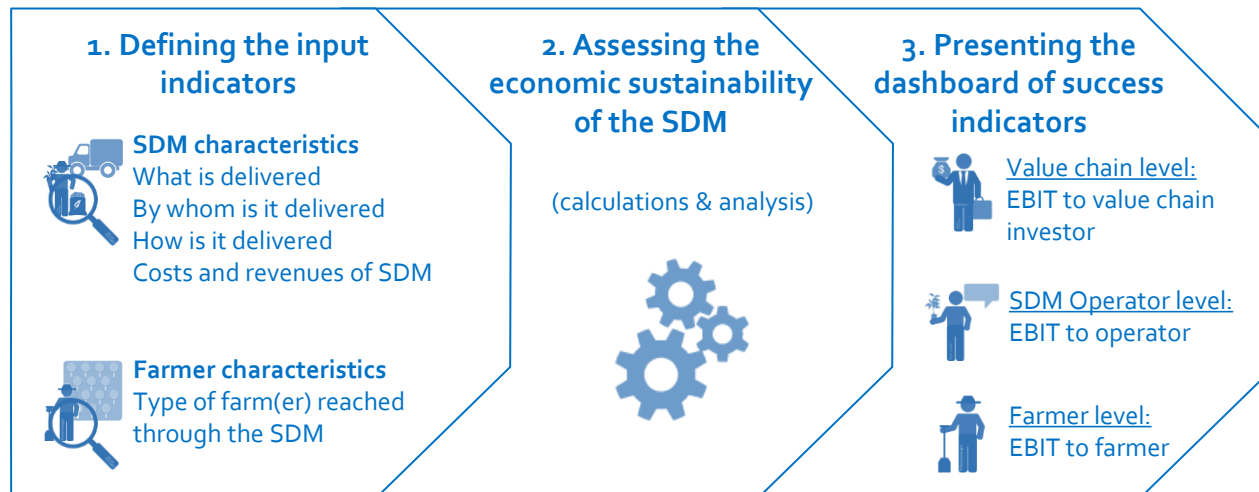


The project focused on the economic sustainability of SDMs at the level of the value chain investor, operator and farmer. Economic sustainability is a key driver for the broader impact of the SDM as it facilitates scalability. In other words, a financially sound SDM that has a positive impact on farmer income can reach a large number of farmers and improve their livelihoods

The operator is an entity delivering one or multiple services directly to the farmer, whereas the value chain investor is defined as a value chain player that invests (financial) resources into the SDM operator and guides the (initial) rolling out of the model.

The importance and expected impact of the three levels of SDM economic sustainability will vary per stakeholder and the SDM's theory of change. By making economic sustainability explicit at all three levels, the study template will be able to generate relevant outcomes for a variety of SDMs and stakeholders involved.

The study is divided into three steps illustrated in the figure below.



This document presents the data analyzed and the findings obtained through this study.

Levels of economic sustainability



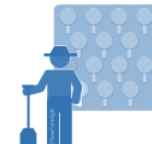
1. Economic sustainability at **investor level:**

- *Sum of EBIT (investor income – investor costs) for all years of SDM implementation*



2. Economic sustainability at **SDM operator (SDO) level:**

- *Sum of EBIT (operator income – operator costs) for all years of SDM implementation*



3. Economic sustainability at **farmer level:**

- *Sum of EBIT (farm income – farm costs) for all years of SDM implementation*



Introduction to the coffee value chain in Uganda, the HRNS Service Delivery Model and its actors



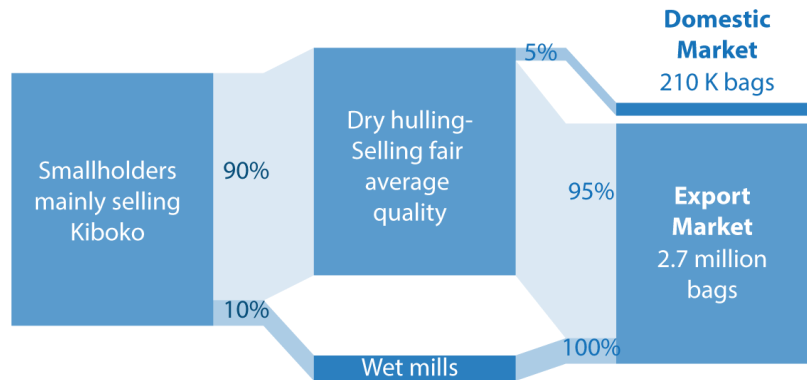
The coffee value chain in Uganda

The coffee value chain in Uganda is based on smallholder farmers with a farm size of approx. 1 ha. Farmers sell kiboko (dried cherry) to local traders who process mainly Robusta coffee in small hulling factories.

A couple of decades ago, about 400 dry hulling factories have been built with government and donor subsidies.

Local traders sell hulled product (Fair Average Quality or FAQ) to traders who prepare the coffee for export in Kampala. 80% of all exported coffee is traded by twelve traders. The Uganda Coffee Development Authority regulates the market and provides information services to farmers. During the program, global prices were 92% higher than the year preceding the program. (LIFFE Robusta, NY Oct05-Sep13 vs. Oct04-Sep05).

Structure of the Uganda Robusta Coffee Value Chain*



HRNS in Uganda:

Hanns R. Neumann Stiftung (HRNS) is a not-for profit organization that aims to develop smallholder coffee farmers. HRNS started a program for coffee farmers in Uganda in 2005. The program was initiated shortly after the outbreak of coffee wilt disease that halved the number of Robusta trees in Uganda. Funding was received initially from the EU and later from a variety of donors

*Source: KPMG analysis on data UCDA/Technoserve / crop year 2012

Actors in the SDM



The **Value Chain Investor** or Project management office is the implementing arm of HRNS that is supporting the establishment of structures that are service providers to farmers in the long-term. They provide **training services** to farmers and to operators



Uganda Coffee Farmer Alliance (UCFA) provides **information services**, in particular by disseminating price information. Also, UCFA negotiates with providers of inputs, financing and exporters of coffee.



Depot Committees (DC) provide **value added services** including bulking/bagging, joint purchase of hulling and transportation services, joint sales to exporters and **financial services** such as provision of pre-finance and advance payments.



Nursery businesses are independent from the cooperative structures. Their role is the **provision of plantlets** to farmers at a commercial rate.



Producer Organizations (PO) are groups of 25-30 farmers who receive extension service.

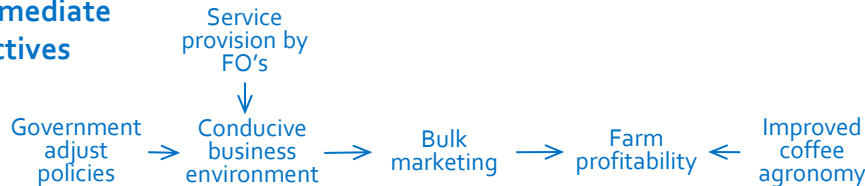


HRNS Theory of Change: Empowering farmers through farmer field schools

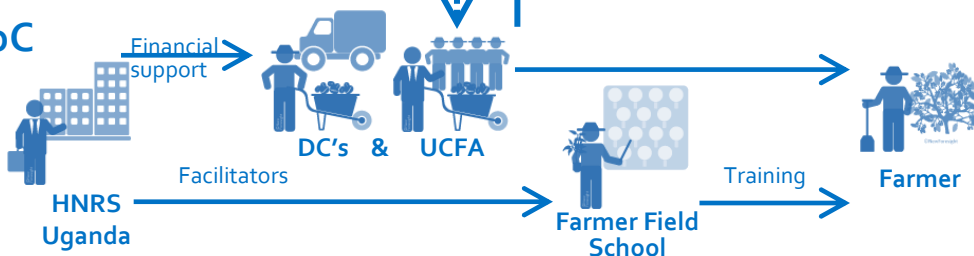
Objectives



Intermediate objectives



ToC



Key drivers



HRNS Uganda began to operate in an environment where the majority of farmers were unorganized and untrained.

A significant proportion of the budget was spent on the provision of training to farmers. HRNS Uganda targets farmers at the bottom-of-the-pyramid.

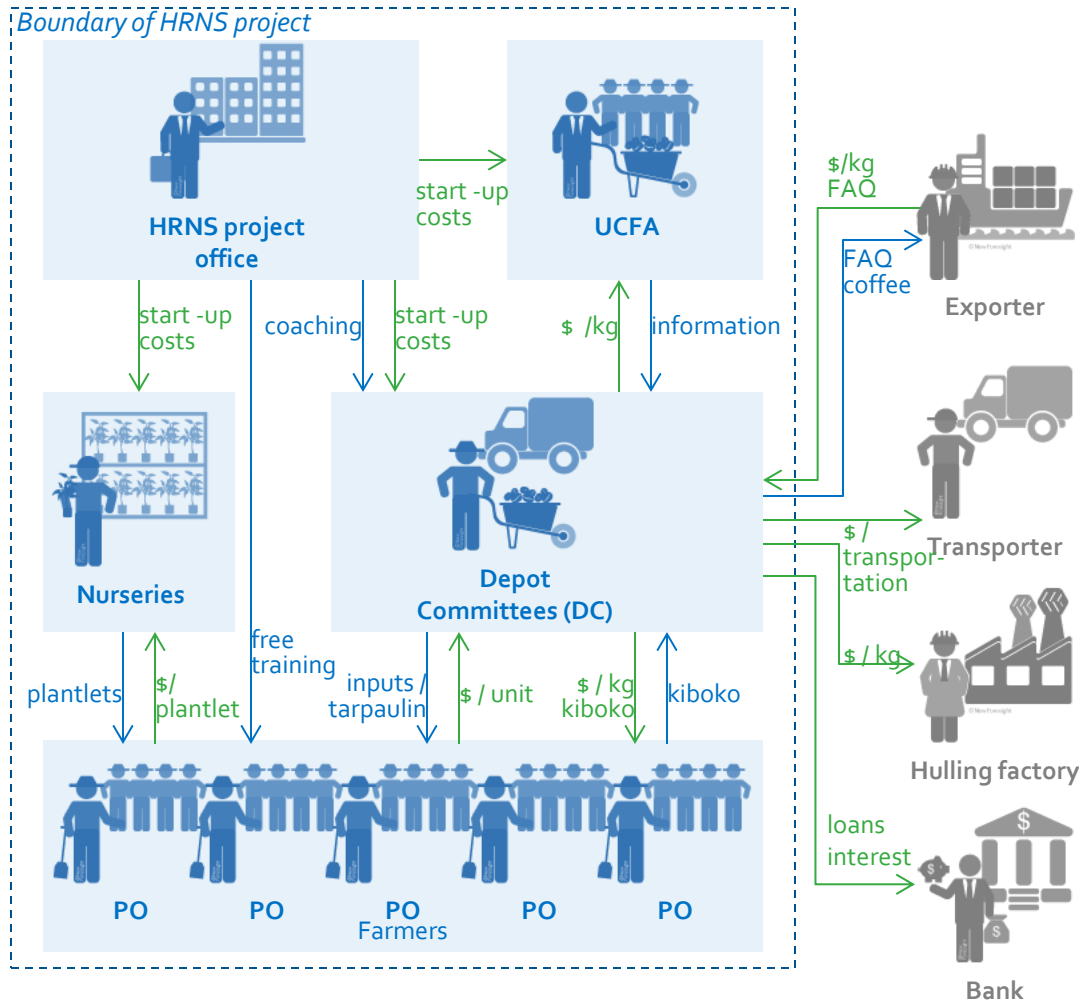
HRNS' aims at providing training through farmer field schools. The results of these training sessions are improved yields, optimized farm operations and self-organization by farmers in DC's, supported by HRNS. The DC's deliver bulking and hulling services which in addition to increased yields result in increased farmer income, eventually evolving into the Uganda Coffee Farmers Alliance as an Ugandan-led farmer association (UCFA) which represents, supports and defends farmer interests on a national level.

HRNS Uganda does not gain from improved production and quality. The benefits of improved quality due to the SDM of HRNS are not within the boundary of this analysis.

For the purpose of this study, HRNS Uganda is considered a Value Chain Investor because it set up and established the SDM structure and it supports and coordinates the service delivery operators.



Detailed overview of services and revenue flow in the HRNS service delivery model



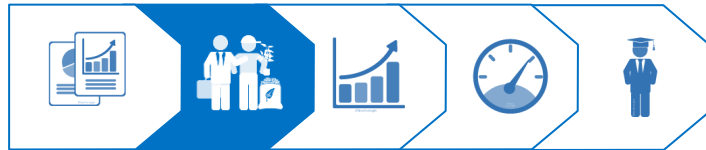
Legend
← Flow of goods and services
→ Cash flow

Overview of cash flows and goods and services in the HRNS Service Delivery Models

HRNS has built capacity and established several entities providing services to farmers. Farmers and farmer groups are offered solutions to improve organizational strength, knowledge and availability of training, financial services and good-quality technical assistance. The program began by assisting farmers to form groups called producer organizations (PO's) at village levels. For each 20-25 PO's, a Depot Committee (DC) was formed. All Depot Committees are member of an apex national organization called Uganda Coffee Farmer Alliance (UCFA). UCFA provides information to DCs and provides linkages to external service providers such as financial institutions.

The various lines of services are provided through entities established with support of HRNS. The entities are legally independent from HRNS and are owned/operated by farmers. The DC is pivotal to the Service Delivery Model by contracting hulling factories and transporters, and by offering products for sale and extension services to farmers. HRNS also supported the establishment of a number of nurseries to alleviate the shortage of good planting material in certain areas in Uganda. These nurseries have been set up as individual farming businesses which partly contributed to the set-up costs themselves.











Services delivered by the VCI and the SDOs as part of the SDM



Types of services delivered within the boundaries of the SDM by the Value Chain Investor and the Service Delivery Operators



The table below presents an overview of the services delivered by the Value Chain Investor and the Service Delivery Operators by type of service. Further details are given in the following pages.

Value Chain Investor		Service Delivery Operators			
 Project management office of Hanns R. Neumann Stiftung		 Uganda Coffee Farmer Alliance (UCFA)	 Depot Committee	 Clonal nursery	 Producer organizations (PO's) and farmers
Type of services  Training & capacity building  Financing  Input supplies  Processing  Business & market outreach	<ul style="list-style-type: none"> Farmer selection and sensitization Capacity building/training Gender programming 		<ul style="list-style-type: none"> Training services 		<ul style="list-style-type: none"> Farmer Field Schools
	<ul style="list-style-type: none"> Venture capital Subsidies to UCFA and DCs 		<ul style="list-style-type: none"> Loans from DC's to farmers Loans from banks to DC's 		
			<ul style="list-style-type: none"> Sale of equipment and inputs 	<ul style="list-style-type: none"> Production and distribution of seedlings to farmers 	
			<ul style="list-style-type: none"> Hulling , bulking, transportation and marketing services 		
		<ul style="list-style-type: none"> Information services Negotiation and representation 			



Services delivered by the Value Chain Investor (Project management office of Hanns R. Neumann Stiftung)



HRNS project management office is considered as a Value Chain Investor for the purpose of this study because it set up the structure and it provides specific services to SDOs and creates the organizational structure for farmers to support farmers.



Service provision



a) Capacity building

The primary activity of the VCI is to organize farmers into Producer Organizations. The VCI has combined several field interventions including farmer field schools (FFS), demonstration plots, certification, Village Savings and Loans Associations (VSLA's) and gender training. The VCI has distributed tools and equipment, including bicycles and inputs for demonstration plots. A typical capacity building program takes about five years.



b) Venture capital

The VCI provides funding for the establishment of Depot Committee's (DC's) and nurseries. The establishment of a DC costs on average \$6100, which includes the payment of rent for office space, stationery and office supplies, quality testing equipment, remuneration to a marketing manager, furniture and audit costs for two years. The establishment of a nursery costs approximately \$2500.



c) Farmer selection and sensitization

One function of the VCI is the creation of an organizational structure where farmers can unite and group-leaders can develop leadership skills. With HRNS, initial farmer selection is carried out in collaboration with the district farmers' associations and with UCDA Coordinators. Once the project locations have been identified, Village Leaders also contribute to mobilization of farmers..

Exit strategy (coaching)

After the five years, VCI offers coaching to depot committees (DC's) and farmers that have exited the program, to scale down the program. DC's are encouraged to organize training sessions themselves and to charge a fee to farmers. To date, only a very small number of DC's has independently organized training sessions.

Farmer Field Schools (FFS) are the main structure for farmer training. Through FFSs, farmers continuously learn from each other. The costs for this coaching program are estimated to be \$50 per farmer per four years.



Services delivered through the Uganda Coffee Farmer Alliance (UCFA)



The UCFA, as service delivery operator, supports and coordinates de depot committees.



The Uganda Coffee Farmer Alliance

The Uganda Coffee Farmer Alliance is an organization that functions as an apex to currently 82 Depot Committees.

The UCFA provides support services and linkages to DC's and also serves as a central point of coordination for joint actions taken by farmers. Options currently under consideration by UCFA are to enter direct trade relationships with external coffee buyers, to develop its own brand which coffee buyers can identify with and to build capacity for direct trade with roasters.

Services provided



a) Information services

I. Pricing information

The UCFA collects pricing information from traders and governmental bodies like UCDA. This information is distributed to DC's, improving their ability to make sound business decisions. In addition, UCFA identifies and negotiates with buyers in order to offer premium prices to its members.

II. Pilot with SAP

- The organization is running a pilot in collaboration with SAP to improve documentation of farmer deliveries. The pilot uses smart phones, allowing DC's to access real-time information about coffee deliveries.



b) Negotiation and representation


- Together with DC's, the UCFA negotiates with suppliers of inputs and traders about joint memoranda. UCFA has coordinated the implementation of MoU's between DC's, Ibero and HRNS which reduced the costs of loans from banks. Also, the UCFA is leading negotiations with providers of inputs.

Information services flow





Services delivered through the Depot Committee (1/3)

 The Depot Committee provides added value services and trains farmers through farmer field schools



The Depot Committees

The Depot Committees are organizations that offer services at farmer level to ensure they have the right conditions to produce and sell coffee.

Services provided

a) *Hulling, bulking and transportation services (value added services)*

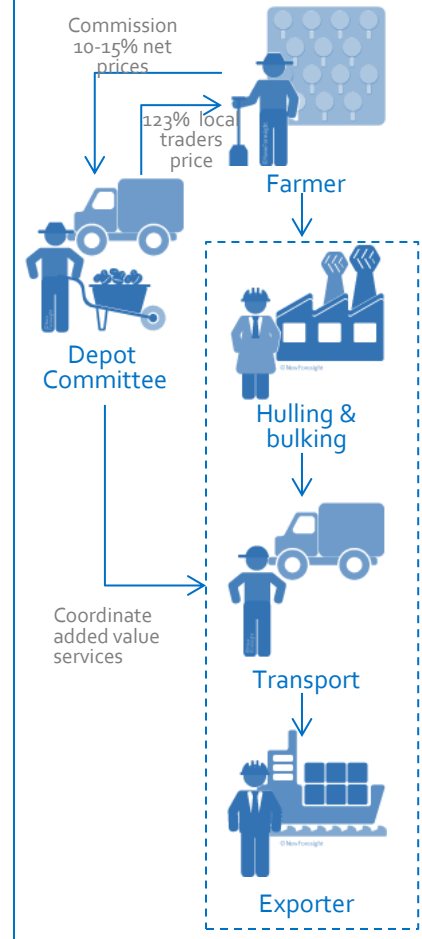
The main activity of the Depot Committee is to store and bulk dry Robusta cherries, control quality, contract a hulling factory and transport bulk volumes to exporters and market the FAQ coffee directly to exporters. The DC is able to obtain a better return than individual farmers by (1) measuring potential outturn upfront, by (2) negotiating better prices with hulling factories and by (3) negotiating a better price with exporters, taking advantage of economies of scale. This results in value addition for the member farmers.

Because most exporters reside in Kampala, many DC's also contract transportation services on behalf of farmers. The DC's rely on information about local prices versus national prices provided by the apex organization UCFA. DC's pay on average a 23% higher price than offered by local traders. DC's charge a commission of 10-15% of net price paid to farmers to cover expenses. DC's buy between 3% and 80% of total farmer production, varying per region (for Luwero it was 9% in 12/13, while for Mityana is 18% on average). Approximately 70-80% of all coffee sold through DC's is delivered to Ibero, the commercial buying company owned by Neumann Kaffee Gruppe. DC's are not obliged to sell their coffee to Ibero, but Ibero offers a more competitive price.

b) *Training services*

Throughout the first five years of the project, training services are provided to farmers by the VCI. If the training is implemented by HRNS the training cost is covered by the project budgets, however, if farmer organizations carry out workshops these costs are usually covered through the commissions on coffee sales. DC's and PO's conduct regular low-cost training sessions through Farmer Field Schools. Training sessions cover a variety of topics including GAP, commercial- and financial training. After five to six years, HRNS has phased out regular training sessions for the region of Mityana, but some farmers continue to participate in the self-organized FFS training sessions.

Added value services flow





Services delivered through the Depot Committee (2/3)



The Depot Committee provides value added and financial services



Services provided

b) Finance services

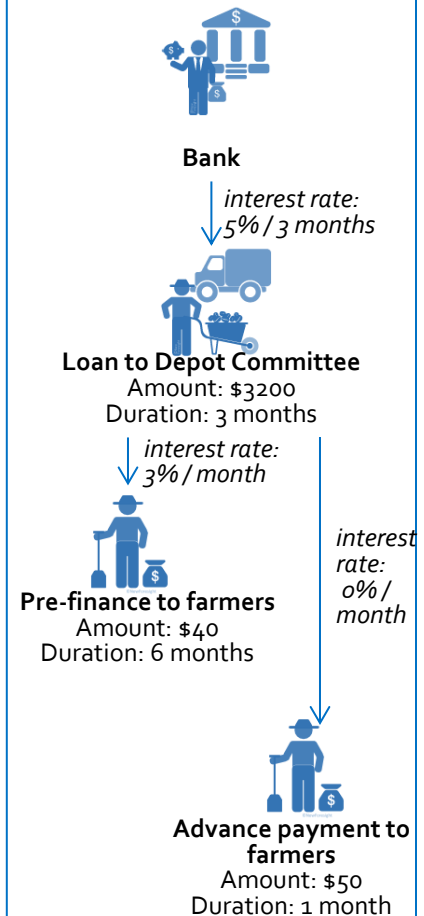
I. Loans from DC's to farmers

Access to finance for farmers remains a critical constraint. Many farmers are stuck to middlemen due to a poor financial situation, i.e. farmers borrow from middlemen during the year and have to repay in coffee. Access to finance from formal financial institutions is very limited mainly due to banks not having the capacity to address smallholders and due to a lack of effective models to do so. DC's are only able to provide financial services in a small number of cases to farmers in the form of advance payments, usually on delivery of the coffee. In new DC's the percentage of farmers requiring payment on delivery is ~50%, in longer established DC's the rate of farmers requiring such advance payment decreases to 10%. Pre-financing loans from DCs, which again are only available to few farmers, due to insufficient funding by the DCs, have a size of around \$40 with a duration of 6 months and an interest rate of 3% per month. Pre-financing can be used for payment of school fees and other private purposes.

II. Loans from banks to DC's


To fund farmer's advance payment needs, DC's need to obtain a bank loan of approx. \$3200 for a duration of 3 months in the 2nd or 3rd year of their existence. To obtain a lower interest rate, DC's sign a MoU with HRNS and Neumann Kaffee Gruppe. In the MoU, the DC commits to sell good quality, while HRNS commits to continue supporting the DC. The exporter commits to buy coffee from the DC under condition that quality is sufficient. Interest rate of a 3-month loan is 3% per month. DC's pay considerable provision costs, for a \$3200 loan, provision costs were calculated to be \$120 or 3,8%. Repayment rate is 100%, with exception of a few delayed payments. Most DC's obtain a bank loan for four to five years, after that, they have build some financial reserves and sufficient trust with farmers, reducing the need for advance payment. Due to the high costs of loans, older DC's have stopped lending from banks.

Finance services flow





Services delivered through the Depot Committee (3/3)

 The Depot Committee also sells equipment and inputs.



Services provided

d) *Sale of equipment and inputs*

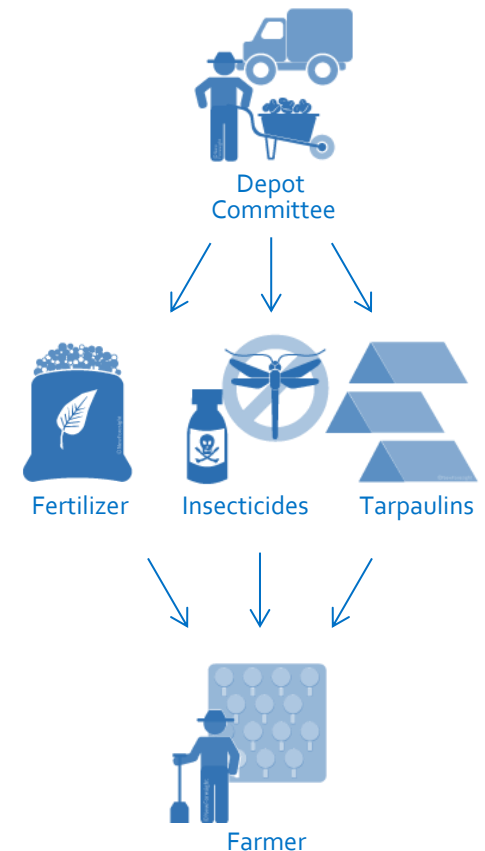
The DC's can offer several products for sale to farmers, which may include tarpaulins (needed to improve the quality of beans in the drying process), inputs and phytosanitary products. All DC's sell tarpaulins, on average about 50 tarpaulins at a rate of \$24, with a margin of \$0,8. A small number (8 out of 83) of DC's offers phytosanitary products and fertilizer. For this purpose, the DC's have an MoU with a fertilizer provider, drafted by UCFA, which has clauses on financing by commercial banks if required.

Typically, these DC's sell:

- 2500 kg (50 bags) of urea or NPK fertilizer per year at a rate of \$32/bag vs. \$36-44 at commercial rates, with a margin of \$2 per bag.
- Insecticides such as Confidor are sold with volumes of 100-140 liters for \$32 /liter vs. \$48-60 at commercial rates, with a margin of \$0,8 /liter.

The DC's that offer inputs for sale operate in areas with a low density of input shops (area of Massaka). In the other areas where HRNS operates, input are more readily available. The main source of revenue and income for DC's comes from bulking and hulling. Because of the limited occurrence of sales of inputs, these sources of income have not been accounted for in further calculations

Equipment and input flows





Services delivered through clonal nurseries and Producer Organizations



The clonal nurseries and producer organizations complement the package of services provided

Clonal nurseries



Clonal nurseries

Nursery businesses are independent from the cooperative structures. Their role is the provision of plantlets to farmers at a commercial rate.



Services provided

Production and distribution of seedlings to farmers.

Producer organizations (PO's) and farmers



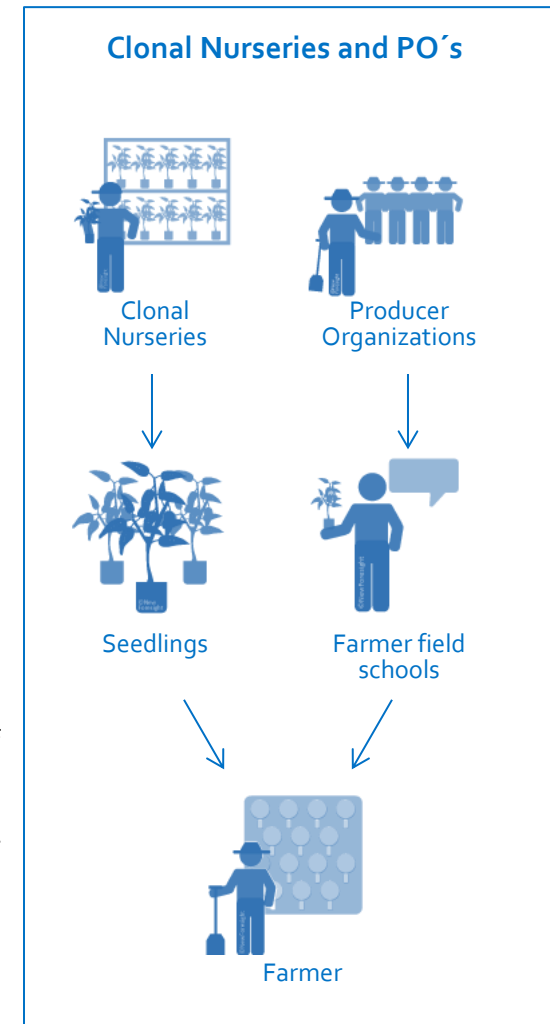
Producer organizations

The PO's are used to organize farmers into groups. PO's are the primary coffee collection centers. There are 1668 PO's, in which 53.000 farmers are organized.



Services provided

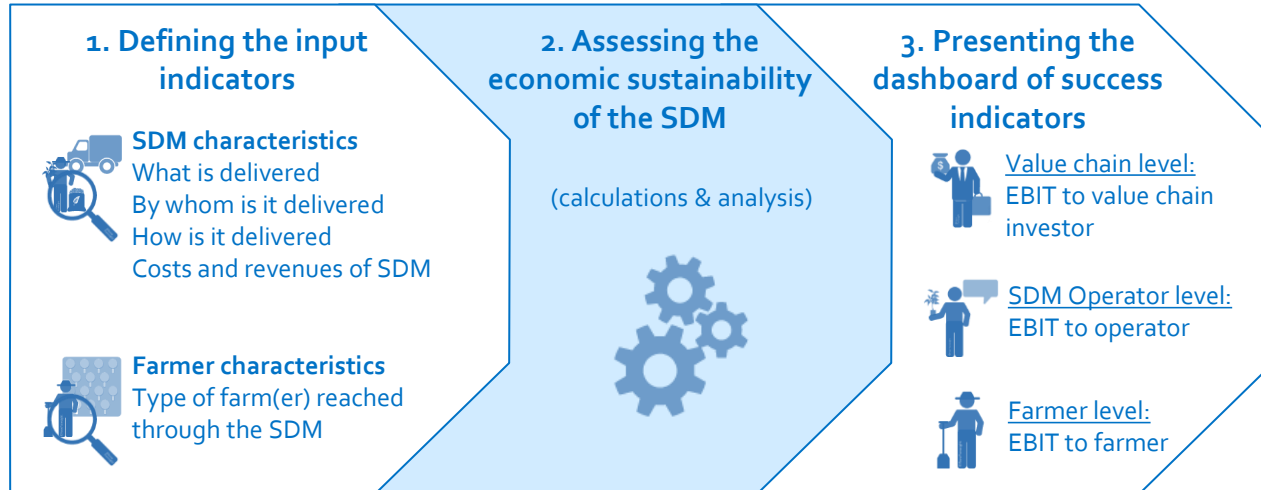
The Farmer Field Schools are established at PO-level and funded by HRNS for the first five years. Independent from the Producer Organization, members can operate a Village Savings and Loans association (VSLA) the development of which HRNS is encouraging in the initial stages. A VSLA is a loans system enabling farmers to borrow ~\$40 for one month. To participate in a VSLA, farmers pay a small monthly fee. By developing a VSLA, farmers can reduce their dependence on financing of middle man. There are 161 VSLA's, covering approx. 4.000 farmers, but this number is expected to increase.



Economic sustainability of the SDM



Assessment of the economic sustainability of the SDM



After defining the different services delivered through the SDM, and studying the variables for each one of the cases, the economic sustainability of the model was assessed through the analysis of the economic performance of all the actors.

This analysis included:

- Calculation and comparison of earnings before interest and taxes (EBIT)
- Study of the cash flows of the relevant actors in the model
- Study of the reported impact of the SDM on an average farm

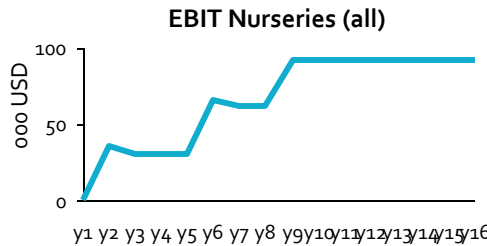
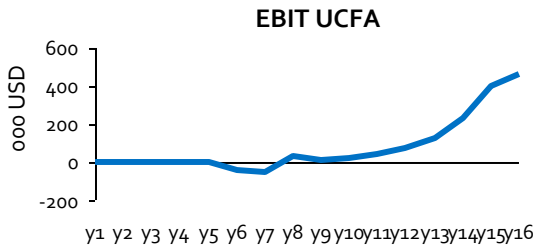
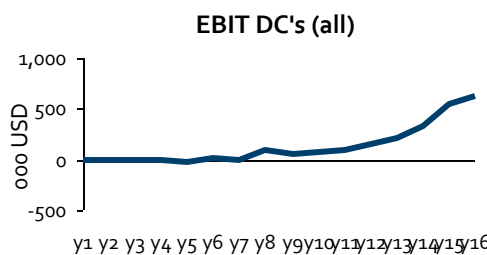
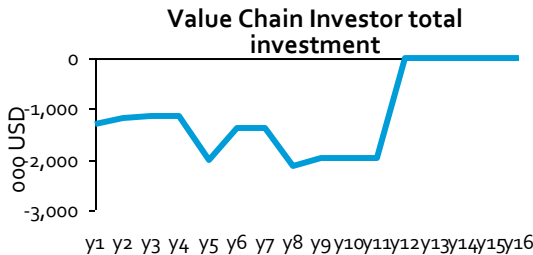
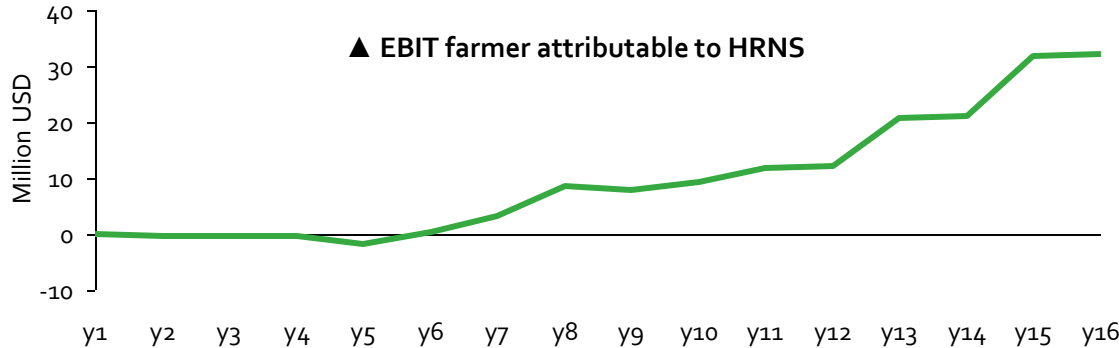
The findings of this analysis are presented in the following pages.



Profits and investment across the Service Delivery Model



The projection of the expected profits for the Value Chain Investor, the SDOs and the total farmers participating in the program over a period of 16 years is given below.



Note: Delta farmer EBIT includes productivity improvements (and associated costs) and the changes in revenue resulting from the provision of value added services by DC's. The analysis attributes all productivity improvements to the HRNS program and includes assumptions about future projections for coffee price and uptake by DC's.

* Base year is 2004/05 (y1*)

Earnings before taxes and interest (EBIT) for each SDM actor

▲ EBIT at the farm level

- This is the total change in earnings compared to the baseline (no program) of all farmers in the program.
- Main drivers are productivity growth, a better outturn in the hulling process and a higher price. Outturn and price benefits only apply to the portion of volume delivered to DCs (uptake)

EBIT at the value chain investor level

- This the total sum of costs of HRNS related to the provision of services. The expenses include program management costs.
- It is assumed that after 2013, the program does not expand any further. As a result, the curve starts to converge towards zero by 2015.

EBIT at the operator level: DC's, nurseries, UCFA

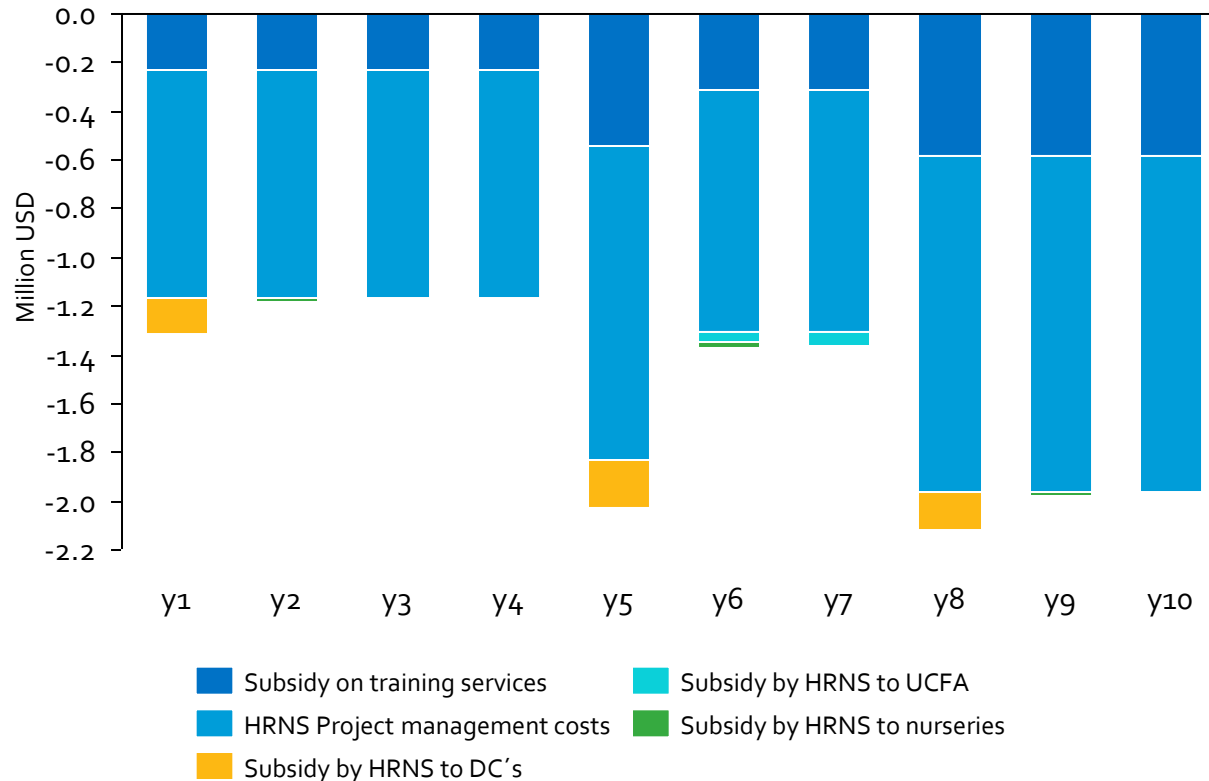
- This is the total sum of costs and earning of all 82 DC's.
- Separate curves are shown for nurseries and the Uganda Coffee Farmer Alliance (UCFA).



Overview of Value Chain Investor subsidies



HRNS subsidizes the model to enable service delivery. The subsidies covered by the Value Chain Investor is presented on this page.



* Base year (y1) is 2013

Economic sustainability at investor level

The Investor does not generate revenue. The Investor and the DC have linkages with a commercial exporter, but there is no exclusivity in transactions between DC and exporter.

Main cost drivers

- The main cost category is training. The training costs represented here are covered by project budget, these include an allowance paid to Farmer Field School facilitators and the salaries paid to field staff adjusted for the time they spend on other activities than provision of training (such as M&E).
- Other expenses shown are subsidies for the establishment of DC's, nurseries and the UCFA.
- The expenses shown do not include costs that cannot directly be attributed to service delivery, such as program management, hardware, transportation etc. Total program costs (incl. expenses and subsidization) are estimated to be USD 15 mln over the last 10 years.

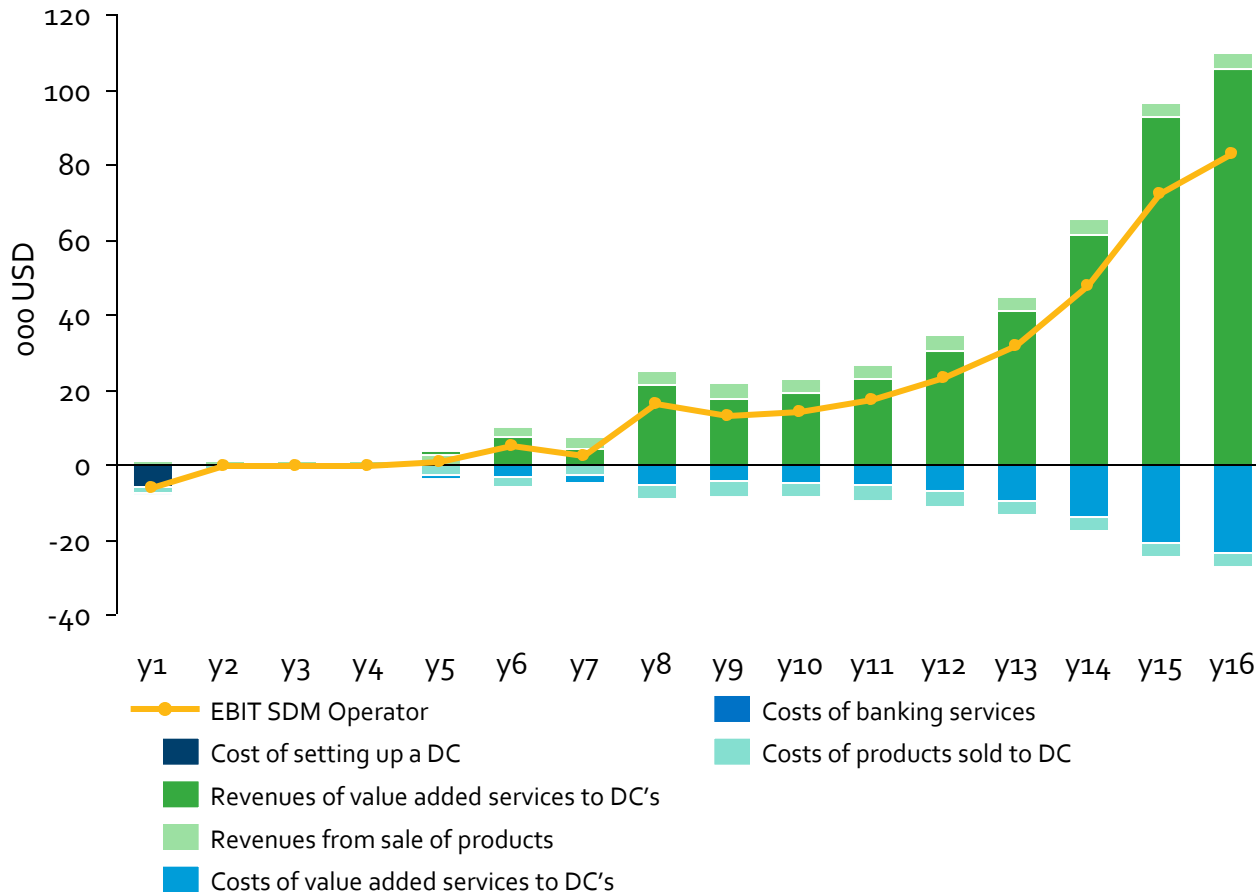
For the purpose of this analysis, we have assumed the program ends in 2015.



Overview of costs and revenues – Service Delivery Operator level



Revenues for the SDM Operator are projected to rise steadily from year 11 on. The figure below shows the cash flow for an average DC.



Note: This overview presents an average P&L of a Depot Committee. The calculation is based on average coffee uptake for a sample of DC's. Base year is 2004/05 (y1*)

Economic sustainability at operator level

Main revenue drivers

- The main driver of revenue for the DC is the throughput of coffee beans. Throughput is moderated by farmer loyalty and availability of financing to farmers. More loyal farmers deliver a higher portion of the coffee they produce to the DC. DC bulk coffee from Producer Organizations, and deliver de-hulled FAQ coffee to exporters.
- The main activities of the DC are providing value adding service such as hulling, bulking, transportation and marketing, and the sale of tarpaulins and other agro inputs.

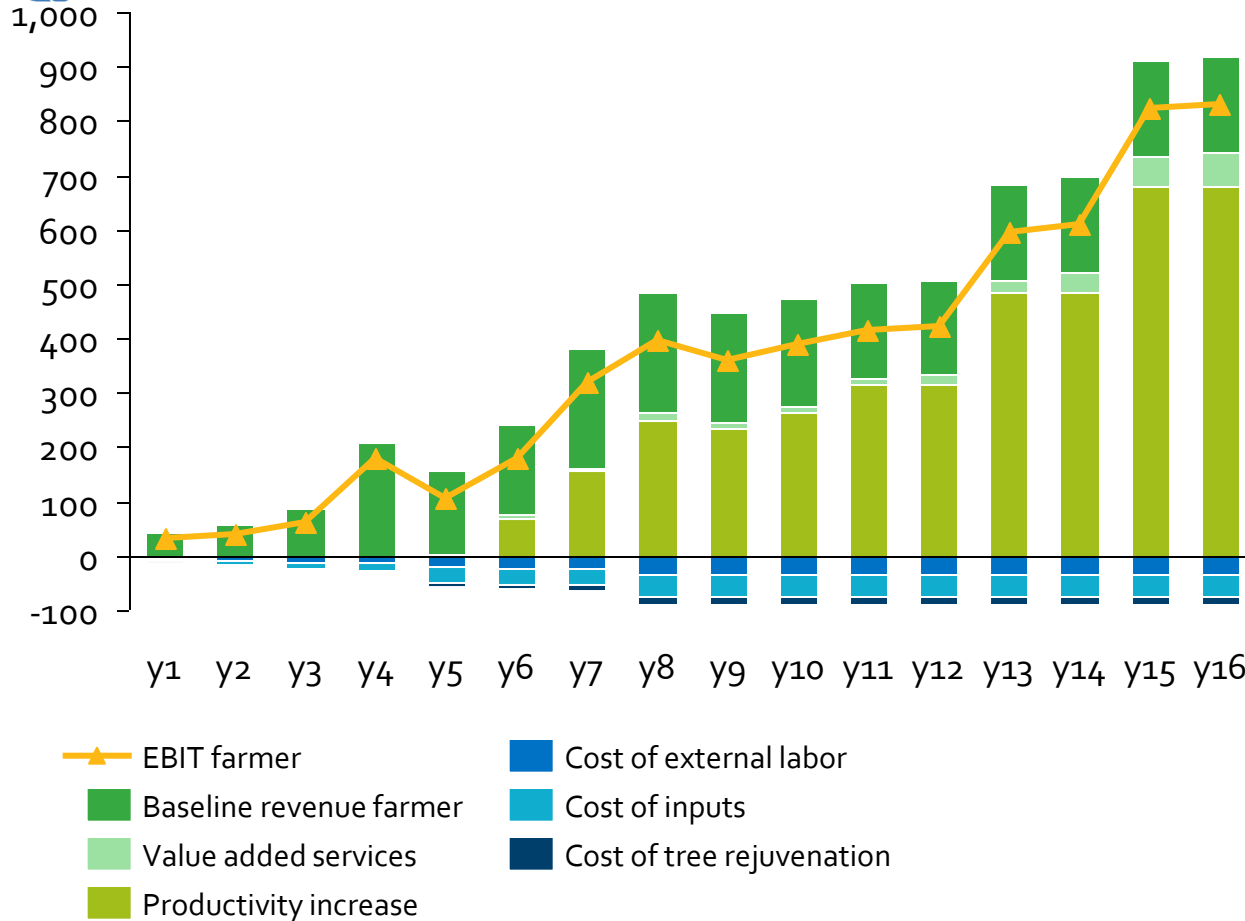
Main cost drivers

- The DC's main expenses are on paying a marketing manager and on purchasing hulling and transportation services from 3rd parties.
- The price risk to DC's is low because farmers are usually paid only after they have received payment from the exporter. By using price information from UCFA, the DC can effectively ensure that it will not become insolvent.

Overview of costs and revenues – Farmer level



The figure below illustrates the business case for an average farmer. Productivity impact grew substantially after year 6



Note: This overview presents an average P&L of a farmer. The calculation is based on average coffee uptake for a sample of farmers. Base year is 2004/05 (y1*)

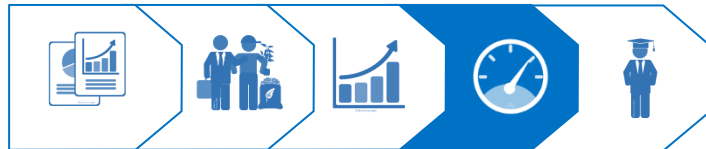
Economic sustainability at farmer level

- The main impact of HRNS is the increase in productivity of farmers*, and the main driver is the higher revenue (when compared to the average baseline case) from the productivity increase that a farmer can get with the support of HRNS.
- A second driver of impact is the higher revenue from value addition and better market access which are provided through DC's. The services provided by DCs are bulking, hulling and, in some cases, transportation. These services impact farmer EBIT through an improved outturn and a better price for coffee beans.

Main cost drivers

- The farmers main expenses are labor costs and expenses on inputs such as fertilizer, seedlings, pesticides and tools.

Dashboards





Definition of the key ratios and indicators presented



The key ratios and the indicators presented on the following page are defined below.

1. Cumulative investment requirement (\$ millions)

The cumulative investment requirement is the total sum of the amount of money that is required as an investment for the SDM to operate per year over the program period. A continued negative cumulative investment requirement indicates that the SDM that is dependent on ongoing external funding.

2. Max cumulative investment requirement (\$ millions)

The maximum cumulative investment requirement is the average amount of investment per year needed over the total program period (16 years).

3. Payback period of initial VCI investment (years)

Payback period of the initial VCI investment refers to the length of time required for the VCI to recover its initial investment or to reach breakeven point. After this point if time, the SDM becomes profitable for the VCI.

4. Investment level per kg produced (%)

The investment level per kg produced is the total amount of money invested in the SDM as a percentage of the total volume of the coffee produced in the program quantified at the price paid to the farmer at a DC.

5. Investment level per kg uptake (%)

The investment level per kilo uptake represents the total amount of money invested in the SDM as a percentage of the total volume of the coffee traded through the program quantified at the price paid to the farmer at a DC.

6. Farmer profit per \$ investment (\$)

This ratio indicates the amount of earnings received by the farmer after being part of the SDM program in relation to the amount of money invested initially.

7. Payback period of farmer initial investment farmer (years)

Payback period is the length of time needed to recover the initial investment made. Payback period for farmers is calculated for all farmers in the program combined (regardless of particular situations); payback period for individual farmers might be shorter.

8. Productivity gain by year 10 (%)

The productivity gain indicates the increase in productivity obtained by an average farmer participating in the program in the year 10 of intervention, considering as 100% or baseline year the average productivity obtained without the SDM intervention.

9. Total program EBIT/kg (\$/kg)

This ratio represents the sum of all the earnings before interest and taxes perceived through the program divided by the total amount of coffee produced with the support on the SDM. Higher EBIT/kg indicates higher profitability. This ratio is also given as a percentage of the price paid to the farmer at a DC.

10. EBIT/kg with 20% interest on funding (\$/kg)

This ratio represents the sum of all the earnings before interest and taxes perceived through the program while applying a 20% interest as cost of capital divided by the total amount of coffee produced with the support of the SDM.

11. Loyalty uptake in year 10 (%)

The loyalty uptake in year 10 is the percentage of the coffee that is traded through the DCs participating in the program by year 10. The rest of the coffee is sold by farmers to middlemen.

12. Payback period full program VCI-SDO-farmer (years)

Payback period full program is the length of time required by the different actors (VCI, SDO, farmers) to recover their initial investment.

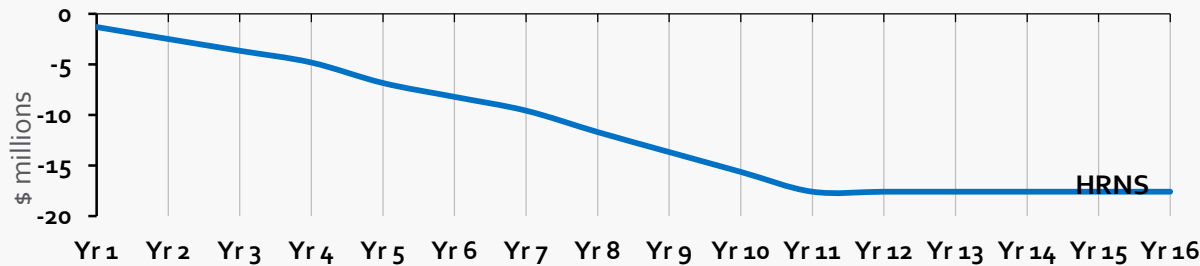


Dashboard Investment requirement and key ratios



Key ratios and KPIs are presented in the dashboard below. The definition of each one of these indicators is detailed on the previous page.

Cumulative investment requirement (1)



INVESTMENT REQUIREMENT

Max cumulative investment requirement (2): **\$17.6 M**
 Payback period of initial investment for VCI (3): **∞**



Investment level per kg produced (4): **3.5%**

Investment level per kg uptake (5): **13%**



Farmer profit per \$ investment (6): **\$8.03**

Payback period of farmer initial investment (7): **8 yrs**



Productivity gain by year 10 (8): **420%**

KEY RATIOS

Total program EBIT / kg (% of market price) (9): **\$0.57 / kg (26%)**



EBIT / kg with 20% interest on funding (10): **\$0.41 / kg**

Loyalty Yr 10 (uptake %) (11): **15%**

Payback period full program (12): **9 Years**

The HRNS SDM is dependent on external funding

HRNS does not work with a revenue model in order to recoup its investments, therefore we should speak of a funding requirement rather than an investment requirement. Over the course of the HRNS program, funding equivalent to 3,5% of the market price is required for every kilogram produced by the HRNS farmers.

From the perspective of securing extra volume (kg of uptake that flows through HRNS DCs), funding of 13% of the market price is required. In view of the DCs difficulty to access formal credit the high cost is due to currently still relatively low levels of uptake, i.e. funding is spread over a rather small share of volume produced by HRNS farmers.



Sensitivities dashboard: risks and opportunities



The table below contains the definitions of the key levers analyzed on this dashboard. It also contains an assessment of the risks and opportunities based on the combined likelihood and impact.

Key levers	Risks*	Opportunities*
Farmer productivity Farmer productivity refers to the (assumed) development of farmer productivity over time as a result of the program.	!!!	✓✓
Finance costs Finance costs refers to the cost of capital that is incurred on the investments that are made by HRNS in order to set up and run the program. For the purposes of the sensitivity analysis we have applied a straightforward annual interest rate on the cumulative investments that are outstanding in each year to discover at which interest rate percentage the profitability of the program reduces to zero. Note that the profitability of the VCI may reduce to zero at a different interest rate.	!!!	N/A
Uptake Uptake refers to the share of their total production that farmers participating in the program sell to DCs participating in the program.	N/A	✓✓
Price to final link in program Price to final link in program refers to the price received by the DCs when they sell on the Kampala market; the DCs participating in the program secure a better price, which is passed on to the farmers.	!!	✓✓
Effective yield/kg raw product Effective yield final product / kg raw material refers to the increase in outturn kiboko/FAQ that is achieved by the DCs; benefits are passed on to the farmers.	!	✓
Farmer training costs Farmer training costs refers to the costs incurred by HRNS in training farmers in the program.	!	✓
Legend: <div> <div>!!! high risk</div> <div>!! medium risk</div> <div>! low risk</div> <div> <div>✓✓✓ high opportunity</div> <div>✓✓ medium opportunity</div> <div>✓ low opportunity</div> </div> </div>		

* Initial assessment of key risks and opportunities. These have not been tested with or verified by HRNS

Sensitivity analysis reveals the areas of opportunity and risk for the SDM

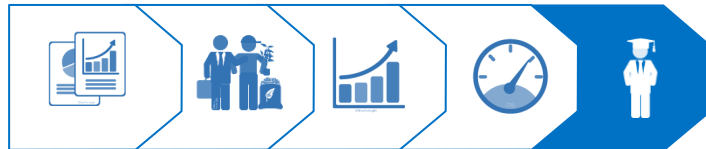
Relatively minor improvements in selected key ratios can significantly improve program profitability (EBIT / kg +20%)

Conversely, profitability may be compromised (EBIT / kg to zero) as a result of a few risks that are deemed likely to occur

In the case of HRNS, it can be observed that:

- Farmer productivity is the key risk as well as opportunity and should be the focus of optimization efforts
- Cost of capital (currently assumed at 0%) is a key risk for this externally funded model

Conclusions and lessons learned





Conclusions: key drivers of success and hypothesis



In interviews with project staff, a number of hypotheses with regards to key drivers for sustainability and scalability of the SDM were discussed. The findings are listed here, where possible a correlation for the suggested relationships was calculated (see notes in the side box).



Key drivers of success

- Key elements of the approach of HRNS are providing market access and value adding services. The program created an enabling environment by focusing on production AND organizational development.
- Farmer pre-selection based on farmer's initial productivity would not be a useful procedure for the HRNS approach. The approach is building on farmer field schools and demo plots and OD coaching, which require that larger groups of farmers live close to each other.
- Coordination between DC's by an apex organization like UCFA ensured that DC's did not collapse but rather evolve when after five years, HRNS reduced extension services.
- Transparency in structures and operations provide the basis for farmers to build trust in DCs and UCFA and to gain confidence in reaching over time the potential associated with OD.



Hypothesis

- Pro-active involvement of women in the program had a positive impact on uptake of volume of produce by SDM operators
- There is a positive correlation between organizational maturity and productivity per farmer
- A higher throughput of coffee beans (uptake) correlated positively with organizational maturity
- Farmer financing services such as pre-finance, advance payments and Village Savings and Loan Association (VSLA's) contribute to an increase in farmer loyalty/ uptake. (not tested)

Notes

Pilots included in total expenses of HRNS/UCFA:

- Youth and gender program Mityana (continuing)
- Certification project Luwero (being remodeled)
- Adaptation to climate change project Luwero (continuing)

Services not accounted for:

Approx. 20% of DC's deliver inputs to their members. UCFA has negotiated agreements with input suppliers. DC's providing input services typically operate in areas with a low provision rate. A typical DC could supply 200 50-kg bags of fertilizer (urea) per year and 120 liters of insecticide (Confidor). In this scenario, additional revenue would be US\$ 15040. Annual profit of a DC could increase by US\$ 536.

Not included in program expenses:

UCFA has launched a project in collaboration with SAP. Smart phones are used to collect real-time data on transactions and other operations.



Lessons learned



The lessons learned for this case focused on data collection and analysis.



Lessons learned on data-analysis

→ An **organizational maturity** approach was developed based on insights of HRNS. (see table below*)

Criterion	Scaling approach
1. What is the quality of administrative records? (marketing books are used, receipts are given to farmers, financial information available)	Each farmer group is ranked on a 1-3 scale, where : 1 = poor/below average; 2 = fair/average and; 3 = excellent/above average.
2. Leadership quality and level of active participation of board (multiple active leaders)	
3. Marketing performance (volume and frequency of FAQ deliveries)	
4. Comparative marketing costs (taking into account distance to Kampala)	The total score for organizational maturity can be calculated by adding up scores of all questions and dividing by 15.
5. Adherence to financial procedures (discipline and consistency)	

→ For new data-collection exercises it is recommendable to limit the number of indicators for which historical data is required. This can be done by focusing on the most material ones through a sensitivity analysis

→ The farmer segmentation approach does not provide useful insights if no historic data of sufficient granularity is available. It was not possible to conduct the segmentation exercise using initial farmer productivity data. Since M&E systems of other SDM's face similar limitations, a redesign of farmer typology was proposed after this first case study.

→ The Value Chain Investor may also deliver services directly to farmers, especially at the initiation phase. The analytical model should be adapted accordingly.

*Source: KPMG analysis on HRNS data



What elements of the program are specific to the operational context?

- SDM operators provide value added services by jointly contracting hulling services. The Ugandan government and the old cooperatives have invested in establishing hulling factories, which enables outsourcing of hulling by DC's.
- The Ugandan government has regulated the market for seedlings, nursery operators need to be certified by UCDA. There is a shortage of seedling providers, resulting in high-profitability of the nursery businesses.

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Hanns R. Neumann Stiftung



The Hanns R. Neumann Stiftung (HRNS) is an independent non-profit foundation based in Hamburg, Germany.

Established by the Neumann Family in 2005, HRNS aims at setting pace in sustainable development: by implementing grass-root projects directly in coffee farming communities, the foundation improves the livelihoods of small-scale farmers and their families. HRNS focuses its activities on supporting those at the bottom of the pyramid by strengthening their competitiveness, building modern farmer organizations, creating better market linkages and downstreaming supply chain partners towards more sustainable farming.

Our objective is to empower the farmers we work with, and train them in developing their entrepreneurial skills and to support them in becoming more efficient in their operations. Recognizing the crucial contribution of women and youths in sustainable household development, specific approaches to build capacities tailored to gender equity and youth empowerment have been developed. Our reality: providing a platform that facilitates the cooperation between both committed private as well as dedicated public partners.



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