SDM: ECOM/SMS Ghana

Case owner: **ECOM**

Location: **Ghana**

Commodity: **Cocoa**

Services:

GAP training & organization

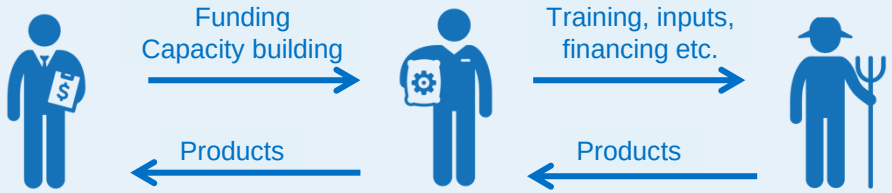
Fertilizer & crop protection

Planting material

Community support

Introducing Service Delivery Models

Service Delivery Models (SDMs) are supply chain structures which provide services such as training, access to inputs and information to farmers required to increase their performance and sustainability.
SDMs aim to achieve or further either economic, social or environmental sustainability in a supply chain.



Value Chain Investor
Invests (financial) resources into the SDM providers and guides the (initial) rolling out of the model

Service provider
Delivers one or multiple services directly to the farmer

Farmer
Receives services and sells products into the value chain

Focus of this study

1. **Map variety of SDMs** by different companies in different sectors and geographies on their objectives, structure and organization, types of services, delivery approach etc.
2. **Aggregate data** from the individual case studies collected into the database
3. **Analyze the economic sustainability** of the SDMs at the level of the farmer, service provider and VCI
4. **Extract lessons learned** on key success factors, risks, scalability, cost-effectiveness etc.

Purpose of the study and benefits to supply chain

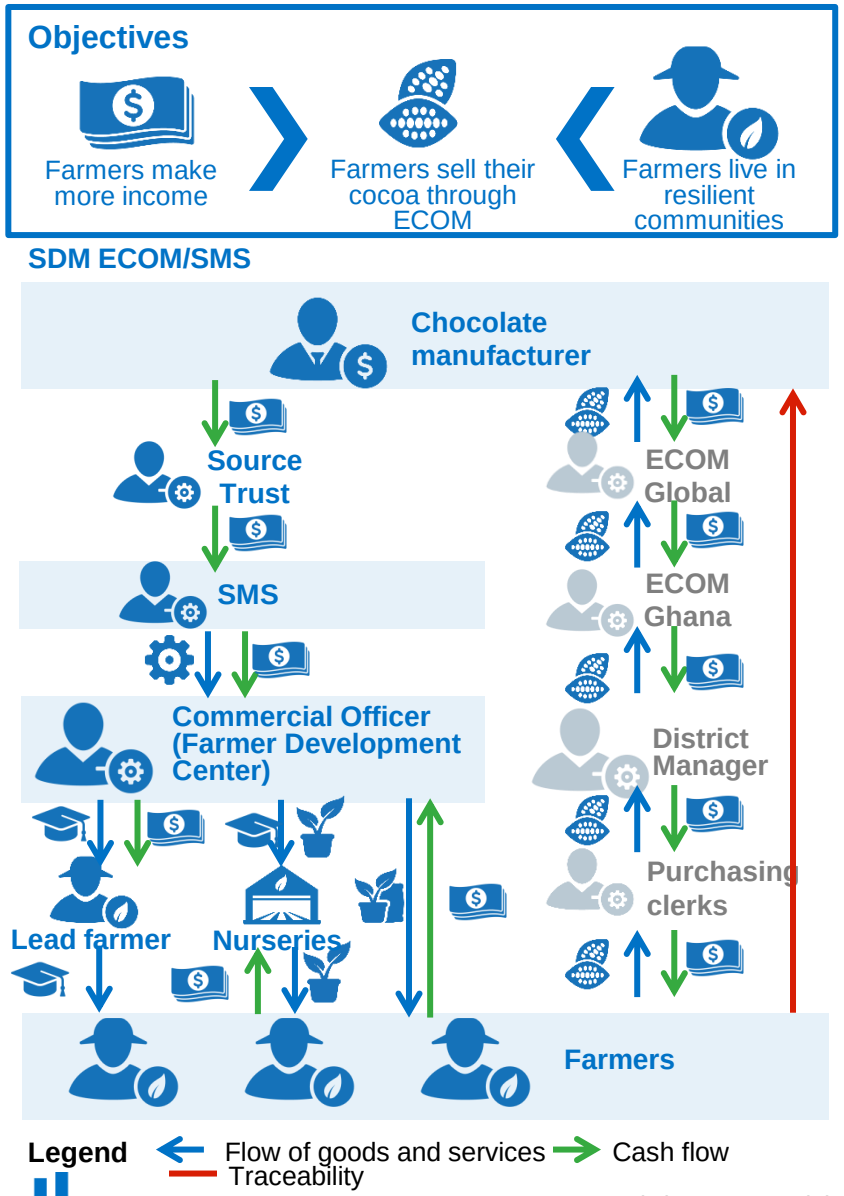
Value Chain Investor
- Design more cost-effective SDMs, through better insights into what works in which cases

Service Provider
- Gain insights into how to design and implement more cost-effective SDMs

Farmer
- More efficient services delivery and impact generation (better livelihoods, higher productivity, etc.)
- More transparency on whom to work with

Other Sector Stakeholders (incl. investors)
- Benefit from strategic learning trajectory within and across sectors, based on a unifying methodology
- Opportunity to join learning platform

The ECOM/SMS Ghana SDM objectives and structure



SMS is the ECOM-owned company that implements sustainability solutions for ECOM's clients.

Jointly SMS and ECOM provide sustainable farmers solutions.

.

Objectives of the ECOM SMS Ghana SDM:

The main objective for ECOM SMS is to achieve and maintain a stable, sustainable supply base from which to source fully traceably cocoa. To that end, this SDM aims to:

1. Improve the productivity of farmers
2. Increase the resilience of cocoa-growing communities
3. Motivate farmers to sell their cocoa through ECOM

General SDM information:

Location: Ghana

Client/funder: The manufacturer pays Source Trust to direct this SDM's sustainability services through SMS, and SMS operates Farmer Development Centers (FDCs)

SDM operator: SMS

Services provided to the farmers:

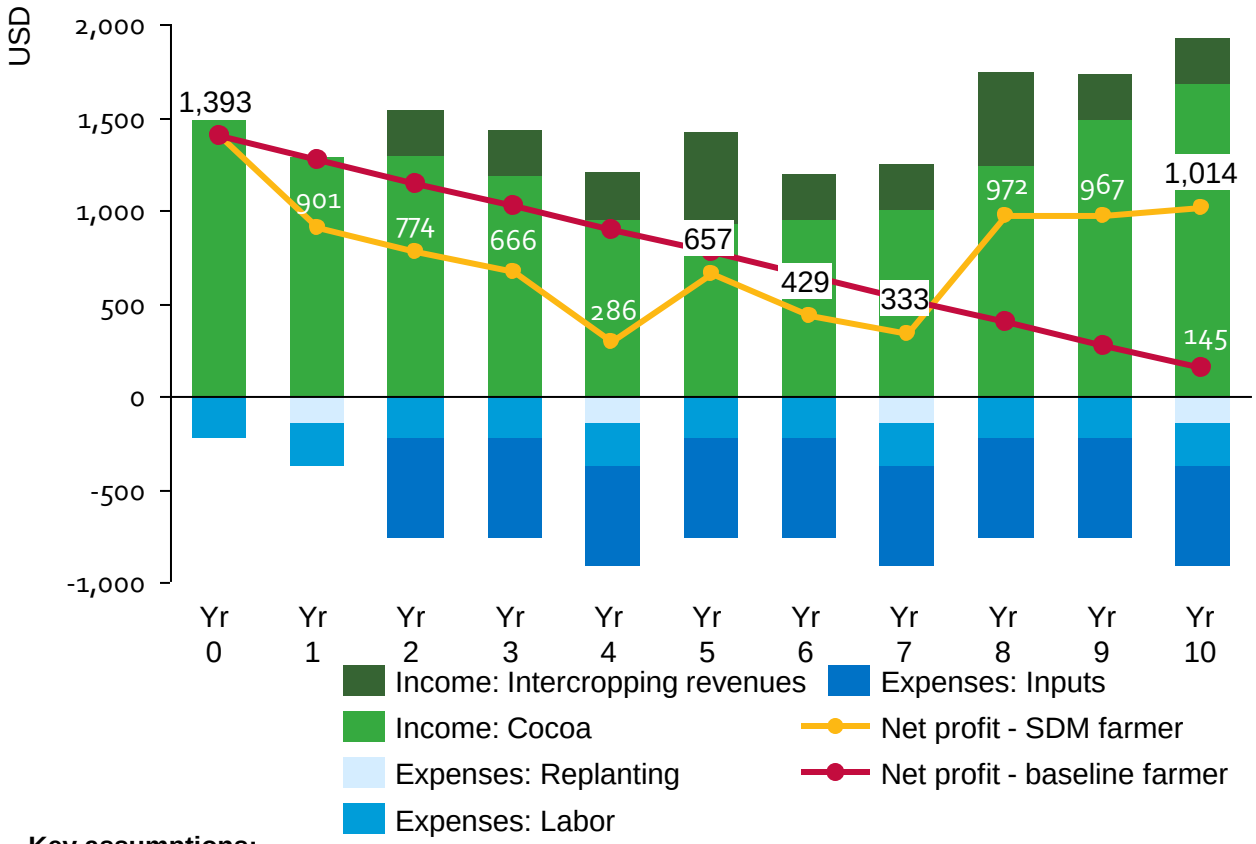
- Farmer training and organization
- Fertilizer and crop protection
- Planting material
- Community support

Overview of services in the SDM

	Value Chain Investors & Service Provider
	ECOM / SMS Sustainable Management Services
GAP Training & organization	• Farmers are organized in groups of 30-40 farmers per community. One FDC services around 1,250 farmers. • This is necessary to allow traceable verified cocoa to be sold • Curriculum of Good Agronomic Practices (GAP), Good Environmental Practices (GEP), Good Business Practices (GBP) taught at FDCs and by lead farmers to cohorts of organized farmers • Demo plots are established for practical learning
Fertilizer and crop protection	• Input packages contain a selection of fertilizer, pesticides and fungicides • Crop protection are to be sprayed manually (sprayer part of package) or by motorized sprayer (for hire) • Farmers are trained on correct fertilizer application on demo plots
Planting material	• Seedlings are developed in nurseries run by selected farmers • Cocoa seedlings for replanting are sold to farmers • Farmers are trained in replanting and seedling nursery management techniques
Community Support	• 137 boreholes in 34 districts provide potable water for cocoa growing communities • 29 Village Resource Centers improve youth's and adults' education

The SDM's economic sustainability at farmer level

Individual farmer (1.9 ha cocoa farm) entering the program in year 1



Key assumptions:

- Farmers replant 25% of their plot every third year (starting in year 1)
- There are no harvesting costs as the community helps each other during harvest
- Cocoa prices are set at current 2014/2015 COCOBOD price (1,725 USD/MT)
- Newly planted cocoa trees have a maximum productivity of 1,000 kg/ha
- Training, crop protection and fertilizer use add 5% each to baseline productivity
- Intercropping revenues are made from the 2nd until the 4th year after replanting (for the respective part of the farm). Yields are assumed constant

Economic sustainability at farm level

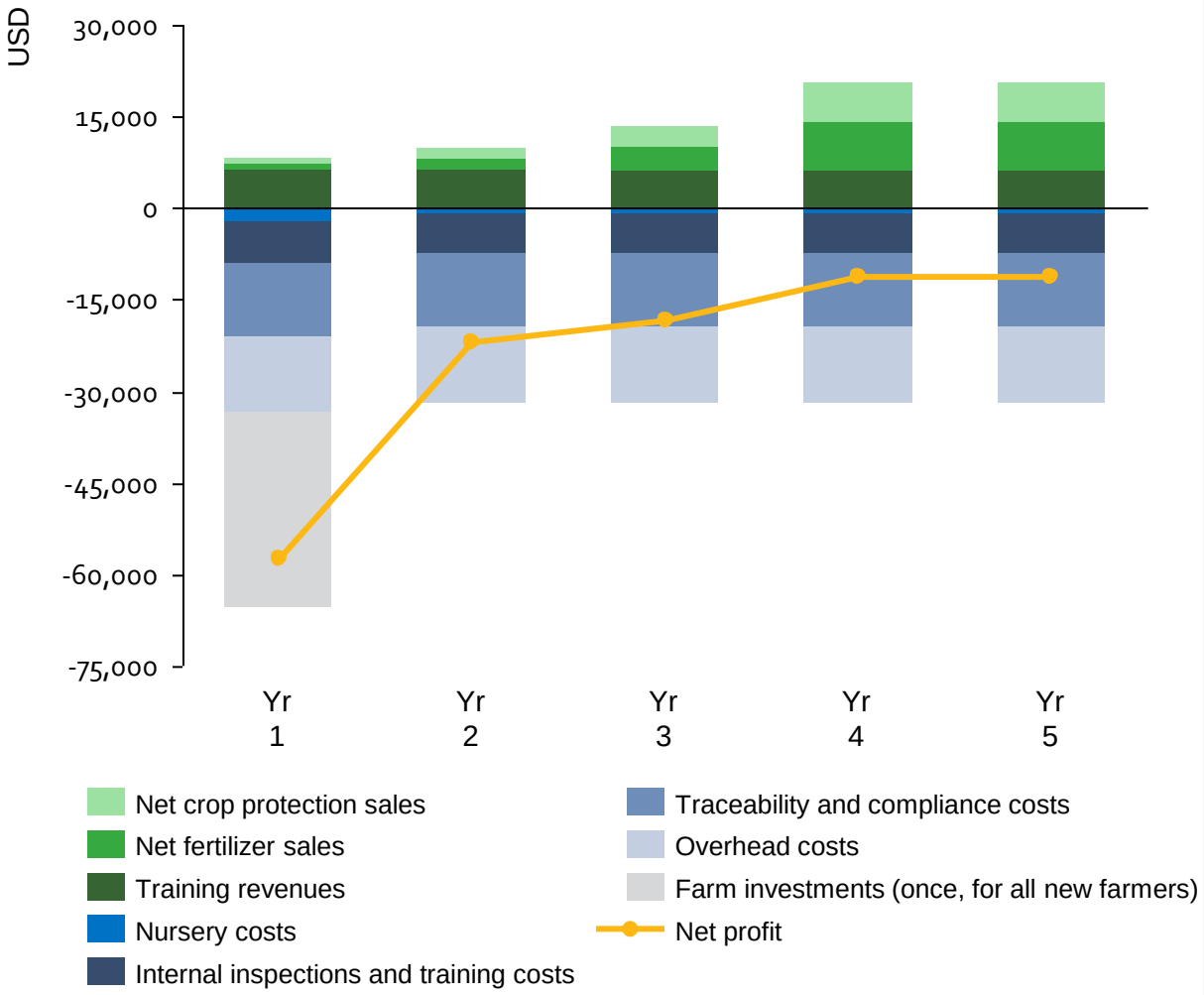
Main revenue drivers

- Trees typically reach peak productivity after 9 years and remain productive until 25-30 years old – at a base age of 25 years (average) the old stock dips quickly in productivity
- Due to the replanted 25% of the farm being completely unproductive until after the third year of replanting, profit immediately dips in year 1 and only surpasses the baseline scenario in year 9
- Intercropping with plantains substantially elevates revenues during intercropping years

Main cost drivers

- Agro-inputs are the highest costs ($286 /ha for fertilizer and crop protection) throughout all seasons
- Replanting costs are incurred in several years covering costs of cocoa seedlings and intercropping plant seeds
- Labor costs remain relatively stable as additional labor needs are covered by people from the community at no costs

The SDM's economic sustainability at service operator level



Economic sustainability at provider level

Main revenue drivers

- The FDC is primarily a sustainability service that guarantees sustainable cocoa supply
- While cocoa sales from purchasing clerks are arranged at the FDC and the FDC can thus be seen as a buying station for its farmers, this commercial aspect of FDCs is outside our scope of analysis and thus no cocoa sales revenues are captured here
- Income from fertilizer and crop protection sales (10% margin) increases steadily as the number of farmers supplied increases.
- Out of the 1,250 farmers per FDC, 5% are assumed to be supplied with inputs in year 1, to 40% in year 4 onward.

Main cost drivers

- One-time establishment costs amount to about 50% of total costs in year 1.
- Annual overhead costs are relatively evenly spread between inspection costs, audit fees, traceability and mapping services and staff cost.
- Community nurseries require half the establishment costs of a centralized nursery, while community overhead costs are slightly higher. This should be offset by the higher capacity of community nurseries.

Key assumptions:

- A single FDC services 1,250 farmers. The % of farmers supplied with inputs grows as follows: 5% (Y1), 10% (Y2), 20% (Y3) to 40% (Y4 onward

Conclusions and lessons learned

Key drivers of success

- SMS offers a training program that appears relatively sophisticated and covers a broad curriculum, offered in cohorts – with repeater trainings to strive for high adoption rates.
- Tree age, and related productivity levels, on Ghanaian cocoa farms are at a level that do require an aggressive replanting effort.
- SMS is now implementing a sophisticated data gathering and analysis strategy, which over time should generate the results to really model service packages effective for specific farmer needs.

Key risks

- The aggressive replanting strategy at 25% leads to a situation where the farmer does not reach the profit he had before starting to replant. He only reaches a profit above the baseline level in year 9. This will make it unlikely that the farmer adopts such a strategy.
- In the current analysis the investment in crop protection and fertilizer is not worth the investment to the farmer. Farmers are thus unlikely to invest in agro-inputs. This means that the main source of income for the FDCs will not reach sustainable (self-financing) levels.
- FDCs are far removed from being profitable. It seem unlikely that they will be able to operate without reaping some of the benefits of cocoa sourcing.

Key factors in replication of the model

- The model can be made to succeed in a context where the GAP levels of farmers are such that they make effective use of farm inputs and reach productivity impacts well above the 10% that is currently modeled.
- With agro-inputs proven to have a more significant impact on farm productivity farmers will buy more inputs from the FDCs, hence contributing to their financial sustainability.

Impact

Farmers make more income

…rs live in … communities

- Intercropping stra…es and replanting strategies have to reach an “optimal” situation.
- Community services are a very specific factor in the SMS approach. Their impact on farm productivity is not well understood but with a positive impact on farmer loyalty this is something that could be explored in other models.

Farmers sell their cocoa through ECOM

- ECOM is on the way to improving its model. The combined services with the additional community building component are expected to have a significant impact on farmer loyalty rates, making the model attractive from a sourcing perspective.

We don´t have conclusions regard… the objectives in th… report

Iris van der Velden
Manager Innovation Finance
+31 (0)30 230 7854
vanderVelden@idhsustainabletrade.com

Joost Gorter
Sr. Consultant
+31 (0)30 234 8218
joost.gorter@newforesight.com