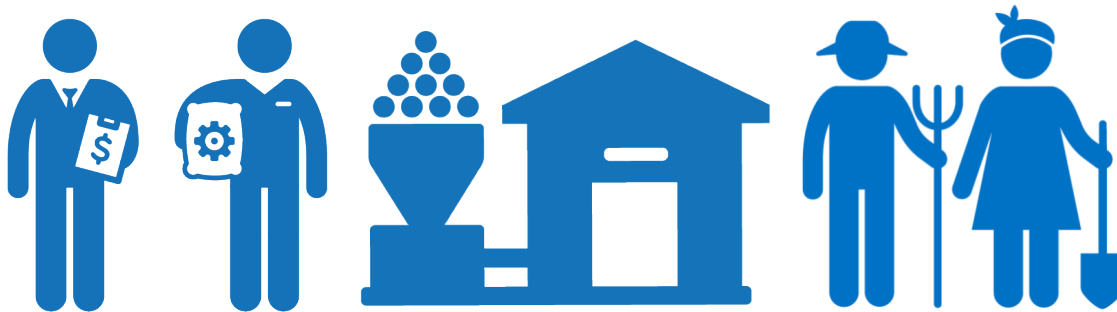


# SDM: Case Report ECOM

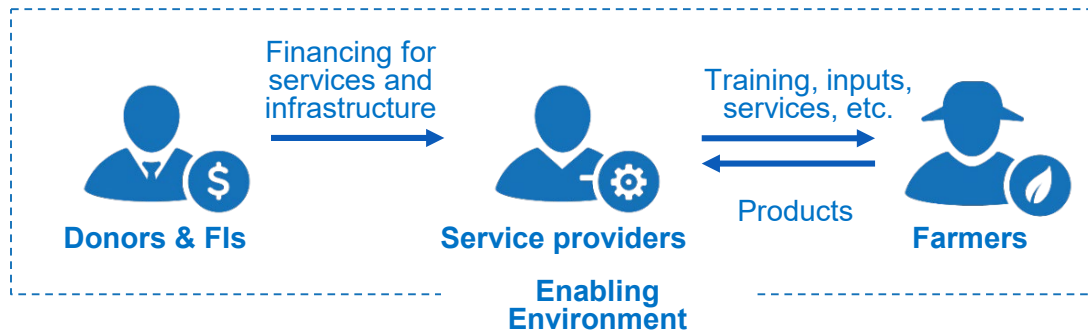
Service Delivery Model assessment: short version  
June 2019

Location: Indonesia  
Commodity: Coffee and cocoa  
Services: Training, Certification, Planting materials, Soil testing & fertilizers, Crop protection, Post harvest treatment, Access to finance



# What are SDMs and why are we interested in analyzing them?

**Service Delivery Models (SDMs)** are supply chain structures, which provide services such as training, access to inputs and finance to farmers, to improve their performance, and ultimately their profitability and livelihoods.



By analyzing SDMs, we aim to support **efficient, cost-effective and economically sustainable SDMs at scale** through:

Key drivers for success of SDMs benchmarking



Innovation opportunities to support



Cross-sector learning, learning community



Convening at sector and national level



## Analyzing SDMs brings a range of benefits



### Farmers and farmer organizations

- **Better services** improve productivity, product quality, quality of life and social and environmental outcomes
- **Better outcomes**: improved productivity, income and resilience



### SDM operator

- **Understand** your model's business case
- Gain insights to **improve** service delivery
- Develop **cost-effective** SDMs based on insights
- Identify opportunities for **innovation** and **access to finance**
- **Learn** from other public and private SDM operators operating across sectors/geographies
- **Communicate** stories of impact and success at farmer level



### Investors/FIs

- **Common language** to make better informed investment decisions
- Insights to achieve optimal **impact, efficiency and sustainability** with investments and partnerships in SDMs

# The ECOM SDM and objectives

## General SDM information:

Location:	Sumatra, Indonesia
Timing in analysis scope:	2019-2029
Scale (start of analysis):	12k farmers
Scale (end of analysis):	17k farmers
Funding:	Service provider
SDM Archetype*:	Specialized



- ECOM Agroindustrial Corp. Ltd (ECOM) is a leading global commodity merchant and sustainable supply chain management company and focuses primarily on coffee, cotton, and cocoa. As of 2019, ECOM ranks globally as one of the top two coffee merchants and the largest coffee miller.
- ECOM is committed to sustainable and socially responsible leadership within the soft commodities industry and establishes Sustainable Management Services (SMS) agronomy divisions within its local operating companies (like PT IndoCafCo) to provide training, certification and other value-adding services to farmers in their supply chain.

## SDM objectives:





- 1 Determine business case for SMS and farmers to invest in SDM
- 2 Establish whether business case still holds in areas where ECOM no longer sources
- 3 Determine business case for Crop Doctors to facilitate SDM
- 4 Assess replicability of Crop Doctor model

## SDM rationale:



\* For more info on SDM archetypes, see the [IDH Smallholder Engagement Report](#)

# ECOM has four Service Delivery Models across Sumatra

SDM	# farmers (by 2028)	Segments*	Other comments
 Area 1	~8,000 Robusta	<ul style="list-style-type: none"> <li>• Typical SDM</li> <li>• Fully adopting</li> </ul>	20 Crop Doctors have been recruited and facilitate the service delivery to farmers
 Area 2	~4,000 Arabica	<ul style="list-style-type: none"> <li>• Typical SDM</li> <li>• Fully adopting</li> </ul>	Crop Doctors will be recruited among champion farmers
 Area 3	~3,000 Arabica	<ul style="list-style-type: none"> <li>• Organic</li> <li>• Typical SDM</li> </ul>	Crop Doctors will be recruited among champion farmers
 Area 4	~2,000 cocoa	<ul style="list-style-type: none"> <li>• Typical SDM</li> </ul>	No Crop Doctors foreseen yet



## Enabling environment

Farmers are impacted by several factors within their enabling environment. Most important are:

### 1. Agronomic

Limited use of fertilizers, combined with lack of pruning, use of poor planting materials, and insufficient investment in replacing ageing crop stock have all contributed to depressed yields for Indonesian coffee farmers

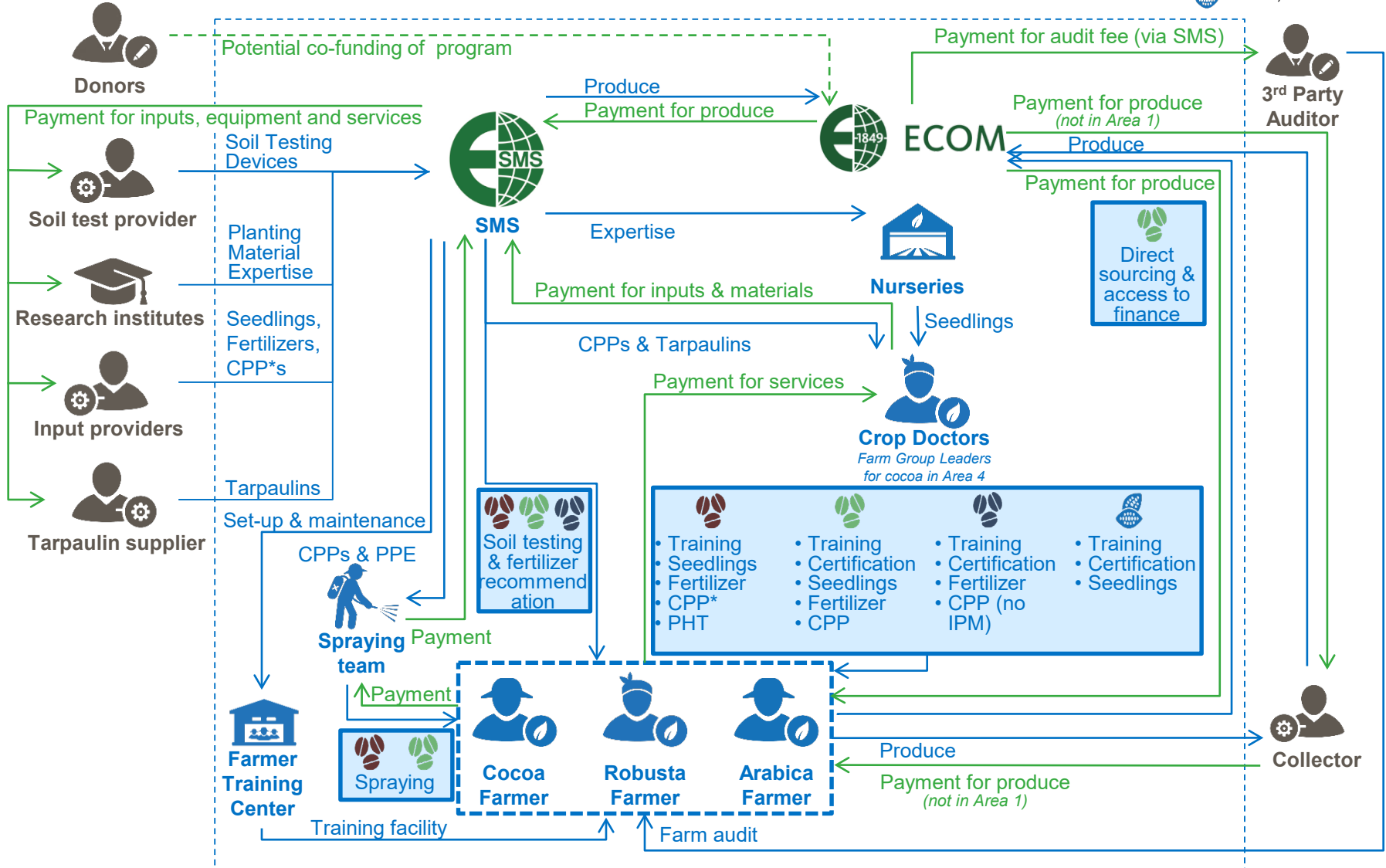
### 2. Economic

Income levels and cash flow are limited by weak productivity, and inhibit investment in the very technologies and equipment that would alleviate the productivity problem.

\* Segments explained on the [Farmer Segmentation](#) page

# SDM structure and enabling environment

-  Robusta, Area 1
-  Arabica, Area 2
-  Arabica, Area 3
-  Cocoa, Area 4



\* CPP = Crop Protection Products

# Overview of services facilitated by SMS



## Training



- Farmers and Crop Doctors receive GAP training free of charge
- SMS operates Farmer Training Centers in Area 1 and Area 2.



## Soil testing & Fertilizers



- Soil testing devices allow SMS to provide farmers with an on-site soil test followed by a discussion of the results and a fertilizer recommendation.
- Farmers are offered access to high quality fertilizers, in line with the recommendations following the soil test to ensure that the right fertilizers are used in the right quantities.



## Certification



- Non-organic certified coffee is sourced from Area 2 and Area 3. Organic certified organic coffee is sourced from Area 3.
- Farmers are trained on the certification standards as part of the training service. SMS conducts audits at farm level to assure readiness for the 3<sup>rd</sup> party farm audit.
- All other value chain actors undergo Chain of Custody audits.



## Crop Protection



- SMS offers input packages to farmers at commercial rates.
- The crop protection products (CPP) in the packages made available by SMS are typically herbicides, and Integrated Pest Management (IPM) kits: coffee berry borer traps (BROCAP®) and refills.
- Spraying teams apply crop protection products in Areas 1 and 2.



## Planting Materials



- In partnership with research institutes, SMS trials improved coffee varieties of Arabica and Robusta.
- The service is extended to the production and sale of shade trees in Area 1 and Area 2.
- SMS invests in nurseries for coffee and shade trees and sells this planting material to farmers with the support from Crop Doctors.



## Post Harvest Treatment



- Robusta farmers in Area 1 receive tarpaulins at subsidized rates.
- Arabica farmers in Area 2 can buy tarpaulins from Crop Doctors.
- Selected Crop Doctors in Area 1 offer hulling services, using a hulling machine provided for by SMS.



## Access to finance and direct sourcing



- In Area 2 inputs will be provided to farmers on credit. Also, under certain circumstances ECOM may buy coffee directly from farmers in Area 2.
- Inputs can be provided to farmers either directly by SMS, or via Middleman and/or Collector.

# Farmer segmentation

Each SDM consists of a unique combination of services, based on farmer needs and expected willingness to adopt



## Minimum criteria

Beneficiaries should meet the following minimum criteria in order to be eligible for service provision

<b>Farmer organization</b>	All farmers must grow crops that are traded by ECOM
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## Segments

Segments are distinct groups of SDM beneficiaries that differ on farm characteristics and/or services received

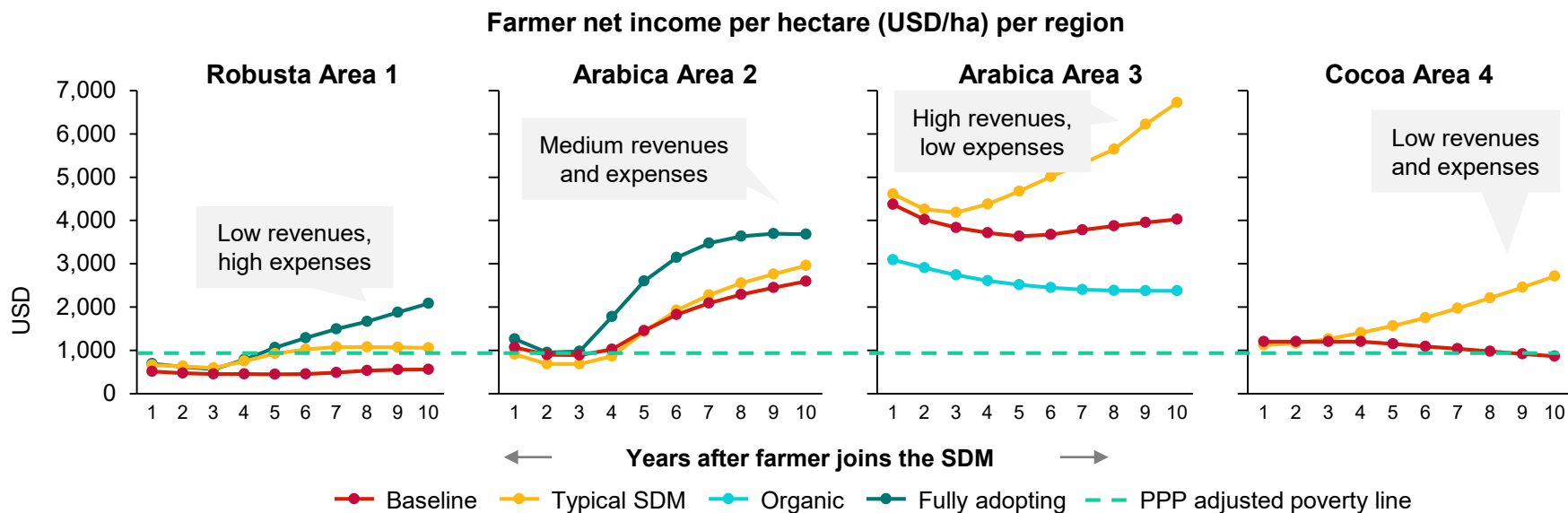
<b>Characteristics</b>	For farmer characteristics per SDM and per segment, see <span style="background-color: #0070C0; color: white; padding: 2px;"><b>Detailed farmer assumptions and P&amp;Ls</b></span> <span style="background-color: #0070C0; color: white; padding: 2px;"><b>Key assumptions for SDM operator analytics</b></span>
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## Services

Each SDM consists of a unique combination of services, based on farmer needs and expected willingness to adopt

<b>Services</b>	<b>Training</b>	Only refresher as all farmers have been trained	Farmers receive full training curriculum as they have not been trained by SMS in the past		
	<b>Certification</b>	✗	✓	✓	✓
	<b>Planting Materials</b>	<ul style="list-style-type: none"> <li>Coffee seedlings</li> <li>Fruit tree seedlings</li> </ul>	<ul style="list-style-type: none"> <li>Coffee seedlings</li> <li>Fruit tree seedlings</li> </ul>	✗	Nursery kits to set up cocoa tree nurseries
	<b>Soil testing &amp; fertilizers</b>	<ul style="list-style-type: none"> <li>Soil tests</li> <li>Fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>Soil tests</li> <li>Fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>Soil tests</li> <li>Fertilizers</li> </ul>	✗
	<b>Crop protection</b>	<ul style="list-style-type: none"> <li>Crop protection products</li> <li>BROCAP refills</li> </ul>	<ul style="list-style-type: none"> <li>Crop protection products</li> <li>BROCAP refills</li> </ul>	Crop protection products (for non-organic famers)	✗
	<b>Post harvest treatment</b>	<ul style="list-style-type: none"> <li>Tarpaulins (2019)</li> <li>Hulling</li> </ul>	Tarpaulins	✗	✗
	<b>Access to finance</b>	✗	Inputs on credit	✗	✗

# All SDM farmers can reach net income levels above poverty line, but income (vulnerability) differences are significant



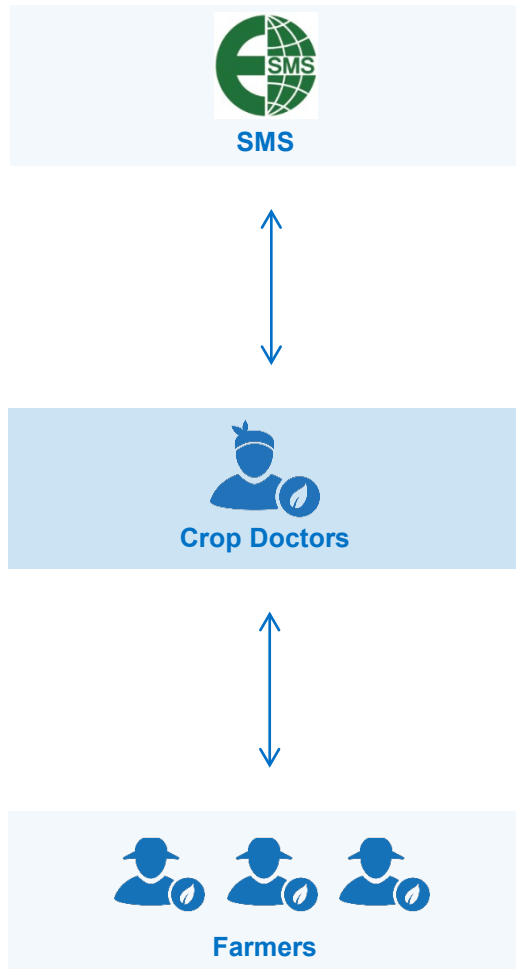
## Conclusions:

- Arabica farmers can achieve a healthy business from farming conventional coffee and cocoa farmers from cocoa, generating a net income well above the PPP adjusted poverty line by participating in the SDM. Certification premiums are an insignificant addition to their income.
- Robusta and organic Arabica farmer incomes are vulnerable, with a decreasing income trend (organic) and high costs as well as a high dependency on non-coffee revenues (Robusta).
- Baseline farmers in Area 2 demonstrate that a significant increase in net income from renovation and rejuvenation can be achieved without participating in the SDM. On the other hand, SDM Robusta farmers demonstrate that SDM participation doesn't bring any significant income increase from coffee when renovation rates are too low.
- Finally, the starting income levels of Robusta, Arabica Area 3 and cocoa farmers are so low that there is a significant risk of farmers not being able or willing to invest in the services offered in the SDM. In particular given that increases in income seem optimistic in the case of cocoa farmers and generally remain uncertain until the harvest season, while higher operating costs are certain and required in advance of the harvest.



# The role of Crop Doctors in the coffee SDMs is critical...

Crop Doctors are farmers who have been recruited by SMS to act as a facilitator in service delivery



## Relationship between SMS and Crop Doctors:

**Current status:** SMS currently already works with a limited number of Crop Doctors in Area 1. In the Arabica SDMs in Area 2 and Area 3, Crop Doctors have not yet been recruited. In those regions Champion Farmers have been identified and SMS will likely recruit Crop Doctors from this group of Champion Farmers in the near future.

**Commercial relationship:** SMS and Crop Doctors are both actors in the value chain of service delivery to farmers. Crop Doctors form a virtual network that supports SMS in service delivery, reducing the need for local SMS staff.

**Funding:** Depending on the service the Crop Doctor will be able to retain a margin on products bought from SMS and sold on to farmers (e.g. fertilizers), or operate equipment made available to them by SMS (hulling machines) to provide services to farmers.

**Network:** A reliable network of Crop Doctors is critical for consistent service delivery to farmers. In turn, consistent service delivery is critical for the SDMs to be financially sustainable. To secure such a reliable network, Crop Doctors must be able to generate sufficient income from acting as a Crop Doctor and provide services that are considered relevant by farmers. The purpose of this section of the report is to determine the extent to which this is the case using current expectations around the type and quantity of activities conducted by Crop Doctors.

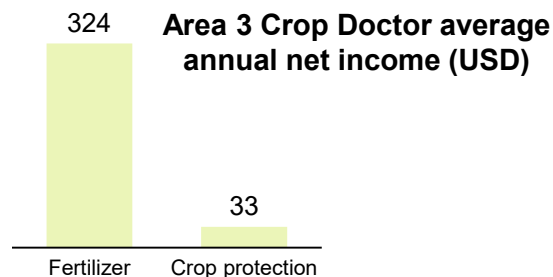
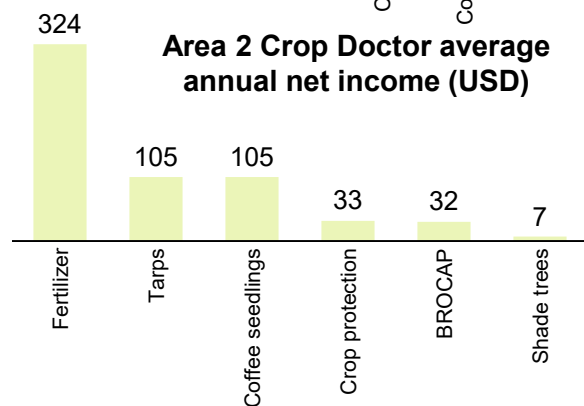
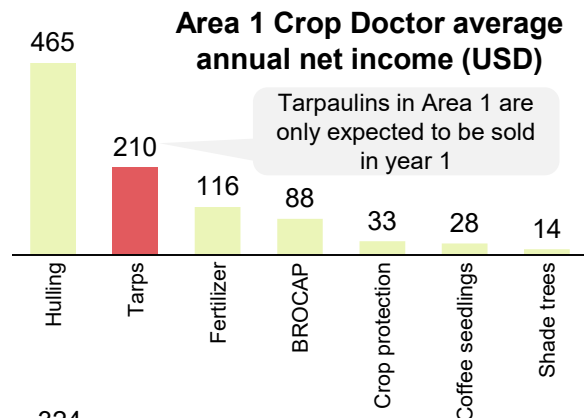
“Sufficient income” has been defined at two levels:

Income Crop Doctor	Value	Explanation
Desired income	1,683 \$/yr	Based on interviews with a Crop Doctor from Area 1, this income seems sufficient to easily convince farmers to become a full time Crop Doctor.
Minimum income	1,263 \$/yr	In order for a farmer to become a full time Crop Doctor, he will need to hire additional labor to execute his farming activities. This minimum income is based on the approximate cost of outsourcing farming activities to hired labor.



# ...But Crop Doctors will not generate sufficient income

There are three angles from which to improve the net income of Crop Doctors: (1) margins could be increased, (2) volumes could potentially be increased and (3) SMS could expand the number of services offered.



CD net income:  
**953 USD/year**

Time spent:  
**18 days/month**

Time adjusted min. income:  
**758 USD/year**

Total CDs required:  
**~150**

## Robusta Area 1

- The net income of a Crop Doctor in Area 1 is expected to be the highest, but not sufficient to recruit 150 Crop Doctors for Area 1: at 953 USD/yr it sits between the minimum income of 758 USD/yr and the desired income of 1,009 USD/yr for 18 days/month of work.
- The income is vulnerable as it relies very heavily on hulling, and on farmers with low incomes.
- Additionally, to meet the expected hulling demand in Area 1, around 350 Crop Doctors would be required to run a hulling machine with current capacity per machine, vs ~150 Crop Doctors required to meet the other regional requirements.

CD net income:  
**607 USD/year**

Time spent:  
**13 days/month**

Time adjusted min. income:  
**547 USD/year**

Total CDs required:  
**~50**

## Arabica Area 2

The net income of a Crop Doctor in the Area 2 region (based on current assumptions) is not expected to be sufficient to recruit 50 Crop Doctors for the Area 2 region: at 607 USD/yr it is expected to be above the minimum income of 547 USD/yr, but well below the desired income of 729 USD/yr.

CD net income:  
**357 USD/year**

Time spent:  
**10 days/month**

Time adjusted min. income:  
**421 USD/year**

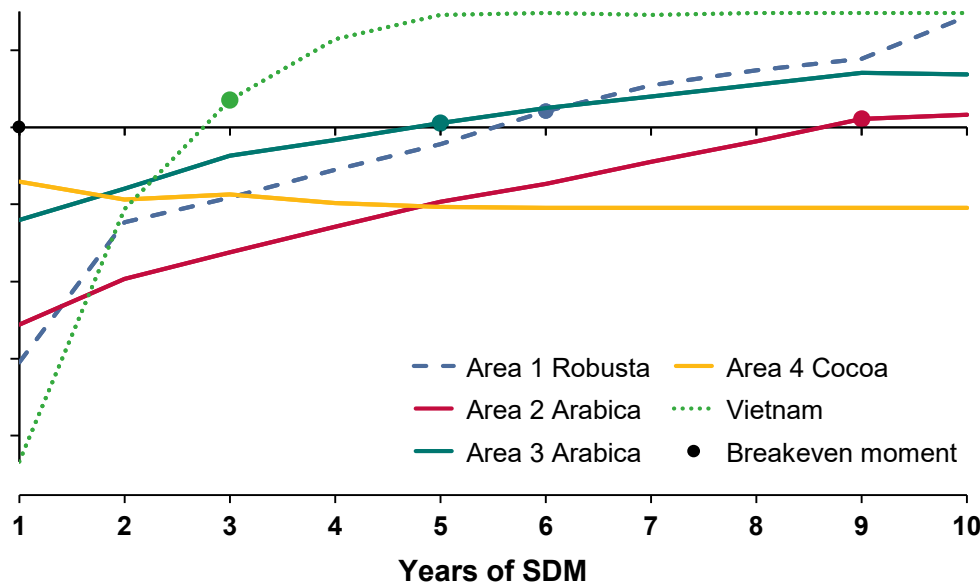
Total CDs required:  
**~40**

## Arabica Area 3

The net income of a Crop Doctor in Area 3 (based on current assumptions) is not expected to be sufficient to recruit 40 Crop Doctors for this region: at 357 USD/yr it is expected to be below the minimum income of 421 USD/yr, and well below the desired income of 561 USD/yr.

# Financial sustainability and return on investment are possible

SDM annual net income per region



## Economic performance

The Vietnam curve starts very steep because high revenues are generated from the beginning from certification premiums which accrue to the SMS P&L.

When excluding certification premiums from the Vietnam P&L, the Indonesian coffee SDMs outperform the Vietnamese (not visible on chart).

Investments in early years and linear income growth mean that SMS is financially exposed for a long time in Indonesian coffee SDMs.

Area 3 sells more fertilizer per farmer, increasing the positive impact of the most profitable service and reducing the time it takes to break even.

## Value created at farm level

Cocoa Area 4 creates the highest value at farm level per dollar invested. This reflects the big difference between the relatively low income and maturity of farmers at the start of the SDM vs the low investment assumed to be required to bring that income level up.

The negative value created in the Area 3 SDM reflects a distortion in the analysis generated by comparing organic farmers to conventional Baseline and SDM farmers. The income level of organic farmers is lower than that of the Baseline farmer, causing the value created to seem negative, whereas it should technically be compared to an organic Baseline farmer.


	Breakeven in year:	Investments recovered in year:	Cumulative value created at farm level, per dollar invested	10-year avg. annual value of produce (USD / farmer)
Robusta Area 1	6	12	28.69	N/A
Arabica Area 2	9	N/A	14.90	1,218
Arabica Area 3	5	10	-7.05	2,009
Cocoa Area 4	N/A	N/A	159.40	1,281
Vietnam	3	7	12.70	6,008

\* A combination of Robusta and Arabica farmers is targeted in the Vietnam SDM, for details see:




<https://www.idhsustainabletrade.com/publication/sdm-case-study-sms-ecom-vietnam/>

# Learning questions (1/3)



*These are not an official assessment of SDM success or failure by IDH or NewForesight, but an indication based only on the analysis done in this forward-looking study, and on assumptions provided by the case owner(s). Actual assessment of success of the SDM should be conducted during and after the SDM is conducted using measured results*

 <p><b>SDM Structure</b></p>	<ol style="list-style-type: none"> <li>1) Are services interdependent, and – if so – how?</li> <li>2) Which services are most crucial to farm-level impact and for economically viable service provision?</li> </ol>	<ol style="list-style-type: none"> <li>1) Although the services are technically not interdependent (they can all be offered individually without affecting the profitability per service) they do tend to strengthen each other and can be considered complementary. For example, without training the farmers will be less effective in increasing yields through correct application of fertilizers provided or leverage the full benefits of planting fruit-bearing shade trees.</li> <li>2) a. <b>Farm-level:</b> In <u>Area 1</u> the income increase for farmers comes from increasing the yield of their coffee trees through rejuvenation, and from selling fruit. The diversification into fruit is facilitated by the provision of planting materials services for fruit-bearing shade trees and intercropping with coffee. However, adoption of the SDM brings coffee-related expenses up to levels that seem absolutely unjustified by the increase in coffee related revenues. Participation in the SDM makes no sense without structural renovation of trees. Farmers in <u>Area 2</u>, <u>3</u> and <u>Area 4</u> increase their incomes most significantly by increasing their tree yields as a consequence of structural renovation and rejuvenation, and baseline farmers in Area 2 demonstrate that significant income increases can be achieved through structural renovation and rejuvenation, without participating in the SDM. Among Area 2 and cocoa farmers in Area 4, renovation is done with improved varieties provided through the planting materials service. Both income drivers (crop diversification and yield increase) come at farming expenses that are higher and certain (inputs and hired labor), whereas the size of additional revenues remain uncertain until the harvest starts. They therefore make the farmers more vulnerable to the risk of income gaps and volatility in farm gate prices.             <ol style="list-style-type: none"> <li>b. <b>Service provision:</b> The service most crucial for economically viable service provision for SMS in <u>Area 1</u>, <u>Area 2</u> and <u>Area 3</u> is the soil testing and fertilizer provision. In <u>Area 4</u> SDM services are offered at no cost to the farmers, therefore they are not economically viable. Commercialization of the planting materials service would make that service economically viable.</li> </ol> </li> </ol>
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# Learning questions (2/3)

 <p><b>Financing</b></p>	<p>What is the business case for farmers and SMS to invest in this?</p>	<p><b>Farmers:</b> All four SDMs show a significantly higher net income versus the baseline farmer within a 10-year period for fully-adopting farmers. Although income and vulnerability differences between SDMs remain significant, all SDM farmers can reach net income levels above the PPP adjusted poverty line. This means there is a business case for farmers to invest in the services offered.</p> <p><b>SMS:</b> All coffee SDMs have revenue-generating services and break even within 10 years, but only Area 1 and Area 3 are able to recover the initial investment.</p> <p>The financial sustainability of the three coffee SDMs is vulnerable because they rely on services offering products at high volumes and low margins (“margin-dependent”). This vulnerability becomes apparent when considering different adoption rate scenarios.</p> <p>SMS is therefore advised to focus on including more services that leverage the creation of additional value (“value-adding”) in the supply chain and pass part of that benefit on to farmers. A service that overcomes any (remaining) barriers to structural renovation and rejuvenation is absolutely critical.</p>
 <p><b>Services</b></p>	<p>Which services are (most) profitable for the Crop Doctor? Is a critical mass of clients necessary to break even/ be commercially attractive?</p>	<p>Crop Doctors (will) facilitate service delivery in three of the SDMs by acting as an intermediary between SMS and the farmers. In Area 1 the Crop Doctor role is expected to be the most comprehensive and comprises of seven activities, related to four services. Based on current assumptions and comparing all seven potential Crop Doctor activities, the most profitable service is hulling for Crop Doctors in <u>Area 1</u>, and provision of fertilizer for Crop Doctors in <u>Area 2</u> and <u>Area 3</u>. Under current assumptions (not including any overhead or fixed costs), no critical mass of clients is required to make a service profitable. Nevertheless, based on current assumptions of scale, the overall net income will be too low to recruit sufficient Crop Doctors. SMS will need to find ways to improve the business case for Crop Doctors for the model to work.</p>
 <p><b>Farmers</b></p>	<p>1) How important are (loyalty and) adoption rates of farmers for the financial sustainability of the SDM?</p>	<p>1) ECOM is positioning SMS as a separate entity, with the objective of generating a profit from service provision to farmers. This means that SMS offers services to farmers irrespectively of whether ECOM sources from those farmers. For this reason <b>loyalty rates</b> are not expected to impact the level of financial sustainability of the SDMs, e.g. a farmer can buy seedlings, whether or not he sells his produce to ECOM. This does increase the importance of financial sustainability of the SDM as commercial returns can’t compensate.</p> <p><b>Adoption rates</b> for the services do impact the financial sustainability of the revenue generating SDMs: the revenues from soil testing and fertilizers in Area 2 and Area 3 and from fertilizers and soil tests and crop protection in Area 1 require high volume (adoption rates) in order to outweigh the cost of overhead. For Area 1, Area 2 and Area 3 we see that the SDM will not break even at a 50% lower adoption rate than expected.</p>

# Learning questions (3/3)

 <p><b>Farmers</b> (continued)</p>	<p>2) How does the cashflow of farmers look? Does the cashflow from the coffee farm enable farmers to afford the services for coffee production at time of application?</p>	<p>2) Farmer cashflow challenges are typically exacerbated by service adoption. If these income gaps are not sufficiently offset by other household incomes, this could be a key risk for the success of the SDM. In that case there is potentially a need to provide farmers with better access to finance.</p>
 <p><b>Application &amp; Impact</b></p>	<p>1) How do the five SMS SDMs (ACOM Vietnam, Robusta Area 1, Arabica Area 2, Arabica Area 3, Cocoa Area 4) compare at the level of SMS?</p> <p>2) To what extent are they replicable?</p>	<p>1) The cocoa Area 4 SDM is significantly different from the four coffee SDMs as it only offers a small sub-set of services, doesn't work with the Crop Doctor model yet and doesn't generate any revenues.</p> <p>The four coffee SDMs are comparable in a number of ways:</p> <ul style="list-style-type: none"> <li>• A menu of services is offered to farmers based on regional challenges and customs, some of which generate revenues by charging farmers for the service</li> <li>• Service implementation is facilitated by Crop Doctors</li> <li>• Service implementation is possible regardless of whether ECOM sources from the farmers in the SDM</li> </ul> <p>The three Indonesian coffee SDMs all rely heavily on margins charged on large volumes of product resold to farmers through Crop Doctors (fertilizers and crop protection products). This makes the financial sustainability of the SDMs vulnerable because it relies on the margins being high enough to outweigh fixed costs of service delivery as well as generate a profit for Crop Doctors, but low enough for farmers to buy high volumes (margin-dependent). As the service adoption analysis shows, the financial sustainability of these models collapses under 50% lower adoption rates.</p> <p>2) When comparing the five SDMs a number of differences become apparent, impacting the replicability:</p> <ul style="list-style-type: none"> <li>• In principle the services (apart from hulling) within the SDMs are replicable because they are relevant to farmers in all SDMs. Successful replication of the SDM in Area 1 and Cocoa Area 4 may require a service creating affordable access to finance so that farmers can pay for the services. SMS is currently investigating this for Area 1 farmers.</li> <li>• The Cocoa Area 4 SDM does not include any revenue generating services, meaning that it will not break even. However, analysis of the potential to commercialize a service of seedling provision shows enormous potential for recovering part of the SDM expenses – a local replication of the planting materials service offered in Area 1 and Area 2.</li> </ul>

# Conclusions: key drivers for success and key risks



## Key drivers of success

- **Farmers:** farmers are charged for most service, ensuring that SMS and Crop Doctors will need to demonstrate to farmers what the added value is of these services. This in turn safeguards that **farmers receive services that are relevant** (e.g. training facilitates structural rejuvenation), **customized** (e.g. hulling in Area 1), and **effective** (e.g. combining soil testing with fertilizer provision).
- **Crop Doctors:** **Crop Doctors have a strong link to – and understanding of – local farmer communities and their needs** because they are recruited from local farmer communities. It is critical for the Crop Doctors to be trusted by the farmers in order to ensure adoption. It helps that farmers understand that the Crop Doctor is also a farmer who is looking for the best return on his investments. Vice versa, because a Crop Doctor understands what farmers need, s/he will be in an excellent position to provide feedback to SMS on how to tweak services to meet farmer needs without SMS requiring much local presence.
- **SMS:** services consist of a combination of sales of margin-dependent products and value-adding activities. This combination allows SMS to stay **relevant to farmers, while ensuring financial sustainability**.
- SMS has taken the **income preferences of Crop Doctors into account** to inform the pricing of services and division of margins.



## Key risks

- **Farmers:** projected **adoption rates are most vulnerable** for Cocoa Area 4, Area 2 and Area 1 farmers due to low net incomes and potential income gaps.
- A risk to farmers in Area 1 is that their **net income falls below the poverty line** if they are not able to sell their fruit or structurally renovate their trees.
- **Crop Doctors:** the currently **projected net income will not be sufficient** to make a significantly better living than a farmer. SMS will struggle to recruit sufficient Crop Doctors for full-scale service delivery.
- *Not in scope of this study:* A potential risk is that Crop Doctors are incentivized to overcharge farmers for products and services and that there is a lack of loyalty of Crop Doctors towards SMS.
- **SMS:** investments in early years and linear income growth trends mean that **SMS is financially exposed for a long time**.
- There is a risk that **the pricing of services makes them unaffordable to farmers** which will significantly affect adoption rates and the financial sustainability of the SDM.
- **Farmers may stop cultivating coffee and switch to fruit:** this risk is currently considered the highest in Area 1. As SMS services are currently very much focused on coffee cultivation, this would directly impact the business case for SMS as they won't be able to reach the projected service volumes.

# Lessons learned during the study exercise



## Opportunities for improvement

- **Farmers:** the critical elements to increasing farmer net income are (1) growing crops with relatively **high farm gate prices** like Arabica or **diversifying income** by cultivating and selling additional crops (2) increasing yield through structural **rejuvenation and renovation** with improved tree varieties; (3) applying good agricultural practices but **not organic** practices necessarily for Area 3.
- **Crop Doctors:** SMS needs to thoroughly revisit the role Crop Doctors play in service delivery, because based on current projections and service offering it seems unlikely that Crop Doctors will carry the SDM as intended.
- This means that Crop Doctors need to be able to generate a higher income, potentially by (1) playing a **more prominent role in value-adding activities** such as processing (e.g. hulling), spraying service and soil testing & fertilizer recommendation, (2) **increasing margins and/or volumes per service** and (3) **offering more services with high returns** and less services with low returns.
- **SMS:** put even more focus on services that facilitate **rejuvenation** and **renovation** of trees, preferably with improved varieties.
- Design a service providing **access to affordable finance** for farmers with low starting incomes
- Further develop the **shade-tree related service** for farmers to diversify their income and be less vulnerable to farmers moving away from coffee farming.



## Key factors for replication

- The four SDMs analyzed in this study are in fact partial replications of the SDM in Vietnam. The findings of this study support the thesis that the Crop Doctor model designed and implemented by SMS in Vietnam is potentially replicable.
- Key factors for replication from the existing SDMs are:
  - 1) That the SDM is **commercially driven**, with a clear objective to become financially sustainable
  - 2) Access to Crop Doctors with strong ties to the farming community to **ensure tailoring of services to farmer needs** without requiring heavy local presence
  - 3) Combining **margin-dependent** and **value-adding** activities to provide a financially sustainable and farmer relevant service delivery model.
- Additional key factors for replication to consider are:
  - 1) Ensure that **farmers are able to afford** services
  - 2) Build **relations with suppliers** of inputs and products when entering new regions for service delivery
  - 3) **External funding** to achieve break-even and scale faster, in particular in non-sourcing areas.





**Laura Taal**  
*Service Delivery Model Manager*



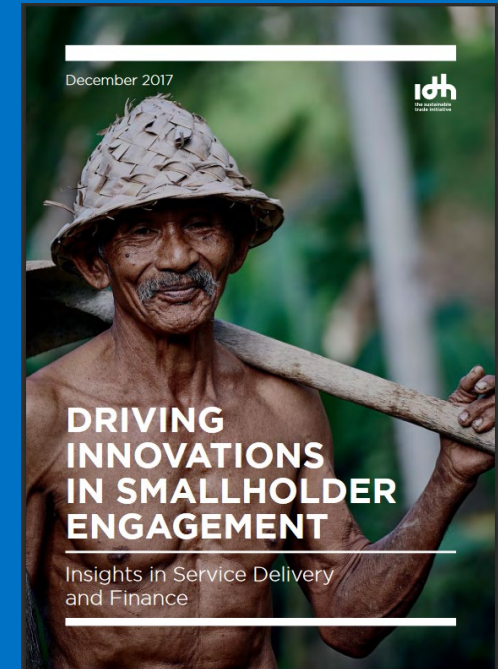
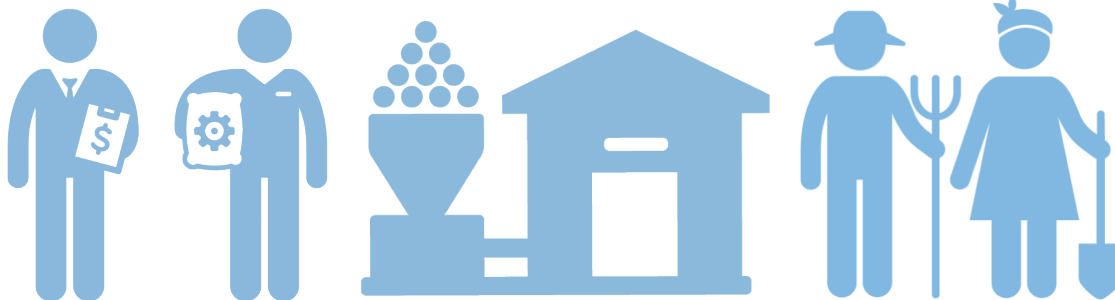
**Tessa Meulensteen**  
*Program Officer Coffee*



**Daniel Pedersen**  
*Associate Consultant*



**Victor Dagnelie**  
*Analyst*



For more information and insights on SDM's, see the [IDH Smallholder Engagement Report](#)