SDM: Case Report Nature's Pride Guatemala

Service Delivery Model assessment, Short version

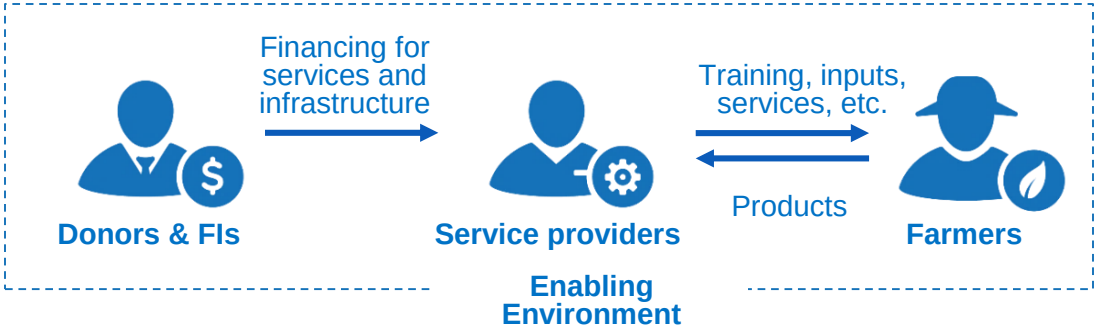
January 2018

Location: Guatemala
Commodity: Sugar snaps / snow peas
Services: Farmer training, input provision and distribution, irrigation system / water management, certification and auditing, life improvement products, women's empowerment

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. The aim is to improve farmers' performance, and ultimately their profitability and livelihoods.

A SDM consists of service providers, often supported by donors and financial institutions (FIs), and farmers receiving the services. All are set within a specific enabling environment.



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

- **Enhanced services**, which lead to improved farmer income and resilience, through higher productivity and product quality
- **Improved SDM outcomes**, which lead to an improved social and environmental environment

SDM operator

- Better understanding of your **business case**
- Insights to **improve service delivery**
- Insights to develop **a cost-effective SDM**
- Identification of opportunities for **innovation** and **access to finance**
- **Comparison** with other public and private SDM operators operating across sectors/geographies
- Ability to 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 Nature's Pride SDM and objectives

General SDM information:

Location:	Guatemala
Timing in analysis scope:	2015-2025
Scale (start of analysis):	115 farmers
Scale (end of analysis):	117 farmers
Funding:	Nature's Pride, co-funded by IDH and ICA
SDM Archetype*:	Local trader / processor

Nature's Pride is a Dutch company that imports, ripens, packs and distributes exotic fruits and vegetables, berries, and off-season produce. It exports approximately 500 products from more than 70 countries to over 300 customers (retailers/distributors) in 21 countries.

ICA Gruppen AB is a Swedish retailer with a focus on food and health. With around 1,300 stores and a market share of around 36%, ICA Sweden is the leading grocery retailer in the country.

* For more info on SDM archetypes, see the IDH Smallholder Engagement Report

SDM objectives:

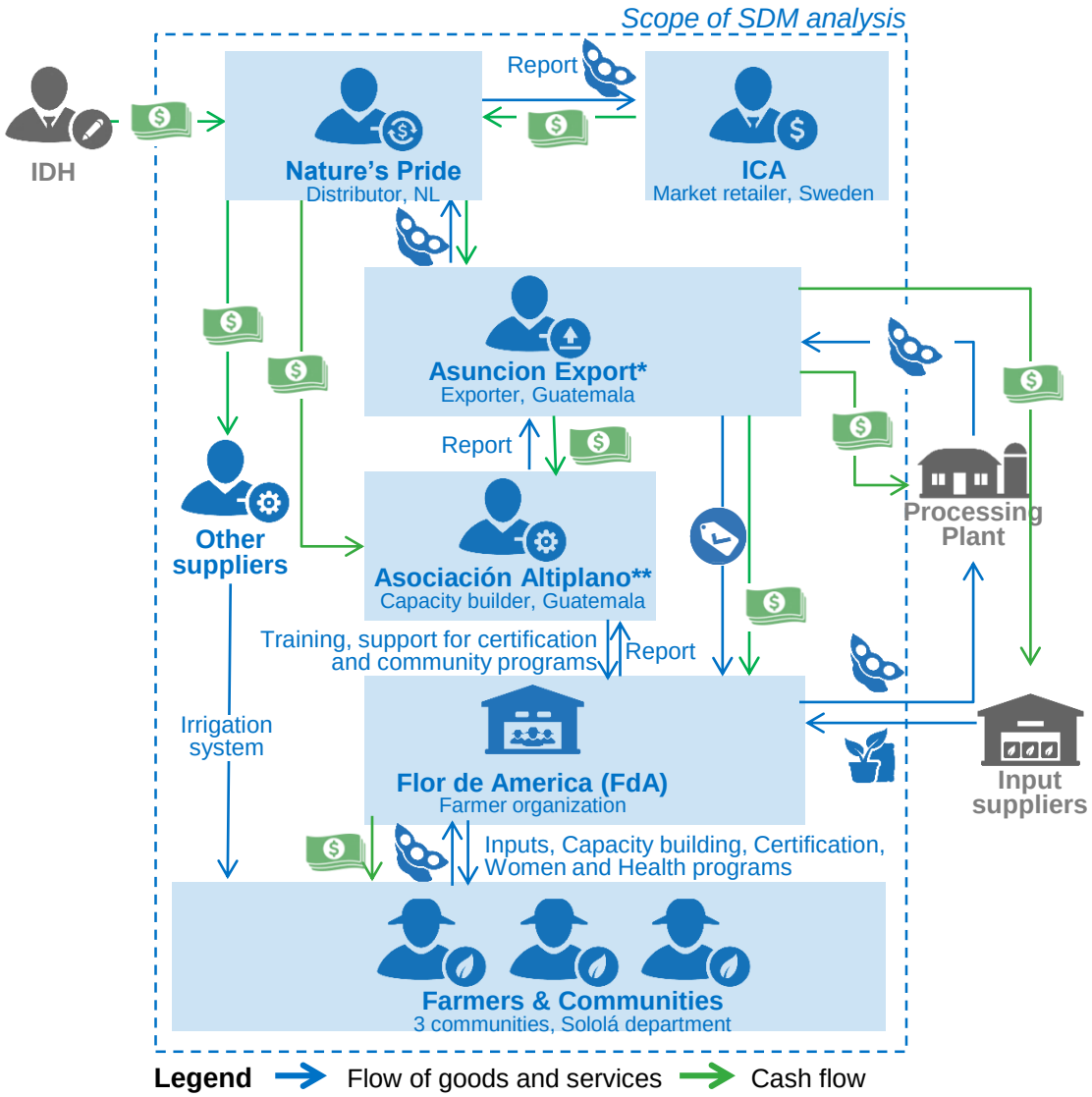
CORE OBJECTIVES

1. Improve quality and yield
2. Contribute to community development

OBJECTIVES

1. Enable efficient input provision, ensure constant water supply and good water management
2. Improve farmer capacity, including access to certification
3. Strengthen the organizational capacity of farmer organization
4. Improve farmer communities by improving their health conditions and enabling gender equality

SDM and structure and enabling environment



*Asunción Export has commercial relations with other traders, although Nature's Pride is currently its biggest client
**Asociación Altiplano works with other farmer organizations

Enabling environment

Farmers and Nature's Pride are impacted by several factors within their enabling environment. Most important are:

1. Infrastructure

Existence and state of roads, water and electricity networks as well as proximity to main trading and processing hubs (e.g. access to market)

2. Labor

Cultural norms that restrict or promote people of certain ages, gender or social groups from farm labor. Availability and cost of labor

3. Inputs & financing

Availability of affordable, quality inputs and the necessary marketing and distribution mechanisms. Availability of credit. Enabling regulatory environment

4. Pricing & competitiveness

Market dynamics of the main crop of the SDM, including competition between buyers and possible price-setting by the government or other parties

5. Environmental risks

Climate change, possibility of extreme weather, soil type, water supply and quality, pests and diseases. Potential environmental damages such as deforestation

6. Social context

Availability and quality of schooling and healthcare. Cultural factors. Potential social externalities like child labor, gender disparity

Services delivered and farmer segmentation

Input provision

- Asunción Export helps farmers access inputs for their crops. They pre-finance inputs and provide inputs at costs. Asunción Export covers the distribution costs
- The inputs needed include seeds, fertilizers, and crop protection chemicals

Irrigation system / water management

- Nature's Pride provided Xetinamit with an irrigation system to enable a second annual crop season
- This system includes a gravity-induced water supply and a drop-irrigation system
- Farmers are taught how maintain the system to lower maintenance cost

Certification & auditing

- Asunción Export facilitates equipment and technical assistance (through Altiplano) to produce certified peas
- Asociación Altiplano assists farmers to get certified in Global GAP and For Life

Farmer training

- Asociación Altiplano provides capacity building to the farmers in the SDM
- Trainers are qualified personnel, bilingual Capacity building incl. best practices, quality management, water management, etc

Life improvement products

- Asociación Altiplano also works with communities and provides them with quality of life improvements
- During the program, some energy efficient cook stoves and water filters have been installed in the communities
- Asociación Altiplano also provides training in use of these products

Women's empowerment

- Nature's Pride and Asociación Altiplano promote entrepreneurship and active participation among women in the community

Farmers are segmented in this SDM:

Segment 1

Farmers that

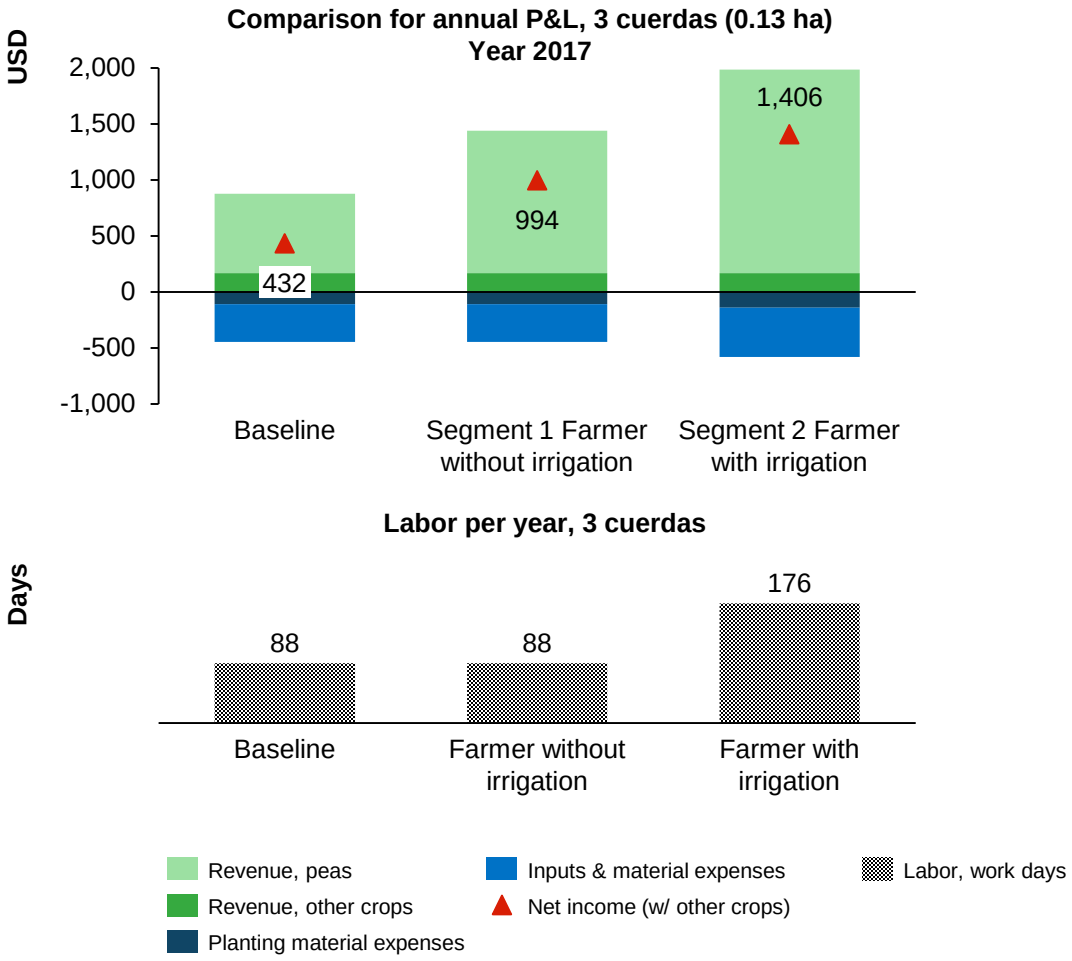
- Adopt best practices
- Produce certified products
- Produce 1 harvest per year

Segment 2

Farmers that

- Have access to the irrigation system (produce in Xetinamit)
- Adopt best practices and produce certified products
- Adopt water management practices and use irrigation system
- Produce 2 harvest per year

Impact per farmer segment



Discussion

The P&L comparison is only made over 2017, as the irrigation system was only fully operational during the past year (2017). During the previous years, the SDM impact was measured without any type of segmentation, by aggregating the data for all farmers that were benefiting from this SDM.

Farmers benefiting from all services except irrigation (segment 1) already reflect a huge increment in income when compared to the baseline farmers (130%). However, when the same farmers have access to irrigation, the increase is substantially higher (225%), since two crop cycles annually are possible.

At the beginning of the project, Nature's Pride forecasted a target net income per hectare (in euros); considering a baseline of 6,500 EUR/ha (7,760 USD/ha; 1000 USD/farmer), the target was 7,500 EUR/ha (8,960 USD/ha; 1,165 USD/farmer). The outcome of this SDM exceeded the targets, resulting in 9,020 EUR/ha (10,770 USD/ha; 1,400 USD/farmer) for farmers with irrigation.

It is important to emphasize that the high relative increases in income for both segments are based on farm households being able to cover all labor needs themselves, despite the doubling of labor need for segment 2 farmers. This increase is based on the fact that irrigation provides 2 crop cycles, for which all labor is needed (maintenance, harvest, etc).

Furthermore, the installation of an irrigation system increases labor need considerably (100%) making scaling for irrigated farmers is extremely difficult. For instance, increasing farm size from 0.13 ha to 1 ha would require labor of 1,350 days/ha, which would require hired labor.

There are other implications of the irrigation system beyond the capital investment. The costs of water is not accounted for since the water supply comes from natural sources. Also, maintenance and daily operation is done by farmers that have been trained by Asociación Altiplano to specialize into this work. This is translated into a maintenance cost of 400 USD/year and every 5 years an investment of 16,000 USD to replace the hose.

SDM projected outcomes and main learning questions

These results do not represent an official assessment of SDM success or failure by IDH or NewForesight. An indication is given based on the analysis done in this forward-looking study and assumptions provided by the SDM operator(s). Actual assessment should be done during and after the SDM, using measured data

	SDM objectives	Projected outcomes
CORE OBJECTIVES	1 **Improve quality and yield**	Yields and quality have increased significantly, impacting farmer income. As reported by Nature's Pride, given a baseline income of 1,000 USD/farmer, the target income for SDM farmers was 1,165 USD/farmer, yet the results were close to 1,400 USD/farmer.
CORE OBJECTIVES	2 **Contribute to community development**	This SDM is promoting gender equality and improving health conditions. Women have been involved in farming and in productive activities through the use of micro credit. Water filters and clean cookstoves have been installed in the homes of 60 families.
OVERARCHING OBJECTIVES	1 Enable efficient input provision, ensure constant water supply and good water management	Farmers in the SDM have access to pre-financed inputs in a system where Nature´s Pride, Asunción Export and Flor de América collaborate to understand the farmer needs.To date, 44 farmers in the area of Xetinamit have access to the irrigation that was built in Xetinamit.
OVERARCHING OBJECTIVES	2 Improve farmer capacity, including access to certification	Farmers have improved access to training and certification which has resulted in quality and productivity increases. The quality improvement is also reflected in the exportable percentages – Chuisibel: 91.7% to 96%, Xetinamit: 91% to 94%, and Santa Catarina Ixtahuacán: 87% to 90% for 2015-2016 and 2016-2017, respectively.
OVERARCHING OBJECTIVES	3 Strengthen the organizational capacity of farmer organization	Flor de América has increased its capacity and strengthened its professionalization. This is reflected in their internal reporting, administration, and financial management practices. However, there are areas that can be improved in order to ensure the sustainability of the SDM, such as impact assessment.
OVERARCHING OBJECTIVES	4 Improve farmer communities by improving their health conditions and enabling gender equality	The SDM has had a beneficial impact on the communities by installing efficient cook stoves and water filters in 60 households and involving women in farming and productive activities. Given that the total group of beneficiaries is 180 farmers there is still room for a wider impact.

Learning question	SDM insights
What is the overall impact of services for the farmer?	Over a 10 year period, farmers experience 62% productivity and 276% profitability increases, lifting farmers above the international poverty line of 1.9 USD/day*.
What are key factors in replication?	Scaling the project while decreasing the cost per farmer (i.e. reaching returns to scale). In addition to this, it is recommended for capital intensive engineering projects like an irrigation system to analyze in more detail the break-even point and maintenance costs during the design phase.

Deep dive: The story of the SDM in the marketing strategy

This SDM covers the peas value chain from the producers (through Flor de América) all the way until the consumer (via the ICA supermarkets). This results in a traceable origin that can be part of the product claims. This advantage is reflected on the packaging for consumers, where ICA writes the origin of the product and the story of the project behind the product.

"We have been very clear and transparent about the project on the front of our peas packages, by informing consumers about how we help secure safe supply of clean water and help small growers have two crop cycles instead of one.“
- Peter Hägg, **ICA**

This does not only result in a good reputation for ICA, but also in increased sales. This has enabled the funding for the SDM and for other systemic interventions that impact the farmers and the communities in the SDM.

Source: Fresh Plaze: http://www.freshplaza.com/print.asp?id=169568

Key insights

Key drivers of success

- This SDM has exceeded its targets in net farmer income (baseline: 1,000 USD/farmer, goal: 1,165 USD/farmer, result: 1,400 USD/farmer for farmers with irrigation).
- Farmer productivity increased: 62% for segment 1 and 95% for segment 2, compared to baseline, while holding costs of input and labor constant.
- Annual costs/farmer have been minimized by training farmers to maintain the irrigation system, making the operation more cost-efficient, but break even still takes 13 years.
- The retailer (ICA) was able to use the SDM and it's impact in it's communication to reach more customers, creating market opportunities for the whole value chain and enabling further funding for the SDM and complimentary interventions.

Key factors in replication

- Labor need is currently very high. Households require 88 and 176 labor days per farmer in segment 1 and 2, respectively, equivalent to 675 and 1,350 days per hectare. In order to replicate the project at a larger scale, it is necessary to include farm practices or technology that reduces the labor need.
- It is key to understand the impact of irrigation systems at farm level along with financial implications of the investment, such as the breakeven period and the rate of return to investment.
- Cross value chain cooperation with ICA (retailer) is important. In this project, this cooperation has materialized in a marketing strategy and enabled funding for the SDM. It is important to raise awareness towards consumers to ultimately enable a price differential.

Key risks

- Net costs per farmer of the SDM are unusually high. This is partly due to the low scale (184 farmers/38 ha in total, 44 farmers/8.9 ha with irrigation), the high initial investment costs, and lack of farmer service payment.
- The role of Asunción Export in the SDM is important, investing money, absorbing risk, but not having benefit.. This endangers their commitment thus finding a way for them to profit from it should be prioritized.
- Positive growth in farm net income depends on having sufficient household labor to cover labor needs. Having to hire labor might decrease favorability of the farmer business case.
- Peas are especially vulnerable to sudden weather pattern changes, threatening the pre-financing model. If yields are lower farmers won't be able to repay pre-finance funded by Asunción, becoming a major liability for them.

Opportunities for improvement

- Substantial external funding is required as farmers are currently not paying for any services. Creating other SDM revenue streams would improve the economic sustainability of the model.
- Unexpectedly, access to the irrigation system only led to a rise in annual production of 33%. The reasons for this unexpected low increase should be investigated
- Only ¼ of the farmers now have access to the irrigation system. If more farmers could get access costs/farmer would decrease.
- As training is expensive the SDM might increase group increase scale, and/or introduce "last mile delivery" such as utilizing lead farmers to teach other farmers, thus decreasing cost per farmer.
- Access to finance and crop insurance are not part of this model. These services can contribute to the sustainability of the model and decrease the risk that Asunción Export is currently carrying.

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For more information, see the IDH Smallholder Engagement Report. This report, gathered by analyzing over 30 individual SDMs in 16 countries, provides insights into IDH's data-driven business analytics. The findings identify drivers of farmer resilience, cost reduction and financial sustainability in service models and the conditions needed for a supporting enabling environment.