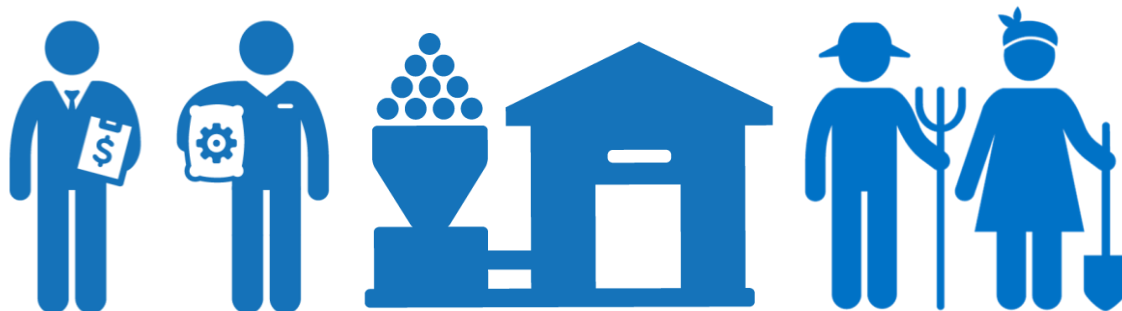


# SDM: Case Report Pratibha

Service Delivery Model assessment: Short version  
August 2017

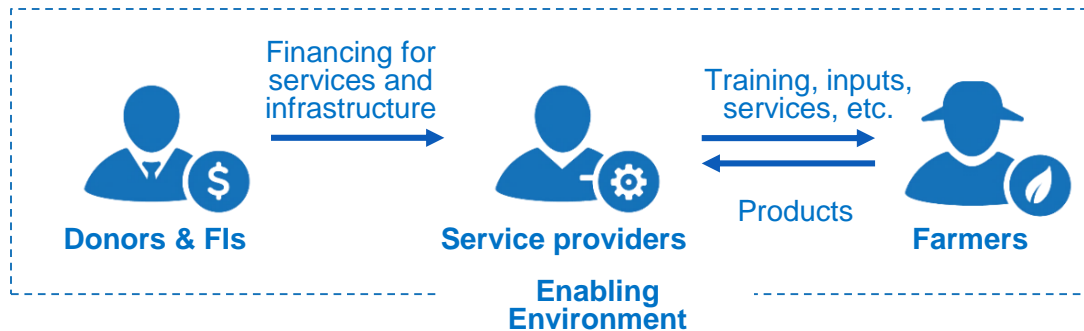
Location: India  
Commodity: Cotton  
Services: Farmer training and certification, input production support, Non-GM seed production support, income diversification, social services and organizational support



# 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 Pratibha SDM and objectives

## General SDM information:

Location:	India
Timing and analysis scope:	2014-2022
Scale (start of analysis):	19,500 farmers
Scale (end of analysis):	42,000 farmers
Funding:	Pratibha, co-funded by IDH, C&A and Cotton Connect
SDM Archetype*:	Local trader / processor



Pratibha Syntex Ltd. is a vertically integrated, sustainability oriented, knitted textiles, manufacturing company. Operations range from farm to the finished product stage. Pratibha is based in Central India, It works with a total of 33,000 farmers: 16,500 organic and 16,500 BCI certified (2016/17).

## SDM objectives:

- 1 Secure steady supply of sustainable produce through service delivery and crop diversification
- 2 Improve farmer resilience through holistic (BCI and organic) farming practices
- 3 Improve health of people and environment through holistic (BCI and organic) farming practices
- 4 Increase cost-efficiency of sustainable production through farmer self-sufficiency, access to finance and scale

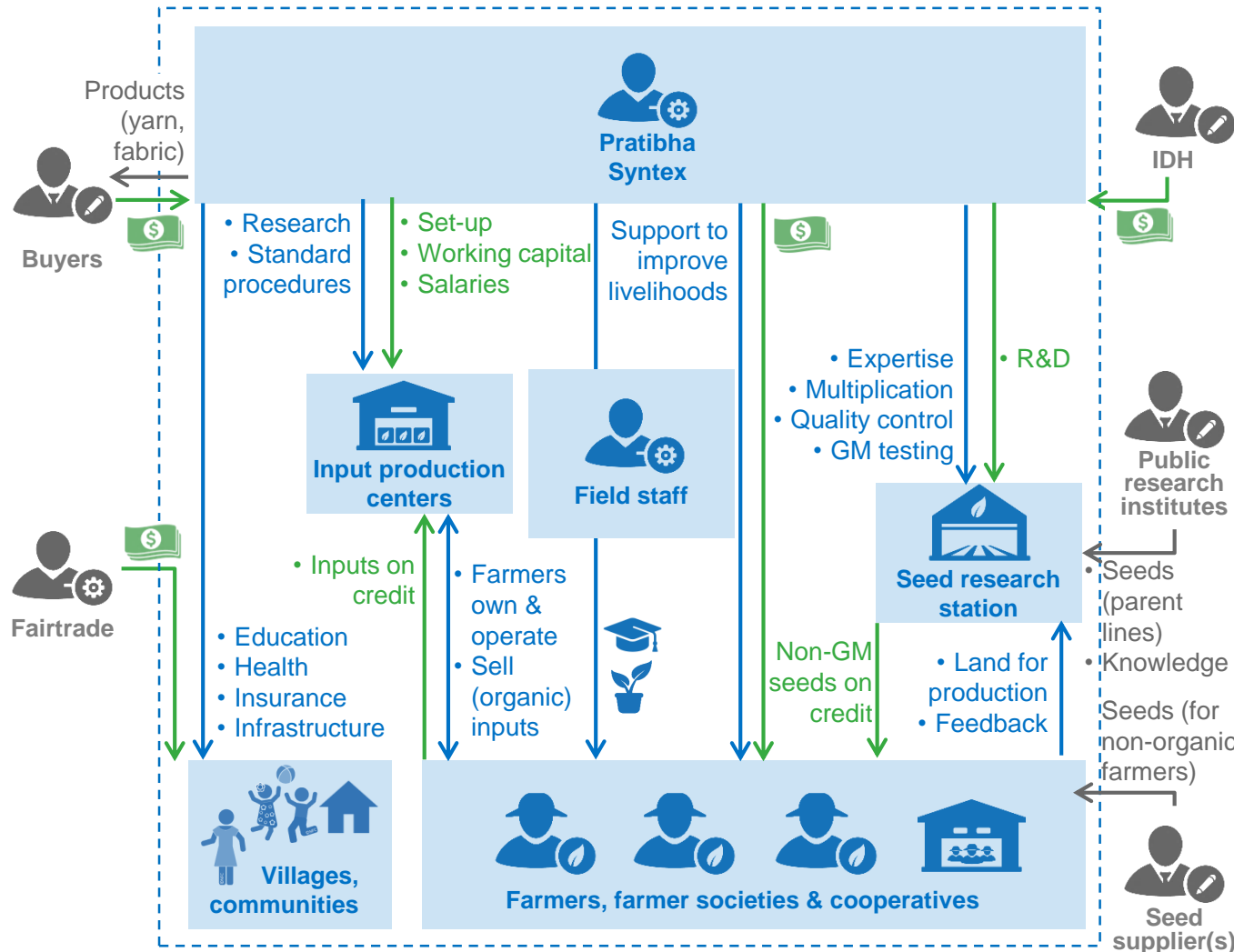
## SDM rationale:



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

# Overview of services and revenue flow in the Pratibha SDM

Scope of SDM analysis



## Enabling environment

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

### 1. Inputs & financing

Easy access to chemicals and GM seeds. No availability of good quality non-GM seeds. Some access to expensive bio inputs.

### 2. Pricing & competitiveness

Getting good quality cotton for the right price is a constant challenge.

### 3. Trading system

Physical cotton market has become very volatile,

### 4. Environmental (issues)







Rainfall determines crop yield and quality especially for rain-fed farms. Chemicals have depleted many soils

### 5. Social (issues)

Malnutrition and other health problems are prevalent and increasing mainly among farmers using chemicals.

Legend → Flow of goods and services → Cash flow → Out of scope

# Services delivered and farmer segmentation

 <h3>Farmer training + certification</h3> <ul style="list-style-type: none"> <li>• Farmers are trained in general good agricultural practices as well as in organic practices.</li> <li>• Through its team of agronomists and extension workers, technical support to farmers includes demonstration, learning materials, and field visits.</li> </ul>	BCI	 <h3>Input production support</h3> <ul style="list-style-type: none"> <li>• Pratibha has developed a standard process to prepare farmers to produce their own inputs.</li> <li>• Through Input Production Centers, which are owned and operated by farmers, farmers make inputs following standard procedures.</li> </ul>	BCI
 <h3>Non-GM seed production support</h3> <ul style="list-style-type: none"> <li>• Pratibha has a dedicated team working on the production of non-genetically modified (GM) cotton seeds along with other crops.</li> <li>• Pratibha aims to become seed sustainable in the coming few years.</li> </ul>	Organic	 <h3>Income diversification</h3> <ul style="list-style-type: none"> <li>• Based on a survey on farmer livelihoods, Pratibha is designing solutions that improve farmer incomes.</li> <li>• One of these activities is intercropping food crops with cotton, maximizing cotton yields and farmer income per acre</li> </ul>	BCI
 <h3>Social services</h3> <ul style="list-style-type: none"> <li>• Pratibha supports a range of social services including education, health and infrastructure to Fairtrade farmers.</li> <li>• Fairtrade premiums are received at time of sales, and spent on social development activities based on community needs.</li> </ul>	Fairtrade	 <h3>Organizational support</h3> <ul style="list-style-type: none"> <li>• Pratibha provides funding and capacity building support to BCI and organic farmers in setting up and managing FPOs and farmer societies respectively.</li> </ul>	BCI

## Farmers are segmented in this SDM:

**(Minimum criteria for entry to the SDM)**

### Segment 1: Better Cotton Initiative

- Farmer must grow cotton
- Farm size must not exceed 20 hectares
- Willingness to grow in line with BCI standard

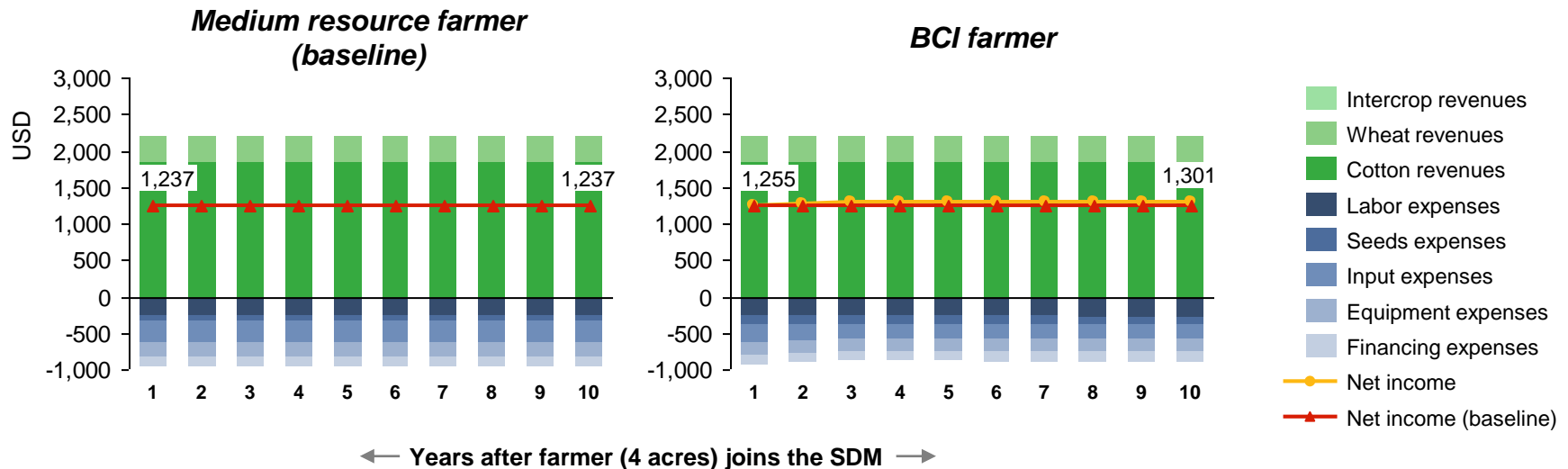
### Segment 2: Organic (+Fairtrade)

- Farm size must not exceed 3.9 hectares
- Willingness to grow in line with organic standard

### Segment 3: Lead Farmers

- Literate
- Above average knowledge of farming practices
- Has shown curiosity, initiative, and entrepreneurship
- Above average willingness to farm BCI / organic

# Farm P&Ls: overall impact



## Economic sustainability at farm level

At farm level, the BCI standard seeks to reduce the environmental impact of cotton production and improve livelihoods and economic development in cotton producing areas. One key measure through which this is achieved is reducing the amount of chemicals sprayed, in turn resulting in cost savings for cotton farmers.

Typically, farmers that convert to the BCI standard have plots of cotton around 4 acres and have invested more resources in inputs and equipment compared to farmers that adopt organic practices. By switching to the BCI standard farmers managed to increase their net profit by 5% up from \$1,237. This increase does not come from increased cotton income, but rather from small additional intercropping revenues and savings on fertilizer and pesticide expenses.

Costs are brought down 6% by reducing the amount of pesticide sprayed (from 10 to 8 sprays in the first year, to 4 sprays after 3 years) and by using cheaper bio pesticides, pest traps and fertilizers.

### Main revenue drivers

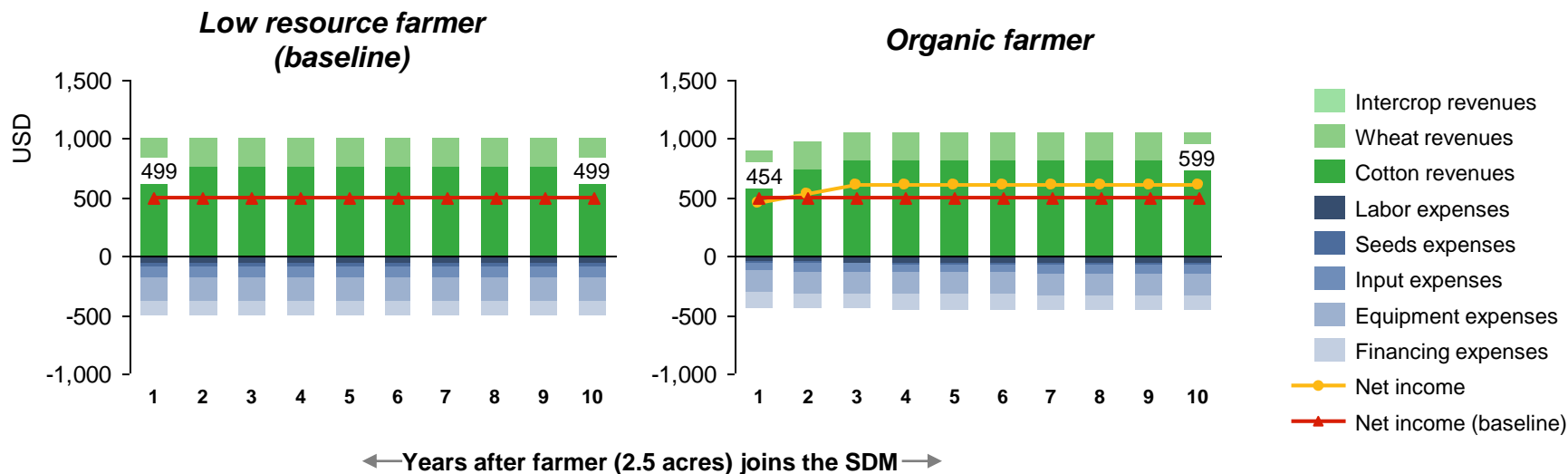
- Cotton and wheat yields and prices
- Income from border- and intercrops

### Main cost drivers

- Using less and different chemicals reduces inputs costs

Source: historical data and assumptions provided by the Pratibha team.

# Farm P&Ls: overall impact



## Economic sustainability at farm level

On average, farmers starting to grow organic cotton are very small (2.5 acres of cotton), poor farmers living in tribal regions. After adopting organic practices, annual net income increases with 19% to \$599 per household from year 3 onward. Still these farmers are earning far below the international poverty line (\$3,567\* per year) and the median Indian household income (\$3,168 per year). Interestingly, this increased profitability does not come from improved yields, but rather reduced costs.

During the first year of organic farming, yields go down to 400 kg/acre, slowly back to 500 kg/acre after 2 years. This drop in yields comes from soils that need time to recover from intensive chemical use and become fertile again. There are three key reasons for farmers to make the switch regardless: 1) it is their last hope of improving earnings; 2) they want to avoid using harmful chemicals; 3) they can get up to 8% benefit on top of the farm-gate price (additional benefits: 1 INR for organic and 2 INR for quality).

Using in-house produced non-GM seeds and bio inputs instead of GM seeds and chemicals from the market saves organic farmers approximately 9% on total costs, requiring lower loans and becoming less dependent on outside parties.

## Main revenue drivers

- Cotton and wheat yields and prices
- Additional benefits for growing organic (1 INR) and quality cotton (2 INR) per kg of raw cotton

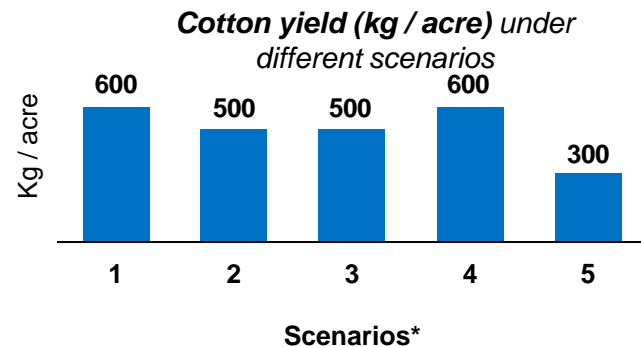
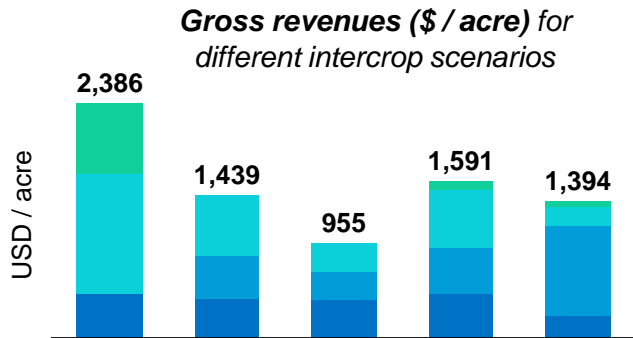
## Main cost drivers

- In-house produced seeds are 68% cheaper than seeds from the market
- Bio inputs and pest traps are 30% cheaper than chemicals inputs

Source: historical data and assumptions provided by the Pratibha team. \*Poverty and median income figures (household and per capita) come from the World Bank and the Gallup Institute (2013) respectively.



# IMPACT: Growing a variety of crops alongside cotton can improve farmer revenues and nutritional security



- Pulses (green, red, black grams and tur)
- Vegetables (drumstick, cucumber, maize)
- Spices (turmeric, chili, purple yam)
- Cotton

## Nutritional gardens

Typically farmers in this SDM grow cotton, soybean and wheat. With cotton and soybean being sold, the household diet is often limited to wheat consumption. Other edibles need to be bought from the local market.

However farmers often lack the financial resources to buy more diverse ingredients to improve the nutritional value of their day to day meals. Vegetables, fruits and dairy products are rarely part of the diet. On top of that, most local market products are grown conventionally, containing traces of pesticides.

Since last year, Pratibha encourages farmers to dedicate one acre of their farms to grow a combination of 6 types of crops: oil seeds, grains, pulses, vegetables, fruits and spices. Pratibha expects together these crops fulfill around 80% of farmers' food requirements and increase farmer income.

The nutritional gardens are expected not only to complement farmers' diets and income, but also to reduce exposure to pesticides and other harmful chemical traces from conventional farming.

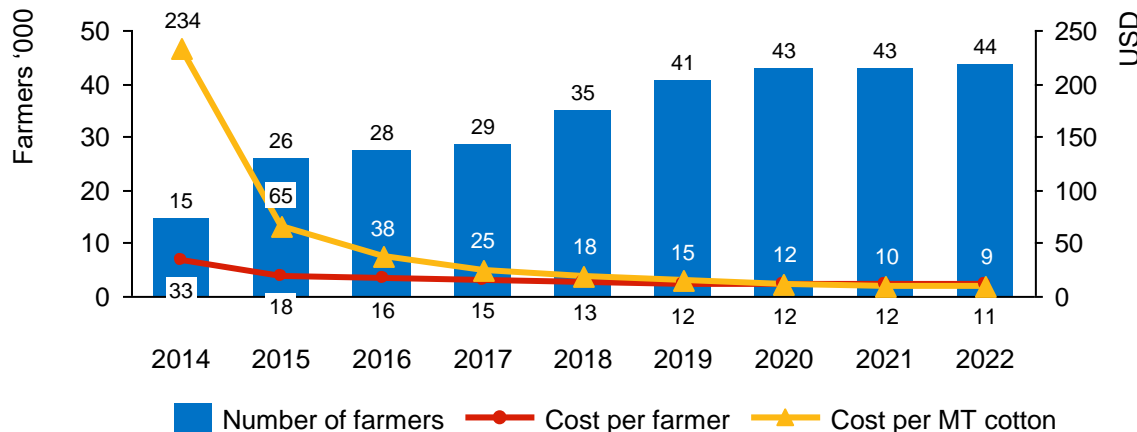
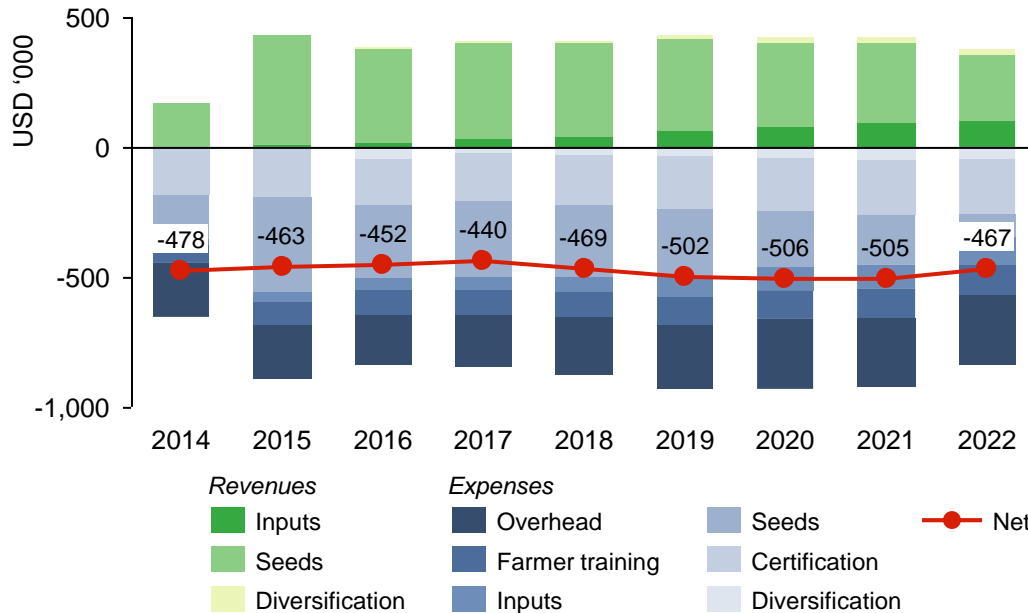
In collaboration with OCA and C&A, Pratibha is planning to incentivize farmers to implement these practices by paying out organic cotton premiums only to farmers that actually grow one acre of these nutritional gardens.

*\* Figures show this year's initial results of different scenarios tested among farmers, based on data from a subset of 200 farmers. During the coming years Pratibha continues to motivate farmers to grow these nutritional gardens, experiment with different combinations and test which combinations best increase income while providing a balanced diet. Incomes exclude an expected additional annual income of \$380 from horticulture crop from year 3 onward.*



# SDM P&L

Overall SDM P&L by service ('000 \$)



\* Note that plans for expanding into additional crops were not concrete at the time of this analysis, and as such, are not represented in this P&L.

## Economic sustainability of the SDM

- While absolute costs to Pratibha remain relatively stable, costs per farmer and per MT have dropped significantly to \$11 and \$9 respectively.
- Key drivers in decreasing costs per farmer are scale (reducing the per farmer overhead and certification costs) and expansion of in-house input production. Future plans of sourcing and selling of additional crops beyond those already supported (e.g. chilies) should allow Pratibha to become self-sustainable.\*

## Main revenue drivers

- Scaling up the production of bio inputs, non-GM cotton seeds and provision of seeds for other crops (wheat, grams, marigold, fruit plants) allows Pratibha to recovered their costs (almost) entirely from sales.

## Main cost drivers

- Overhead is the main cost driver, consisting of salaries of management and administration staff, HQ office rent, setting up and maintaining the field offices and general administration costs.
- Cost of internal certification activities (i.e. staff salaries and materials) contribute 22% of total SDM costs.
- Another 6% of costs are spent on external inspection and annual certification fees.
- Costs of seeds go down as a larger share of the seeds are produced in-house and not purchases at the local market.

# 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
<p><b>1</b> Secure steady supply of sustainable produce (new and existing) through service delivery and crop diversification</p>	<ul style="list-style-type: none"> <li>• While per farmer sourcing remains relatively constant, Pratibha will expand the program size to 32,000 farmers, a farmer growth rate of 15%*</li> </ul>
<p><b>2</b> Improve farmer resilience through holistic (BCI and organic) farming practices</p>	<ul style="list-style-type: none"> <li>• While productivity remains constant, 10 year average farm profitability has increased with 17%</li> </ul>
<p><b>3</b> Improve health of people and environment through holistic (BCI and organic) farming practices</p>	<ul style="list-style-type: none"> <li>• Growing in line with the standards has greatly reduced harmful effects of conventional agriculture on land and peoples' health</li> <li>• Fairtrade premiums have resulted in community development investments</li> </ul>
<p><b>4</b> Increase cost-efficiency of sustainable production through farmer self-sufficiency, access to finance and scale</p>	<ul style="list-style-type: none"> <li>• SDM costs have decreased from \$31 to \$9 per farmer</li> <li>• By 2022 Pratibha manages to produce enough non-GM seeds to supply all farmers in the SDM</li> </ul>

\* Compound Annual Growth Rate, or the mean annual growth rate over the duration of the entire SDM (9 years)

# Key insights



## Key drivers of success

- Applying the **triple bottom line** concept to agriculture, Pratibha creates positive impact for farmers and their communities, the environment and their own business
- Pratibha frequently introduces **low-cost innovations** that are **scalable** and seek to **improve farmer self-sufficiency**.
- An **extensive field team** that trains, visits, and builds good relationships with the farmers allows Pratibha to roll out new innovation quickly and grow the number of farmers.
- **Expanding the farmer base** to a point that annual cotton **sourcing volumes meet the capacity** of their ginning and spinning factory ensures cost-efficient operations.



## Key factors in replication

- Setting up **self-sufficient centers for services** like bio input provision, seed multiplication and crop diversification. Note these can only be replicated in resource rich environments (e.g. bio inputs require availability of low cost local resources like cow urine, chilies, garlic, neem, etc.).
- **A farmer-centric, holistic approach** to agriculture can be **embedded in the company values**, from management to field staff, contributing to positive impact for communities and environment, while ensuring good relationships with and higher loyalty from farmers.



## Key risks

- **Adding new crops** to the farmers' and Pratibha's portfolio can be risky since they might be produced at the expense of cotton and as long as Pratibha does not have the appropriate infrastructure in place to source these crops, investments in diversification might go to waste.
- For organic farmers there is a **small chance of genetic contamination** through cross pollination. To control for this risk certifiers enforce **strict regulatory procedures** leading to **high certification costs**, which are expected to increase in the future.
- **Late monsoons, extended periods of drought, and outbreaks of pests and diseases** are a continuous threat that can significantly reduce cotton yields



## Opportunities for improvement

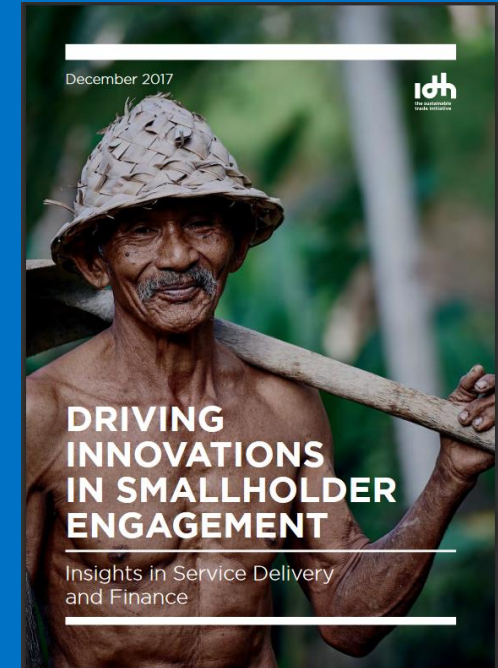
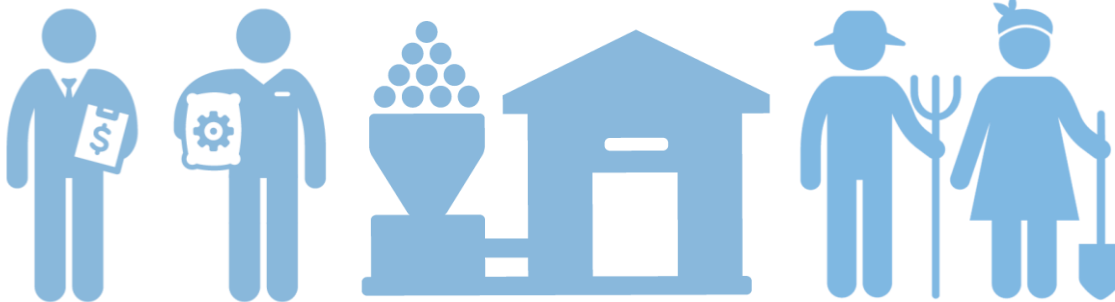
- Pratibha could **strengthen data collection efforts** for continuous learning and business decision-making purposes:
  - Introducing **software** that maps farmers' locations and monitors cotton yields and sales, practices applied, and pests and disease outbreaks over time, **can improve** Pratibha's **understanding** on the **key drivers of cotton productivity**. This can prove particularly valuable in discovering the **most successful crop combinations** for their nutritional gardens.
  - **Financial modelling** (e.g. calculating the break even of bio inputs centers before setting them up) can inform the strategy of the SDM, improving **cost-efficiency** and **effectiveness**.



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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.