IMPACT OF THE FARMERS' HUB MODEL

BANGLADESH 2013 - 2016

SUMMARY

December 2016

INTRODUCTION

This report summarizes the results of a survey conducted in 2016[1] on a programme of Farmers' Hubs initiated by the **Syngenta Foundation Bangladesh (SFB)** in 2013. The hubs were designed to provide support and assistance to mainly vegetable farmers at all stages of the value chain. Their aim is to increase productivity and quality of the produce, ensure that fair prices are being paid to the farmers in exchange of their produce, and also provide assistance and support to the local farming community which includes both the farmers and the traders. To date 17 hubs have been put in place with 8,500 associate farmers. Additionally it is estimated that 42,500 non-associate farmers are benefitting from a trickle-down effect.

AGRICULTURAL BACKGROUND IN BANGLADESH

The agriculture in Bangladesh is labor intensive and operates from a low technology and resource base, resulting in relatively low yields. Moreover 88% of farm households are "small or marginal", farming just 0.05-2.49 acres, so they are very exposed to agricultural-related risk and have trouble accessing resources and finance. There is therefore an urgent need to increase agricultural productivity.

The Northwest of the country, where the Farmers' Hubs are targeted, faces particular challenges. It is one of the poorest regions, partly due to natural disasters such as drought and flooding. Most smallholders there currently lack access to value chains. They stand to benefit considerably from better links to markets for their produce. However, there are several bottlenecks:

- Absence of storage facilities: farmers primarily lack bargaining power because they cannot store their produce which is perishable leading to wastage;
- Middlemen: farmers sell their produce to local wholesalers/hoarders with lower prices;
- Network & communication: "How-to-sell" and "whom-to-sell-to" remain difficult questions;
- Transportation costs: farmers also don't want to take smaller lots to other places because higher transport costs could cancel out the profit margin, if any;
- Inadequate knowledge and skills;
- Lack of access to quality inputs and machinery equipment: producers have difficulty in accessing good quality inputs, because distributors are often reluctant to provide credit. Moreover, the farmers also do not have proper access to agriculture equipment like tractors, tillers or shallow machines;
- Lack of access to finance.

[1] The survey was conducted by the Light Castle Partners in Bangladesh.

FARMERS' HUBS

The idea of a Farmers' Hub is to create a center point for aggregation of the agricultural produce of the smallholder and community farmers in different areas. This facilitates the provision of support and assistance to various actors across the stages of the entire value chain to increase their productivity and ensure fair prices. It also creates employment opportunities and increases income levels. The solutions devised by Syngenta Foundation Bangladesh (SFB) to the problems identified above are summarized in the table at the next page.

Farmers' Hubs are established to serve 500-1000 farmers each and link them to 10-20 buyers, including medium to large traders, agro-processing and export companies. They serve as an aggregator for input buying and output sales as well as a provider of agricultural know-how and machinery. In the space provided the produce is stored, sorted, graded and sent to the local market. The Hub also provides regular market information on the price of the produce, thereby reducing the price discrimination that farmers face when interacting directly with traders in the market. Additionally the hubs provide rental services of agricultural equipment and inputs of cultivation such as seeds and fertilizers.

Although a social enterprise, the hubs are also independent business entities, run by a manager on a franchise basis and charging famers fees for services provided. SFB identifies a local entrepreneur who provides the physical infrastructure. SFB provides the bulk of the capital and the local entrepreneur provides the rest.

The SFB Farmers' Hub programme was initiated in 2013 and branded as "Krishan Bazar". At present, 17 Farmers' Hubs are operating in 4 districts of Northwest Bangladesh: Rangpur, Dinajpur, Nilphamari and Natore. They serve 8500 farmers in over 100 villages. At least 250 traders are also associated with the hubs. Additionally they are working with 5 Agri-business Companies and 50 Agro-wholesalers. As well as the associated farmers it is estimated that there are 42,500 indirect beneficiaries: non-associated farmers who gain form a 'trickle-down' effect. They focus on vegetable crops.

TABLE 1 SOLUTIONS OFFERED BY SFB ADDRESSING THE CURENT PROBLEM

Problems identified	Solutions/services provided by Farmers' Hubs
Absence of storage facility	Storage facility at the Farmers' Hub premises
Presence of middlemen cuts down farmers' profit margin	Access to better and convenient marketplace
Lack of connection and communication of the farmers	Farmers' Hubs act as a place where farmers and traders congregate for buying and selling as well as dissemination of information
Higher transportation costs	Less distance to travel
Market uncertainty	Access to market supply and demand information
Inadequate knowledge & skills	Training, workshops and farm visits Post training supervision Access to agro-based information
Lack of access to equipment, quality inputs and finance	Access to finance support, mechanization and improved inputs, especially seeds

SURVEY AND RESULTS

Survey methodology

Data for the impact assessment study was collected through a questionnaire-based survey from five different Hubs – two from Rangpur, two from Dinajpur and one from Natore district. The sample comprised 250 associated farmers who are listed members of the Hub - i.e. 50 associated farmers from each Hub - and 150 non-associated farmers.

Results of survey

1. Knowledge and use of services provided by Farmers' Hubs: comparing associates and non-associates:

The results of the survey compared associated farmers with non-associated farmers. Associated farmers are those who have used at least one particular service from the Farmers' Hub. Non-associated farmers include farmers who haven't taken any services from the Hub yet, but may have knowledge of and benefit from

Farmers' Hubs because they live in nearby areas and in some cases their family members are associated farmers. As a result of that, this study found a trickle-down effect in force, mostly when it concerns access to information and improved inputs. Indeed the non-associated farmers' knowledge of the services provided by the hubs was remarkably high. Not only that, but non-associated famers also managed to avail themselves of the services provided by the hub.

TABLE 2 % OF FARMERS WHO KNOW ABOUT AND USE SERVICES OFFERED BY THE FARMERS' HUBS

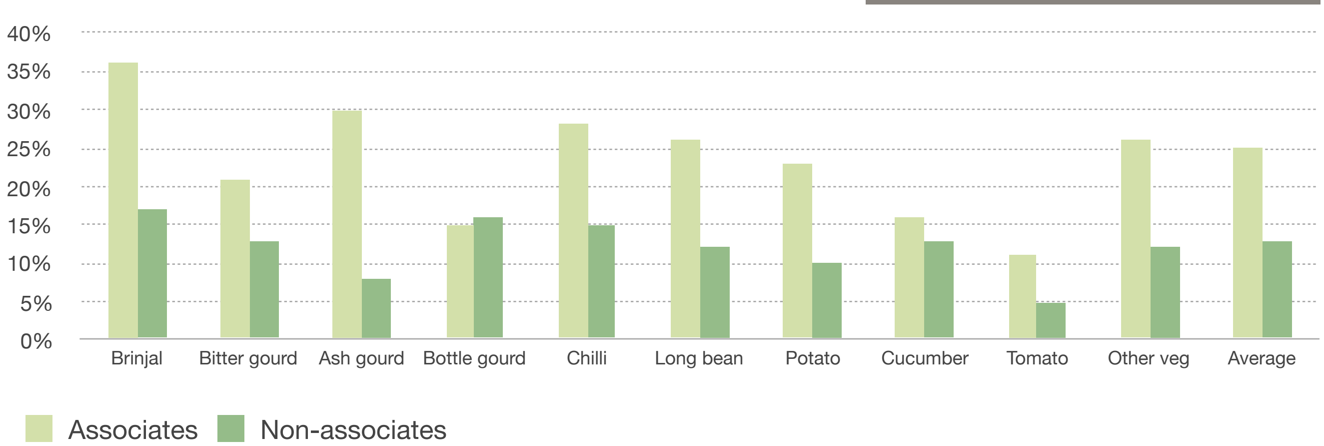
Access to:	**% of farmers who know about the services offered by Farmers' Hubs**		**% of farmers who use the services offered by Farmers' Hubs**	
	Associate farmers	Non-associated farmers	Associate farmers	Non-associated farmers
Inputs	100%	91%	92%	61%
Mechanization	100%	91%	83%	33%
Markets	100%	89%	88%	30%
Information	100%	100%	95%	62%

2. Yields

The yields of associated farmers increased by 25% on average, whilst those of the non-associated farmers increased 13%. The yield increases for different crops are shown below. In addition to these yield increases, post-harvest losses declined by 3-8%, as a result of shorter transport distances and better packing on route (i.e. use of crates).

The most important reasons given for the yield increases across all 3 regions were access to improved inputs (meaning seedlings, mentioned by 44%-50% of respondents depending on the region) and access to information (32%-36%). Access to mechanization (11%-14%) and increased cultivable land size (3%-7%) were of less significance.

Figure 1: Average yield increases



3. Profit and income levels of farmers

Depending on the crop, associates increased their profitability between 3% and 43%, whilst non-associates increased theirs by 3-15%. Average household income increased 52% or by $404/household for associate farmers and 14% or $90/household for non-associate farmers.

TABLE 3 INCOME PER HOUSEHOLD

	Year before joining: $	Year after joining: $	Increase: %	Increase: $
Associates	775	1179	52%	404
Non-associates	645	736	14%	90

The main reason for improved profitability was given as 'access to better and convenient output marketplace', mentioned by 56%-63% of respondents depending on the region. Access to information (14%-22%), mechanization (12%-16%) and increased cultivable land areas (5%-11%) were also factors but of less importance.

The importance of market access is reinforced by an analysis which shows that those associates who sell over 70% of their produce though the hub are significantly more profitable than those who do not sell through the hub.

A detailed cost-benefit analysis reflects the relative importance of the different factors contributing to profitability. This showed that the economic benefits derived firstly from improved market access and aggregation, which led to higher prices and lower trading fees. Improved seeds and the resulting higher yield was the second most important factor. Then comes cheaper transport and less waste in transit.

Figure 2 % change in profitability of associated farmers selling at least 70% of their produce through the Farmers' Hub

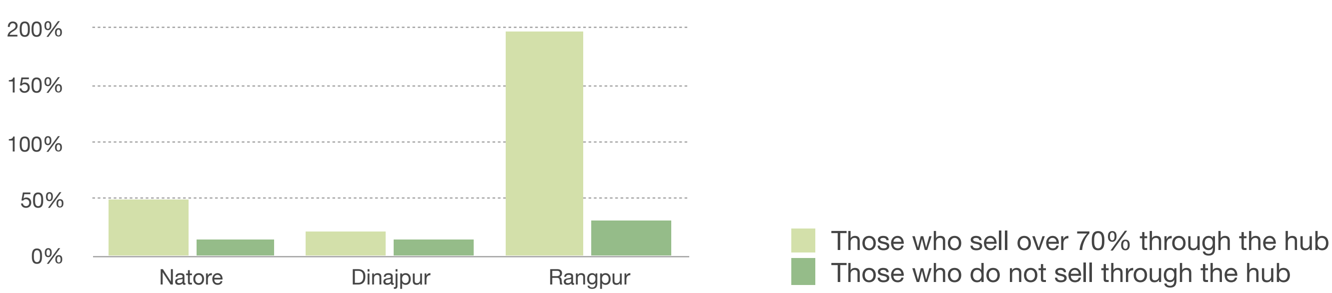


TABLE 4 COST BENEFIT ANALYSIS PER FARMER PER METRIC TON

Sources of benefit	Benefit	Benefit per metric ton: USD	
		LOW	**HIGH**
Output sales - aggregation and market linkage	20-30% higher price; lower fees	37.4	54.6
Input services: seedling	30-40% higher yield	26	26
Equipment and logistics support - transportation; crates	Cheaper transport; less waste	12.8	19.2
Total		76.3	99.8

4. Hub economics

The study indicated that in 2015 each Farmers' Hub has earned an average of USD 3,282 with the average ROI of 26.42%. That equates to around $6/ associate farmer assuming there are 500 farmers per hub.

5. Channels for input and output markets

Whilst the majority (80%) of associated farmers used the hubs to source their seeds, a minority -18% - used them to sell their output to. This is despite the fact that improved market access is the most important factor in improving their profitability and the more they sold through the hub the greater their improvement in profitability. The majority of associate farmers will use retailers and wholesalers, as opposed to hubs, to sell products.

TABLE 5 WHERE FARMERS PURCHASE THEIR INPUTS AND SELL THEIR PRODUCE

	Source of inputs		**Destination of output**	
	Associated	Non-associated	Associated	Non-associated
Farmers' Hub	80%	35%	18%	0%
Produced/ consumed on farm	5%	5%	0%	3%
Local retailers	9%	45%	51%	63%
Distant retailers	5%	10%	12%	25%
Wholesalers	-	-	16%	6%
Other farmers	-	-	3%	3%
Company reps	1%	5%	-	-
	100%	100%	100%	100%

6. Employment generation

Every Hub has either a hub owner or a manager who looks after the Hub operations, and in some of the cases machine operators are engaged to run and operate the machines on behalf of the farmers. Traders are also working at the Hub with local laborers. As a result, employment generation in the surrounding areas of the Hub has increased substantially – in agriculture and farming and also other related sectors. On an average, each Hub generates 5-8 categories of jobs that lead to employment of more than 10 people directly or indirectly.

7. Social and non-economic benefits

In addition to the economic benefits of improved farmer incomes, over 80% of associates felt they also derived benefits from increased food and nutritional security, availability of healthcare services and access to improved lifestyle choices.

8. Satisfaction

Satisfaction levels with the hubs were generally high with associated famers giving a satisfaction rating of around 4 to all aspects, on a scale of 1 – very dissatisfied to 5 – very satisfied.

CONCLUSIONS

Overall the project is running very well, has achieved its objectives and is well appreciated by the users. The overall socio-economic situation of the associated farmers has seen some significant improvements since formation of the Hubs. The key activities of the Hubs like nursery services (seed provision), equipment rental, transportation facilities, market linkage support and training on modern cultivation techniques are highly appreciated by both associated and non-associated farmers.

Whilst there are some areas where there is scope for fine tuning the Farmers' Hub model and implementation the overall message is: 'more of the same, please'.

NOTE

This summary is based on the impact study report conducted by the **LightCastle Partners**, with field support from **SFB**. The team thanks the hub coordinators, field officers and the farmers interviewed for their cooperation and support during the process.

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