

Mini-Packets of Quality Seeds: Improving poor farmers' access to quality vegetable seeds

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1 Introduction

1.1 Katalyst and its approach

Katalyst is one of the largest market development initiatives in Bangladesh. It works together with the private and public sectors in order to fully integrate rural farmers in the markets. As a result, poor farmers get better access to quality inputs, services, knowledge and products, which ultimately translates into an increased income. Phase 1 and 2 of the project lasted from 2002-2013. The current Phase 3 commenced in March 2014. Katalyst is co-funded by the Swiss Agency for Development and Cooperation (SDC), the UK Government, and the Danish International Development Agency (Danida). It is implemented by Swisscontact under the umbrella of the Ministry of Commerce, Government of Bangladesh.

The livelihoods of poor people depend on market systems in which they are involved as laborers, producers, entrepreneurs and consumers. Often however, the poor are systematically excluded from the markets. Katalyst uses the market development approach to break this vicious cycle of poverty. It identifies the market barriers/root causes that prevent poor people's participation in the markets and finds innovative solutions to overcome those barriers in partnership with the market actors. Katalyst partners with a wide range of private companies in order to include the poor into their business models. This approach benefits both - private companies and the poor. Currently, Katalyst works in three major agriculture sectors: Farmed Fish, Maize, and Vegetable.

1.2 Katalyst's work in the Vegetable and Vegetable Seed sector

Katalyst's work in the vegetable sector can be traced back to 2003 when it identified where the poor are located in the context of agriculture in Bangladesh. The findings indicated that they were prominently engaged in cultivating vegetables. A regional analysis showed that while farmers in a limited number of areas were making profit from vegetable cultivation, in other areas they were lagging behind. This was due to their limited access to quality inputs and to information on appropriate cultivation techniques. In light of this, Katalyst started to work in the vegetable sector in Phase 1 of the project, focusing on selected geographic areas. Later in Phase 2, Katalyst adopted a more nation-wide focus.

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Seed is one of the key agricultural inputs and the use of quality seeds can contribute to increase 15-20% yield of agricultural crops⁴. However, vegetable yields in Bangladesh are constrained through limited access to and usage of quality seeds. To address the issue of quality seed usage, Katalyst has partnered with reputable seed companies in order to increase farmers' awareness on the usage and benefits of quality seed. This in turn results in improved production and import practices⁵ and further strengthens the distribution channel of seed companies, enabling poor farmers to be brought into the mainstream distribution channel of the private sector. It is notable that early in Phase 2, Katalyst has worked with a seed company to incorporate mobile seed vendors (MSVs) into their formal distribution channel. After a small pilot intervention, the company had managed to incorporate MSVs on an almost nation-wide basis, and other companies followed suit. As a result of this, affordable mini-packets of quality vegetable seed were introduced to cater to the needs of small farmers.

2 Quality vegetable seeds in mini-packets

2.1 Development challenge addressed

Small and poor farmers in rural Bangladesh rarely use high yielding varieties or hybrid quality seeds when they grow vegetables. The limited use of quality seeds is one of the major reasons why they get lower yields. Asymmetric information makes many small vegetable farmers unable to identify quality seeds. Most of the poor farmers are not aware of the additional benefits of using quality seeds, and so they end up saving deteriorated seeds from the previous harvest or buying inferior quality, cheaper seeds.

Even when small farmers are aware of quality seeds, many of them will still use substandard seeds as they do not need the quantity available in the regular packets of quality seed. The requirement for smaller quantities of seed for smaller farmers has led to a practice of selling a small quantity of seed from opened packets. These opened packets are often adulterated (inferior quality seeds mixed with good quality seeds) at the point of sale.

Seed companies that produce and distribute quality seeds usually want to serve a clientele of medium to large farmers. Their investment still focuses on the mainstream market and the production-hubs. They are slow and, sometimes, even reluctant to invest in diversifying into untapped areas and expanding their customer base, as they perceive that the "first mover's advantage" is extremely short-lived in the seed business. In general, they do not undertake activities or design products and services to address the needs of small and poor farmers i.e., awareness, access, and affordability.

2.2 Description of the solution

Initially, the concept of selling quality vegetable seeds to small farmers in mini-packets seemed almost too simple – and yet at the same time too risky – to attract seed companies and get them on board. In 2008, Katalyst started working with a seed company targeting small farmers by including mobile seed

⁴ Ahmed, A. H. I. 2003. Good governance in the seed sector of Bangladesh. Paper presented as key note for a seminar organized by SAU and TIB, 9 May, 2013. Sher-e-Bangla Agricultural University, Dhaka.

⁵ Most of the seeds in Bangladesh are imported from different countries

vendors (MSVs)⁶ in the company’s distribution channel. Up to that point, MSVs had been selling only inferior quality, non-packed seeds to poor farmers. Within two years, this initial intervention had been widely adopted by other seed companies, and showed there was high market demand for quality vegetable seeds among poor farmers. It was also observed that small farmers were buying seeds sold by MSVs from opened packets, reinforcing the idea of a market for smaller packets of seeds.

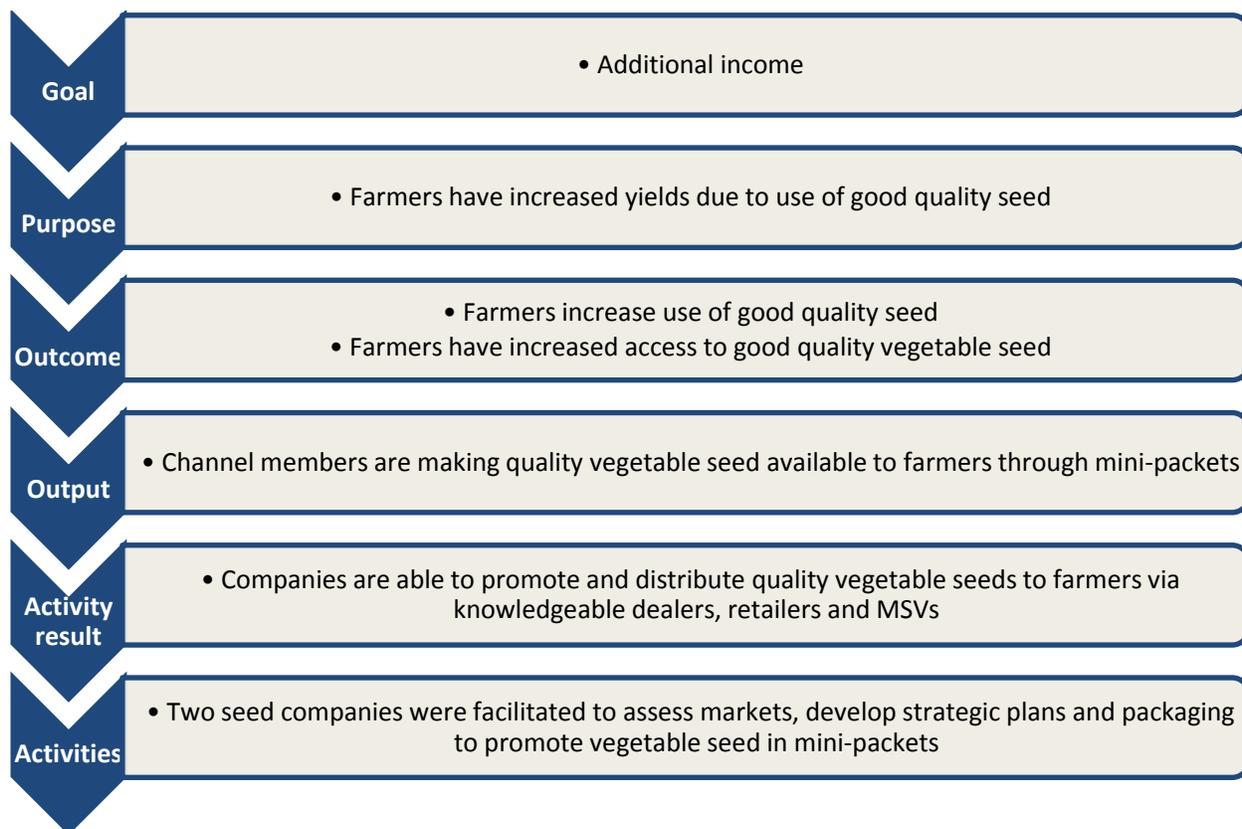


Figure1: Results chain of the intervention

The seed companies were initially reluctant to introduce mini-packets of seed without a guaranteed business case. Market research by Katalyst informed the companies that despite the perceived risks, there was still a clear demand-supply gap for smaller quantities of seed in packets. In March 2011, Katalyst had a breakthrough when it partnered with two leading private seed companies, Lal Teer Seed Limited (formerly East West Seed-Bangladesh Limited) and A. R. Malik Seeds Ltd. Through its facilitation, Katalyst had convinced these two seed companies that they could sell more seeds, probably to an untapped section of farmers, if they had appropriately sized and priced products – in other words, the mini-packets. Reducing opportunities for adulteration by distributors, retailers and vendors was also identified as a major interest of the seed companies. It was also observed that mini-packets could have an impact on a wider range of farmers, boosting their total seed sales.

⁶ Mobile Seed Vendors (MSV’s) are traditional vendors who move around within rural local weekly markets with seeds in hessian sacks. They usually cater to a poorer clientele requiring less quantity of seeds.

Following this dialogue with the private companies, Katalyst saw strong buy-in from them to try out the mini-packets. These were defined as smaller packets with a smaller quantity of seed at affordable prices – enough to cover up to 0.03-0.04 of an acre of land (the packets usually produced by these companies cover around 0.2-0.3 acres of land). The mini-packets were introduced for 35 varieties of hybrid and open pollinated (OP) vegetable seed with the price ranging from USD0.03 (OP varieties) to USD0.25 (hybrid varieties)⁷. In addition, Lal Teer introduced the concept of a maximum retail price for a packet of seed, a first in Bangladesh.

2.3 Evidence of impact

The first season's sales target was a modest 100,000 mini-packets during the pilot. However, companies hugely overshot that target, selling 558,000 packets in six months. After a year, although AR Malik Seed had to close its mini-packet production due to internal restructuring, Lal Teer went on to sell 1.3 million packs. Initially, mini-packets were launched in 3 districts and then Lal Teer widely distributed the mini-packets to 55 districts after seeing the rapid sales increase.

Identifying the enormous customer-base of mini-packets, spread across 55 of the 64 districts of Bangladesh, and assessing the impact on them, was indeed a significant measurement challenge. A user tracking survey⁸ was conducted, covering 35 sub-districts, to identify the mini-packet users. This survey provided breakthrough in setting criteria to select control group⁹ against the treatment group¹⁰; the data collected was filtered in multiple stages to eliminate measurement errors and biases.

- The number of cumulative beneficiary households from mini-packet use grew from 236,000 to 339,000 and to 458,000 in three subsequent seasons in 2012. Repeat buying rose from 15 to 41 percent. Till December 2014, total 579,418 numbers of farmers have been benefited.
- An average beneficiary used the seed on an average of 0.03 to 0.05 acres of land; 80 percent of them lived below the USD2.50/day poverty line.
- At least 90 percent of the beneficiaries also used the produce grown from the mini-packets to feed their families; 40 percent of farmers used the mini-packets in home gardens, and there were over 100,000 women beneficiaries.

3 Learning from the intervention

- The mini-packets have also been successful in having a demonstration effect on peer farmers, be it small, medium, marginal, homestead or even large farmers. Mini-packets also enabled

⁷ An average regular seed packet would cost around BDT 90- BDT 150 (USD 1.17 to 1.95) which is usually used by medium to large farmers. Exchange rate: USD 1≈BDT 77

⁸ The measurement method applied was 'use of result chains to guide research design', 'difference-in-difference attribution' and 'multi-layer triangulation'.

⁹ Comparison farmers, who did not use any kind of quality seed packs (including mini pack)

¹⁰ User farmers, who used the mini-pack seeds

medium or large farmers to experiment with new crops. Farmers were also adopted to use better quality seeds.

- Homestead farmers were having access to quality seeds because of the appropriate sized products. Most of the homestead farmers were women, so it has a strong gender inclusion.
- Optimum utility from these packets has sometimes been hindered due to the limited knowledge of poor farmers and home gardeners on proper cultivation techniques for HYV and hybrid seed.
- A stronger distribution channel with appropriate product has a stronger impact on access rather than extensive demonstration and access. The company's own analysis showed growth of its mini-packets sale also contributed to the growth of their normal packets, which has grown by 35% since the introduction of mini-packets.

4 Way Forward

Even though it took nine months for Lal Teer to break even, within three months the company had started to invest in scaling-up the product line. This has created a huge pull-effect on other seed companies throughout the distribution channel, encouraging them to introduce different sizes of quality seeds that serve the needs of different farmer types.

In its new project phase, Katalyst aims to further scale-up the use of mini-packets by partnering with other seed companies and farmers' organisations. It will provide support to the companies to market and distribute mini-packets of quality vegetable seed, and work with farmer organisations and service providers to increase farmers' knowledge of better cultivation practices. This will include sharing Katalyst's experience in working with mini-packets to provide financial and technical support.

Katalyst is currently facilitating changes in packaging content, such as incorporating easily comprehensible know-how on sowing and cultivation. Another expansion plan is going on to increase awareness and availability of quality seeds in isolated chars through existing and alternative distribution channels.

“For this intervention, Katalyst won the 2014 OECD Development Assistance Committee (DAC) Prize for Taking Development Innovation to Scale”

Annex: Impact Stories

Bibi Julekha Khatun, Mini-packet user, Homestead Farmer, Char Bhuta, Bhola, Barisal

The mini-packs of quality seed, introduced in October 2011, have created an impact for women in distant villages by increasing their access to quality seeds. These women usually use self-retained or open seeds sourced from the market, which not always ensured quality and sufficient yields. Hence, there wouldn't be a significant excess produce that would give them the scope of earning an additional income. Without much promotion of these innovative mini-packs, it has reached the hands of female homestead farmers who now enjoy better yields and additional income from sales of the produce in the market. In Kharip-1 (early summer) this year, Bibi Julekha Khatun cultivated three mini-packs of Indian Spinach, a hybrid variety of Lal Teer Seed Ltd, in the front yard of their house. Without much awareness about quality seed, she expressed that the seed was of "good quality" as the yield was very good with good texture of the spinach leaves, nice color and good taste.



Bibi Julekha Khatun is a 60-year-old housewife from a village named Char Bhuta, in the sub-district Bhola under Barisal division. Being a housewife, she is mostly involved in household chores, taking care of her children and sometimes helping her husband out in farming in the homestead, sowing seeds, preparing seed bed, watering and cleaning during cultivation and even harvesting, like most of the women in her area. These women in such distant villages are highly involved in homestead cultivation of vegetables for self-consumption and selling excess either in the market or from their house, a rather quasi-example of subsistence economy. Like others in the area, she did not receive any training on farming techniques but rather acquired the skill through "learning by seeing and doing" with her husband. Her husband appreciates that she has some earning and acknowledges her support in work even though it is mainly in homestead. He discusses matters with her, shares ideas, and sometimes takes opinions especially for homestead, like what vegetable seed to fetch.

Within twenty days of sowing, she had the first harvest of spinach and was able to harvest for 3 months. In total, the household was able to sell around 10 kilos per month, giving away 10 kilos to neighbors and consuming around 12 kilos. Total sales revenue received was around Tk. 1500 by spending Tk. 60 on seed and Tk. 310 for other inputs. She conveyed that the Spinach variety fetched good price when sold in the market through her husband and thus both of them are interested in using the mini-packs again in the next season.