



Maize Cultivation Improves Income in Bangladesh

a mini case study

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Maize is the third most important cereal crop in Bangladesh. As maize has a high adaptability to the country's climate and soil conditions, it is a perfect match for fallow lands, river islands (chars), the Chittagong Hill tracks and the disaster prone coastal areas. The growing demand of maize for feed market adds to its profitability as a crop. Yet, the 570,000 farmers in Bangladesh who grow maize meet only 70% of domestic demand. The low supply of produce is rooted in low quality inputs, limited knowledge, wrong cultivation techniques and post-harvest losses.

Katalyst has been working in the maize sector since 2004. As maize has mainly been grown in the Northern regions of Bangladesh during the dry winter season, Katalyst together with seed companies started its intervention by supporting farmers with quality inputs, training and market access.

In this context, contract farming was successfully introduced so that, by 2013, 55 contractors were

collaborating with the seed companies and reaching more than 8,000 farmers. Since 2015, Katalyst started tackling the Southern disaster prone coastal regions of Bangladesh, introducing summer and winter maize cultivation in areas where fallow land has resulted in low income for farmers. Simultaneously, farmers in some parts of the Northern region interested in growing maize in summer and winter seasons, have been supported with quality seeds and trainings.

The Project

The Agri-business for Trade Competitiveness Project, branded as Katalyst, is one of the largest market development initiatives in Bangladesh. Working together with various market actors, the project generates new income opportunities for small and poor farmers across the country.

Katalyst is co-funded by the UK Government, Swiss Development Cooperation (SDC) and Danida, and implemented by Swisscontact under the umbrella of the Ministry of Commerce, Government of Bangladesh.

Addressing the challenges

For the last 25 years, the demand for maize as an input to produce chicken and fish feed in Bangladesh has grown manifold. Maize farmers achieve an average national yield of 7 tons per hectare. The country's overall maize production in 2013 was 1.6 million metric tons (MT), while studies claim that 5-9 million MT per year could be produced.

Constraints that hamper maize production varied between areas where maize cultivation was an established crop and new areas where it was in its early stages. It also made a difference whether winter or summer maize was grown. Katalyst defined four major bottlenecks that farmers were facing, namely lack of information services, limited access to finance, lack of access to appropriate quality input and support services, and the lack of access to forward market.

Farmers in Bangladesh's Northern regions used to plant rice in two summer seasons, a dry one in March-June, and a wet one in June-October. Maize was planted in the dry winter season from October

to February. Farmers had to deal with low quality inputs, limited access to markets and information, as well as inappropriate financial services. Some farmers cropped maize during the dry summer season. But they lacked appropriate seed inputs and support services, and did not apply fertilizer appropriately. Therefore, their summer maize yield remained low.

Due to cyclones and flooding, the coastal areas and the river delta of Southern Bangladesh are disaster prone and depend on subsistence agriculture. Only the cultivation of rice and beans has been commercialized. But fields are left fallow off-season, and many disaster aid programs have made people in this region rely on free of charge inputs and deliverables.

Since the market size is small, agricultural input companies do not provide as much assistance as in other areas. Hence, the limited number of market actors such as traders or seed retailers presented a critical challenge to the expansion of maize cultivation.

Vision for Maize Sector

Small farmers increase their income by taking up maize cultivation and improve competitiveness through higher productivity and better market access.



Contract Farming

Contract farming entails agricultural production based on an agreement between buyers and farmers. Katalyst connected maize buyers and input retailers to an international agribusiness company and a local seed company to promote quality seed and proper maize cultivating practices. Buyers and retailers became contractors to farmers, providing them with quality seed and knowledge on maize cultivation while farmers agreed to sell their yield to the respective contractor in return. This system gives both parties market security and makes investment less risky as there is a fixed income guaranteed.

Bringing about change

Katalyst has been promoting commercial maize cultivation since 2004. Commercial maize cultivation was encouraged through the promotion of quality inputs, information dissemination and associated support services in the Bogra, Jessore, Rangpur, and Rajshahi regions of Bangladesh.

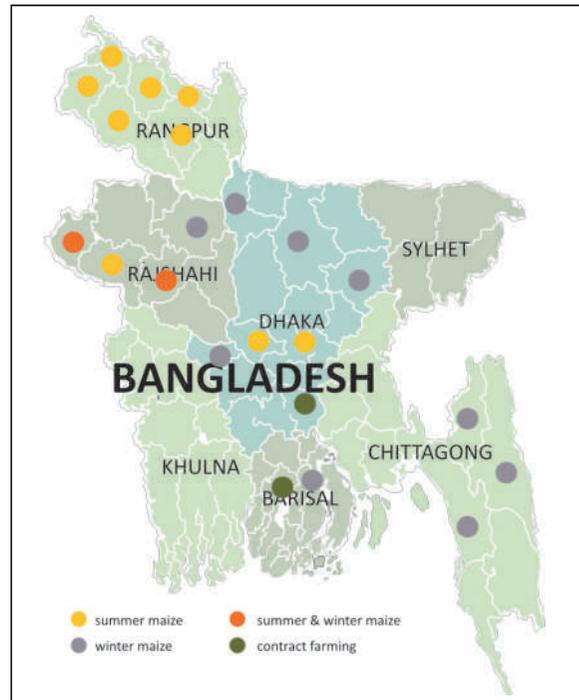
By the end of phase 1, Katalyst understood the vital role that forward market linkages and contract farming play in making maize cultivation more profitable for Northern maize farmers. This led to teaming up with international agribusiness company Syngenta and local seed firms CP and local seed firms Syngenta and KBP. Katalyst was able to introduce contract farming in the Northern regions. The project linked 30 maize buyers and retailers to the companies, ensuring

quality seed supply to the farmers and promoting proper maize farming practices. Through the connection of farmers, input retailers, maize buyers and companies, a stable marketing system could be established. Contractors create incentives for farmers to grow maize as they can be sure that their product will be bought, while contractors provide them with quality seed and knowledge input. Field days and trainings helped

link farmers with seed companies and feed mills.

Seeing the profitability of maize, farmers who had traditionally cultivated potatoes, wheat and mustard during the winter season now took up summer maize cultivation.

The Katalyst team supported this trend by facilitating the promotion of suitable seed varieties and information on summer maize by Syngenta and two other companies. As harvesting summer maize coincides with the



start of the rainy season, farmers learned how to use appropriate harvest, drying and storage technologies to reduce post-harvest losses as a result of wet produce.

In the Southern region, mainly rice was cultivated as staple crop and for home consumption. In the dry winter season, most of the fields were left fallow while some farmers grew lentils and vegetables for their families.

Katalyst currently introduces winter maize cultivation as a new crop to the area. The maize team has been setting up a whole network of seed companies, feed mills, input retailers and maize buyers, effectively creating a new market system. This intervention for the first time links Southern farmers and different stakeholders of the maize value chain so that an entire new communication system is established in the region.

Even though a maize market has been developed in Northern Bangladesh, the maize market in the South is still at an initial stage.

Farmers in both regions still face problems regarding limited access to finance. To overcome that obstacle, Katalyst teamed up with two banks since 2010 and developed a dedicated credit line that enable farmers to take loans for investment.

The scheme is linked to contact farming as a contractor and a group leader among farmers acts as guarantors to the loan at the bank. Access to loan services helps reduce farmers' out of pocket expenditures. This allows contractors to increase their investment portfolio as they no longer need to provide credit to farmers from their own sources.



"I have always planted maize during the dry winter season but my yields were never re-markable. In 2015, my farm was selected as a demo farm by Katalyst and Syngenta Seeds. I received better quality seeds and participated in a training on maize cultivation techniques such as timely application of fertilizer and irrigation. I cultivated the new maize variety on 120 decimals of land, achieving a yield of 4.8 metric tons. This year, I achieved a profit of BDT 37,000 which is three times more than I gained before. I will use the profit to purchase better input for my rice crop and hire laboureres to help me with field work.

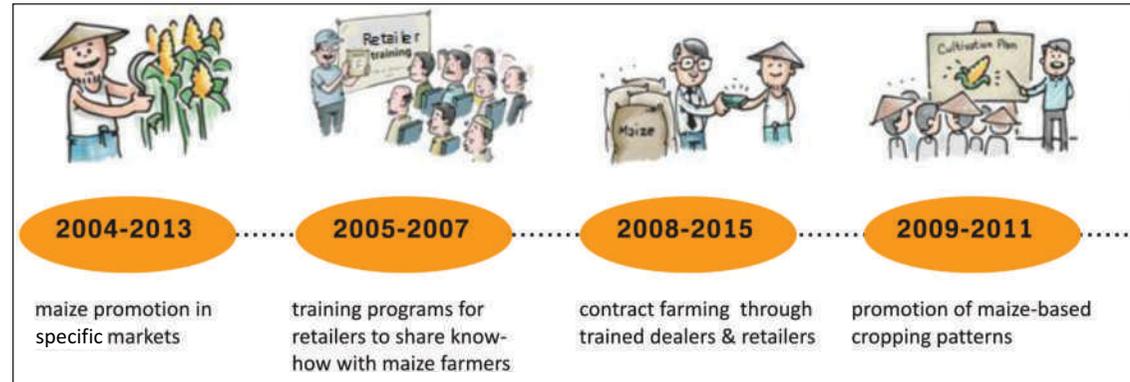
Md. Kamrul Islam, Kishoreganj

Evidence of impact

Katalyst has been working in the maize sector from 2004 until 2015. Together with seed companies, the maize sector team has been supporting farmers with quality inputs, training and market access in both Northern and Southern Bangladesh. In two Southern districts, contract farming was successfully introduced. The summer and winter maize interventions in addition to contract farming have gradually been able to overcome constraints such as low quality inputs, limited knowledge or wrong cultivation techniques that hamper domestic maize production:

☞ Farmers in the Northern areas of Bangladesh now have the possibility to cultivate either winter or summer maize. They are provided with high quality seeds and training. The income of farmers has substantially improved in comparison to periods when they either cropped vegetables, peanuts and chili or left their fields lying fallow in winter.

☞ In disaster prone coastal regions of the South, a market system for winter maize is budding that holds immense potential. This opens possibilities to introduce contract farming in the future and to further enhance market links between farmers, seed companies and retailers.



☞ Through contract farming, 65 contractors have been collaborating with seed companies and reached more than 10,000 farmers.

☞ Realising the key role that contract farming plays in expanding maize cultivation, Petrochem as a leading maize seed company is currently investing in the promotion of the contract farming model in the South. This is based on the understanding that stand-alone promotion of maize quality inputs would not

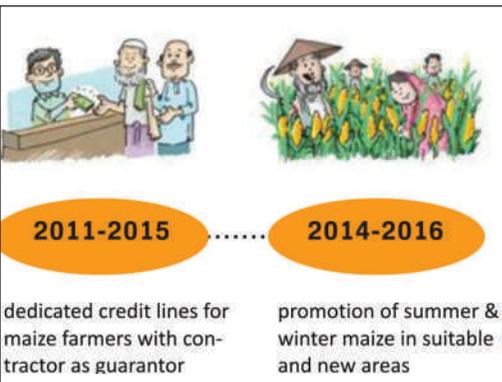
MAIZE SECTOR AT A GLIMPSE



result in successful cultivation of maize in the southern region.

Way forward

In the future, more companies in Bangladesh will be involved in a strong distribution network for maize and



the required inputs. These companies will work as service providers for farmers to help to increase their knowledge on maize cultivation through trainings and other inputs

such as farmer field schools and demo plots. Private input companies and feed mills will promote horizontal expansion of maize in new geographic areas and during summer season.

Farmers in the Northern regions will improve income generation through growing maize during the winter season. Land that has been fallow before in the Southern coastal regions can be used for maize cultivation, which leads to more stable income throughout the year. Katalyst will help establish a

traders network there and install a market information system. Communication among farmers and between farmers, dealers and retailers will be supported through seed companies that provide inputs and trainings.

The successful system of contract farming will be introduced in the South to sustain a stable market for input companies and farmers. The dedicated credit line could be modified to extend financing for the contract farming schemes.





Photo Credit: Wahid Adnan/Drik

Contact

Katalyst, House 20, Road 6
Baridhara, Dhaka 1212, Bangladesh
Phone +88 (02) 883 3172-4
Fax +88 (02) 883 5452

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