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VOICES
OF CHANGE



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FOREWORD

Katalyst, one of the largest market development projects in the world, has been working in Bangladesh for the past decade, successfully facilitating the private and public sectors to work together to improve services, inputs and product markets for the people of the country who live in poverty. As a result of these changed and improved services and systems, the competitiveness of farmers and small enterprises has increased, leading to inclusive economic growth and reduced poverty. The project has so far reached out to over 2.37 million farmers and small enterprises and increased their income by USD320 million. This is a clear demonstration that innovative public-private partnerships can contribute to reducing poverty and bringing about radical change.

Voices of Change brings you stories that are representative of the wide range of Katalyst's work across Bangladesh. The project uses the market development approach, which is an indirect way of working to change the existing market systems as a means to benefit the poor people. In these stories, the beneficiaries share with you the constraints they faced as well as the solutions they found to bring about radical changes in their lives. This has been possible because they have adopted some of the innovative services and products that Katalyst has introduced to them through local partners such as, where to find quality inputs like seed and how to use them, how to select and apply the right type and apply the correct amount of fertilisers, where and how to access relevant and accurate agriculture related information, how to successfully link to output markets in order to sell their produce on time and for a good price, and so on and so forth. These services or products have given people living in poverty new skills, knowledge, and information that helped them to increase their income and improve their living conditions. These families now eat nutritious food on a regular basis, and can fulfill their dreams of educating their children, build durable homes and live more securer lives.

We hope that these lasting impacts continue to bring positive changes to the lives of the beneficiaries as well as their family members, and that Katalyst continues to make many more such voices heard!

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Glossary

Char: island of silt in rivers.

Decimal: a unit of area; one decimal is equivalent to one hundredth of an acre.

Hajj: the annual Islamic pilgrimage to Mecca.

Kandhi: a unit of measurement for bananas, with 200 pieces making up a *kandhi*.

Kharif-1: the March-July season.

Kharif-2: the July-October season.

Lime: a calcium-containing inorganic material that improves phosphorus availability and enhances pond productivity.

Maund: a unit of weight; one *maund* is equivalent to 37 kg.

Metric tonne: a unit of weight; one metric tonne (MT) is equivalent to 1,000 kg.

Post-Larvae: a prawn farmer's "seed."

Rabi: the October-March season.

Sub-Assistant Agriculture Officer (SAAO): government officials who are appointed to cover an administrative district. They are usually placed under unions (several unions make up an *upazila* or sub-district). The size of the union determines how many SAAOs are placed there.

Upazila Agriculture Officer: government officials who are appointed to cover a sub-district; several *upazilas* form one district and on average, one district has eight *upazilas*.

USD: United States Dollar; USD1 = BDT76.

Uthan (courtyard) meeting: an informal meeting in the open space in front of the house.



Abbreviations

AWD	Alternate wetting and drying
BDT	Bangladeshi taka
CP	Charoen Pokphand Bangladesh
DAE	Department of Agricultural Extension
IBB	Improved bamboo basket
IPM	Integrated pest management
MT	Metric tonne
NSA	National AgriCare
PL	Post Larvae
SAAO	Sub-Assistant Agriculture Officer
RDA	Rural Development Academy
USD	United States Dollar

“I have a greater say in family decisions”

Monowara Begum
An empowered female prawn farmer



With the proper cultivation and harvesting techniques, prawn farming can be very profitable. However, most rural prawn farmers do not get the right information about the quality inputs and modern farm management practices needed to make their business a profitable one. Until a couple of years ago, Monowara Begum of Manirampur, Jessore in western Bangladesh was one of those who did not know about quality inputs and harvesting techniques. Monowara's husband is a day labourer and the family own a tenth of an acre (10 *decimals*) of land on which they grow rice, but the income it provided was insufficient for their needs. In 2009, encouraged by local aqua farming trends, Monowara and her husband leased a pond of about a fifth of an acre (20 *decimals*) and started prawn farming. However, lack of capital to buy inputs and lack of knowledge of prawn cultivation techniques meant that yield was poor.

In 2011, Monowara became involved in a women's community group set up by local input seller Chaity Fish and Feed. At that time, Katalyst and co-facilitator Winrock International were working together to engage and educate women to take lead roles in prawn farming, and they teamed up with Chaity Fish, through its proprietor Tapan Kormokar. Together they provided training for Monowara and her group members on prawn cultivation techniques. These included clearing the pond of accumulated mud, cultivating carp alongside the prawn, and using *lime*, parched rice, quality feed and other inputs. Participants were

also informed about how to grow vegetables around the perimeter of the pond. After learning these new skills, Monowara was able to look after the pond herself, without being dependent on her husband. Tapan provided Monowara with good quality prawn post-larvae (PL) and feed, and with the support of Katalyst and Winrock she established and supervised a demonstration (demo) plot in her pond. She released 2,000 PL in the pond, of which 1,550 survived, resulting in production of 150 kg of prawns, whereas the previous year she had released the same quantity, of which only half had survived and resulted in only 110 kg. By practicing what she had learned, Monowara also grew larger prawns, which she could sell at a higher price. Her production costs fell, partly because of the free feed she received for the demo plot, but also because she could do most of the work herself, meaning there was no second worker to pay.

An investment of BDT25,000 (USD330) brought Monowara a net profit of BDT53,000 (USD700), with which she bought a cow, four goats, nine ducks and 17 hens. In 2012, Monowara invested BDT60,000 (USD800) in prawn farming, more than twice as much as before. Her costs were more this year, but she still earned a profit of BDT44,000 (USD580), which she spent on her daughter's wedding.

Monowara's success not only means she can make a significant contribution to the household expenditure, but her husband is also freed up to

get more work as a labourer and earn extra money for the family. Financial benefits aside, Monowara feels that she has a better standing in her family, and is now able to play a decision-making role. Her achievements have also attracted the attention of the local media and in 2013 she took part in Radio Khulna's weekly agricultural programme *Chashabad*, where she discussed her success. She now aims to buy land to increase her prawn cultivation area and continue her son's education.



By December 2013, **1,121** female prawn farmers are expected to be trained on proper cultivation and harvesting techniques.

“Trying new agricultural methods has proven beneficial for me”

Md Musa Mia

Increasing cropping intensity gives high yield



In 2008, Katalyst and co-facilitator Winrock International started promoting a maize-based profitable cropping pattern through public-private partnerships in order to popularise maize cultivation in areas where the crop was not grown. They worked with the public agency Department of Agricultural Extension (DAE), which identified a suitable maize-based cropping pattern to increase cropping intensity and overall crop production in the area.

For the pilot project in Ulipur, Kurigram in northern Bangladesh, Katalyst and Winrock linked DAE with four private seed and pesticide companies to organise demo plots, farmers’ training, and field days to promote the maize-based cropping pattern identified by the DAE.

Musa Mia, a local farmer, attended one of the training sessions and learnt about a cropping pattern suitable for his area. After the training, he incorporated a short duration rice variety in his cropping pattern, which gave him enough time to grow maize and increase his cropping intensity.

Despite using the cultivation techniques, fertiliser and pesticide recommended by the trainer, poor weather meant that Musa’s first yield was lower than he had hoped and he produced only 1.3 MT (1,300 kg) of maize from half an acre (50 *decimals*) of land. His investment of BDT7,000 (USD90) brought him a profit of BDT14,000 (USD180). However, a year later he tried again and in the winter of 2009, he increased his area of farmed land to more than four-fifths of an acre

(80 *decimals*). He produced 2.4 MT (2,400 kg) of maize, which he sold for a profit of BDT27,000 (USD350). Since then Musa has cultivated maize every winter; in 2012 his output was again 2.4 MT (2,400 kg) but as the market price had gone up, his income increased to almost BDT38,000 (USD500).

Musa is delighted with his increased yield, and plans to grow maize on one acre (100 *decimals*) of land in the winter of 2013. He knows his success is because of the new agricultural methods he has adopted, and has encouraged 12 other farmers in the area to grow winter maize.

Musa invested his profits from maize cultivation in building a new house for his family, and plans to continue investing in his children’s education.



By 2010, eight training sessions were conducted in Ulipur, **200** farmers received information on new cropping patterns, and cropping intensity increased by three per cent.

“Using integrated pest management (IPM) gives me higher prices, and thus has increased my income”

Md Mujibur Rahman

Getting better vegetables through IPM



In April 2011, Katalyst and co-facilitator GMark Consulting partnered with bio-pesticide company Ispahani to increase awareness of IPM. One of the first activities undertaken was setting up a demo plot in Jibannagar, Chuadanga in western Bangladesh, to show vegetable farmers how IPM can be used as part of an ecological approach to pest control. IPM involves using resistant and tolerant varieties of seed, cultural control (clearing algae), mechanical control (anti-insect nests), biological control (beneficiary insects) and chemical control (pheromone traps, bio-pesticides and synthetic chemicals) in a compatible manner that is environment-friendly, and more effective and cheaper than using only chemicals.

Mujibur Rahman, a farmer whose land is right next to the demo plot, soon realised that the pheromone traps were extremely effective in reducing pest attacks. He bought nine traps and borrowed four more from his neighbour to protect his bitter gourd, pointed gourd and pumpkin crops. Between April-July 2011, Mujibur tried the traps out on more than half an acre (60 *decimals*) of land. He saved over BDT4,800 (USD60) by using less pesticide. His production of some vegetables doubled due to fewer pest attacks (which at times had destroyed 11 per cent of his crops), earning him an extra income of over BDT230,000 (USD3,000).

The following year, Mujibur got 48 pheromone traps from the local agricultural office free of charge, and in the 2012 *Kharif-1* (March-

July) season, used them to control pest on 200 *decimals* (two acres) of land where he grew bitter gourd. His pesticide costs decreased by nearly 75 per cent, production increased to 375 *maunds* (14,000 kg) through fewer pest attacks, and the quality of his crops improved. They had a good shape and colour, and were spotless and disease- and pesticide-free, enabling him to sell his produce for about eight per cent more than the market price.

Using pheromone traps saved Mujibur nearly BDT22,000 (USD300) on pesticide and increased his earnings by BDT51,000 (USD670), of which BDT30,000 (USD400) was from increased production due to fewer pest attacks and BDT21,000 (USD275) to the higher market price. In the 2012 *Kharif-2* (July-October) season, Mujibur again grew bitter gourd on a third of an acre (33 *decimals*) of land, which he sold for profits of BDT50,000 (USD660).

Mujibur is convinced of the benefits of IPM, and next season plans to use pheromone traps again. He is very happy with his increased income and plans to use the extra money to build brick and tin houses with sanitation facilities for his children and grandchildren.

By December 2013, more than **16,000** vegetable farmers are expected to use IPM technology to grow disease- and pesticide-free vegetables.

“I used trichoderma only once and realised its benefits immediately”

Rofiqul Islam

Reaping the benefits of using trichoderma compost



At the beginning of 2011, Katalyst and co-facilitator Innovision Consulting partnered with the Rural Development Academy (RDA) to promote the use of trichoderma compost among farmers. Trichoderma is a bio-agent that can be used to make compost with raw materials (such as cow dung, dead leaves, hay and kitchen waste) in just five weeks. In addition to this short turnaround time, compost produced with trichoderma is odourless, contains more nutrients, helps prevent plant disease and has more phosphorus than other forms of compost, making it more beneficial to crops.

Rofiqul Islam, a farmer from Mahasthangarh, Bogra, learnt about trichoderma from his uncle, who had attended a training session at RDA and got samples of trichoderma. After the training, a representative from Innovision Consulting visited Rofiqul’s uncle to supervise the use of the samples. Rofiqul observed the process and was eager to try trichoderma himself. He used the two samples (500 ml each) to make tricho compost in two pits, each measuring 2’X2’X20”, added leaves, hay, cow feed, sawdust and kitchen waste, and reduced the pits’ exposure to rain and direct sunlight to preserve the compost’s nutritional value.

Rofiqul produced 70 kg of compost, some of which he used to grow healthier and disease-free aubergines. He cultivated enough aubergines to supply his family of 16 for eight months, gave some to his neighbours and sold the rest. The market price was BDT100 (USD1.30) per *maund*

(37 kg) but he could sell his crop for double that, as his aubergines were fresh and disease-free. Innovision then got him 16 bottles of trichoderma from RDA, at a cost of BDT25 (33 cents) a bottle, with which Rofiqul was able to produce 45 *maunds* (1,700 kg) of compost which he used to grow rice, bananas, radish and cucumber.

He also used tricho compost on his rice crops, and harvested 88 *maunds* (3,200 kg) from just under an acre and a half (130 *decimals*) of land, the highest production in his area. His expenditure on other macro-nutrients was also reduced after starting to use the compost.

Next, Rofiqul applied tricho compost to his bananas. His input costs fell by a massive 82 per cent and his profits were BDT62,000 (USD800). His income from using tricho compost for radish and cucumber were BDT29,000 (USD380) and about BDT8,000 (USD100) respectively.

Rofiqul also earned BDT13,000 (USD170) by selling some of the compost he produced to a local shop, and in September 2013, three farmers from a neighbouring village bought 40 kg of compost from him and have become regular buyers.

Rofiqul believes trichoderma has the potential to be an effective yet cheap input for farmers and wants to sell tricho compost commercially in the future.



It is expected that by December 2013, around **3,000** farmers in the northwestern districts of Bangladesh will increase their income by using trichoderma for compost production.

“Spraying pesticides correctly has reduced my exposure to chemicals and improved my health”

Md Rezaul Haq

Reducing pesticide cost by adopting the safe and judicious use of pesticides



At the start of 2013, vegetable farmer Rezaul Haq participated in a training course, the *Safe and Judicious Use of Pesticides*, upon the recommendation of his fertiliser dealer Rana Biswas, and his area’s Sub-Assistant Agriculture Officer (SAAO) Abdul Hamid. The training, which was conducted by the Bangladesh Crop Protection Association in Chuadanga Sadar, Chuadanga in conjunction with Katalyst and co-facilitator GMark Consulting, was very helpful for Rezaul. He learnt about the correct way to use pesticide, like using a spraying machine and spraying the pesticide in the direction of the wind to avoid direct physical contact.

Other good pesticide spraying practices promoted at the training included wearing protective caps to shield the head and masks that protect the nose and mouth. At the end of the training Rezaul received a mask, cap, bag and poster detailing the correct way to use pesticide.

Participants were also advised to wash their hands with soap and water immediately after using pesticide, change their clothes, rinse the equipment after every use and store it where children cannot reach it.

Rezaul followed the trainer’s advice and burned the bags that held the pesticide containers, and chose a secluded spot near his field to bury the used containers in the ground.

According to Rezaul, using the spraying machine means there is less waste and his pesticide costs

have therefore gone down. Before the training he sprayed pesticide five times a month; this has gone down to three, leading to cost savings of about BDT2,000 (USD26) in three months. Rezaul’s health has also improved and he does not fall ill as frequently as before, which he now realises was caused by his incorrect use of pesticide.

Rezaul says he was “given useful information at the training” and is thus happy to share information about the safe and judicious use of pesticide with his neighbouring farmers. He has already inspired three of them to buy their own spraying machine, while four others borrow his.



By December 2013, more than **145,000** farmers are projected to practice the safe and judicious use of pesticides.

“Maize farming has transformed my life”

Zakir Hossain

The evolution of a successful entrepreneur



Zakir Hossain from Gobindaganj, Gaibandha in northern Bangladesh used to be a maize farmer. In 2002, he started trading maize and two years later Charoen Pokphand Bangladesh (CP), an international agricultural company, approached him to buy his maize.

In 2008, Katalyst and co-facilitator Winrock International approached CP to implement a maize contract farming system, where a contractor (usually an agro-input retailer or dealer, or a maize grain trader) forms farmer groups, provides them with technical knowledge, quality inputs, financial support, and guarantees buy-back for the maize at the market price.

Katalyst and Winrock introduced Zakir to five maize traders who were buying maize from farmers on the mainland and in the *char* (island of silt in rivers) areas and provided him with training on contract farming and technical knowledge on maize cultivation. Katalyst also facilitated Zakir to buy seed on credit from CP and to be among the first to sell them maize grain.

Katalyst and Winrock helped Zakir set up some maize demo plots to show the farmers the benefits of using quality seed, fertiliser, improved irrigation management and proper harvest technology. With their assistance, Zakir also formed contract farmer groups with 50 farmers and appointed maize grain traders as sub-contractors.

Zakir’s main objective was to ensure that his farmers supplied him with good quality maize. He provided them with agricultural information,

quality seed and fertiliser, along with a buy-back guarantee at the prevailing market price. Sometimes he also provided the farmers with loans or with credit to buy inputs.

This link with maize traders and farmers allowed Zakir to source more maize and in turn sell more to CP. He sold five MT (5,000 kg) of maize to CP in 2008, and seven MT (7,000 kg) in 2009.

In 2010, Zakir diversified into fish farming, investing his profits from maize in 23 ponds covering an area of 3,500 *decimals* (35 acres). Today, his fish farming business is highly profitable, earning him almost BDT2.5million (USD33,000) a year. He has also encouraged some of his maize farmers to start fish farming and buys from them to sell to wholesalers.

In 2011, Zakir sold 20 MT (20,000 kg) of maize to CP, earned over BDT140,000 (USD1,800), and won a trip to Thailand for being one of CP’s biggest suppliers. The next year he supplied 26.50 MT (26,500 kg) of maize to CP for a profit of over BDT318,000 (USD4,200). CP then sent him to India on an exposure visit to learn about new maize farming techniques, and in 2013 Zakir invested his earnings from maize farming in a fish hatchery business.

By December 2013, Zakir had expanded his maize contract farming to include 200 farmers. He credits maize farming for the drastic change in his livelihood, saying, “Since starting contract farming I get quality maize from my contract farmers, my reputation with my business clients has grown and

business opportunities with feed mills are better than before.” He is grateful to CP and Katalyst for introducing him to the contract farming system and to so many farmers, especially in the *char* areas, without which he could not have expanded his business so rapidly. His future plans include investing in a feed mill.

Zakir is very happy that he can provide a comfortable life for his family, and now sends his son to boarding school in Bogra. He is also proud to have financed *haji* (the annual Islamic pilgrimage to Mecca) for his parents.



By December 2013, around **8,000** farmers are expected to be involved in maize contract farming with the help of contractors like Zakir.

“My produce stays fresh and sells at a higher price”

Md Rafiqul Islam

Using improved bamboo baskets (IBBs) reduces post-harvest loss



Rafiqul Islam from Jessore Sadar, Jessore worked as a labourer for 11 years before investing his savings by leasing a small plot of land to cultivate vegetables. In 2008, the government SAAO introduced Rafiqul to Katalyst’s co-facilitator GMark Consulting, who were promoting the use of IBBs for farmers to transport their produce to the market.

GMark, with the support of Katalyst and the SAAO, held an *uthan* (courtyard) meeting in Rafiqul’s house to inform farmers about the benefits of using IBBs, which are smooth on the inside and have a sack or plastic lining that keeps the vegetables fresher and blemish-free. They also reduce post-harvest loss when the vegetables are carried from the field to the market. Although IBBs are more expensive than traditional baskets, they are more cost effective in the long run: the latter need replacing after about three months while IBBs last for more than a year. IBBs are made with stronger bamboo, making them more durable, and have handles that help the users get a good grip, thereby reducing the possibility of breaking easily. Looking after the IBBs properly (for example, keeping the baskets dry) also improves their durability. So, although a traditional bamboo basket is about 17 per cent cheaper than an improved one, over time Rafiqul would spend less by using IBBs: BDT240 (USD3) on IBBs in a year, as opposed to over BDT800 (USD10) on traditional bamboo baskets over the same period of time.

In the past, about 20 per cent of Rafiqul’s harvest was wasted because of his use of traditional bamboo baskets; since 2009, this has been reduced to two per cent by using IBBs. Because his vegetables arrive at market fresher and in better condition, he can sell them at a higher price. For example, during the 2012-13 *Rabi* (October-March) season, Rafiqul sold 150 *maunds* (5,550 kg) of cauliflowers for BDT3 (four cents) more per kg than the prevailing market price, and earned an extra BDT17,650 (USD220).

In the 2013 *Kharif-2* (July-October) season, Rafiqul grew 60 *maunds* (2,200 kg) of aubergines. Again, using IBBs to transport his vegetables to market kept them fresher for longer, and he earned nearly BDT6,600 (USD90) more than other vegetable farmers. In total, Rafiqul earned about BDT23,000 (USD300) from using IBBs, on top of his cost savings from reduced post-harvest loss and being able to use the IBBs for several seasons. He plans to continue using IBBs, and will use his extra income to finance his son’s education. He has also invested in fixed deposit schemes for both his son and daughter’s future.

By December 2013, around **66,000** farmers are expected to use IBBs to transport vegetables.

“Alternate wetting and drying (AWD) is a useful technology that farmers need to know about”

Md Asadur Rahman

Innovative new technology reduces costs and increases income



Asadur Rahman is a rice and vegetable farmer, who lives in Sherpur, Bogra in northwestern Bangladesh. In 2009 he grew 10 *maunds* (370 kg) of rice on 16 *decimals* (less than one-fifth of an acre) of land, which he had to irrigate 17 times. His production cost was about BDT2,000 (USD30) and revenues were BDT8,000 (USD100). He is also a water seller, and can influence the irrigation practices of the farmers who are his customers.

In 2010, Katalyst and International Development Enterprises partnered with local input suppliers and pump manufacturers to encourage and train farmers to use the AWD device. It measures the water level in the ground and helps rice farmers decide the most effective time for irrigation. The use of this device can reduce irrigation frequency by 30-50 per cent and save cost without affecting yield.

At a training session, Asadur learnt how to use the AWD device, how often the land needs irrigation, the amount of water to apply per irrigation and other essential information related to irrigation for rice cultivation. Katalyst and its partners also helped Asadur set up a demo plot so that he could use the AWD device himself and show other rice farmers its benefits.

The same year, Asadur used the AWD device on his own rice crop and reduced his production cost by 50 per cent. He also increased his production to nearly 16 *maunds* (600 kg) by irrigating the land only 12 times (30 per cent less than the previous year) and earned BDT11,000 (USD140).

In 2012, he grew rice on 200 *decimals* (two acres) of land and produced over 55 *maunds* (2,000 kg), earning BDT33,000 (USD430) in the process. By using the AWD device he saved on water, fuel and labour costs.

Some of Asadur's neighbours have been encouraged by his success to use the AWD device. However, Asadur feels that more farmers would adopt its use if they received some training.

With his cost savings and increased income from using the AWD device, Asadur plans to finance his son's education.

By December 2013, around **1,700** farmers are expected to use the innovative AWD device.



“Using micro-nutrients has helped me increase my profits”

Md Shahadat Hossain

Fertiliser training shows the way to increased production and getting more nutritious produce



In 2010, for the first time during his 45 years of farming, Shahadat Hossain experienced a unique problem with his rice crop, which was dry, turning yellow and developing spots. He discussed the problem with the dealer from the agro chemical company National AgriCare (NSA) in his hometown of Shailkupa, Jhenaidah in southwest Bangladesh. The dealer invited him to a workshop conducted by NSA with the support of Katalyst and its co-facilitator Innovision Consulting, on the benefits of using balanced fertilisers and micronutrients.

In the workshop, Shahadat discovered that his crop was suffering from zinc deficiency. He and the other participant farmers also learned that introducing micronutrients like zinc and boron into the soil during cultivation would increase production, reduce dryness in the crop, and make them more nutritious, plumper, shinier and spotless. Shahadat also found out that spraying fertiliser directly on to the vegetable leaves gives immediate results, whereas spraying the soil means that plants need two days to absorb the nutritional benefits.

After the workshop, when Shahadat used balanced micronutrients and fertilisers for the first time in 2011, his rice production increased by 33 per cent and his lentil production doubled. In 2012, he also used zinc to grow bananas on 70 *decimals* (sevenths of an acre) of land, with the result that they were plumper and spot-free. His total production was 500 *kandhis* (a unit of measurement for bananas, with 200 pieces making up a *kandhi*),

and by investing BDT3,000 (USD40) in zinc he sold the bananas for BDT110,000 (USD1,400).

In the same season, Shahadat grew rice on 130 *decimals* (1.3 acres) of land. He spent BDT600 (USD8) on zinc and boron to put on his rice. His production increased by 12 *maunds* (444 kg), bringing him additional profits of more than BDT10,000 (USD130).

Shahadat is very happy with his increased good quality produce and more profits, and has passed the information to other farmers, advising them to follow his example and use micronutrients. He is using the extra income to pay for his children's education, and is keen to get more training on new farming techniques so that he can adopt the most modern approaches and always stay ahead.



By December 2013, **9,000** farmers are expected to have increased their income by using micronutrient fertilisers.

“Growing more vegetables has increased my income”

Sree Rajendra

Increasing vegetable-based cropping pattern and cropping intensity helps grow crops all year round



In 2010, Katalyst and co-facilitator GMark Consulting partnered with SHARP, a microfinance institution giving out agricultural loans to small farmers, to train SHARP’s members on how to adopt more profitable vegetable cropping patterns, increase cropping intensity, and use improved cultivation techniques to increase productivity.

One of the participants was Sree Rajendra, a farmer and labourer from Saidpur, Nilphamari in northern Bangladesh, who had been a SHARP member for seven years. The year before the training, his income was just over BDT11,000 (USD140) from growing and selling his chili, cauliflower, tomato and rice crops, and BDT25,000 (USD330) from his work as a labourer. After meeting his family’s living expenses, he had saved only BDT6,000 (USD80). On the *Profitable Cropping Pattern and Modern Vegetable Cultivation Technology* training course, which was organised by SHARP with the support of Katalyst and GMark and conducted by the local *Upazila* Agriculture Officer, Rajendra learnt about which vegetables he could grow most profitably, vegetable cultivation technology, seed germination, and how to obtain and use quality seed.

After the training, Rajendra changed his cropping pattern. He grew bitter gourd, spinach, cauliflower, potato and rice, and earned just over BDT15,000 (USD200), increasing his savings by around 67 per

cent. In 2011, he increased his cropping intensity and grew more crops, namely spinach, coriander, okra, cauliflower, potato, chili, cucumber and rice. His income subsequently increased to nearly BDT34,000 (USD450).

In 2012, Rajendra participated in another training, where he learnt about how to identify quality seed, the benefits of using it, and the appropriate pesticide to use for specific agricultural problems. After putting this knowledge to work, his income tripled to almost BDT104,000 (USD1,400).

With his extra income, Rajendra partly repaid a loan he took to buy some extra land for rice cultivation as well as bought two cows. He now has money to send his children to private school and has come a long way from the days when he relied on loans. He has moved on from growing a few crops, often facing losses, and – like many other farmers in the area – being unable to repay the loans. He credits knowledge of cropping patterns and cropping intensity with his change in fortune, and declares that, “We no longer live in extreme poverty. Now, if we can grow crops all year round, we can earn enough to live a decent life.”

By December 2013, more than **7,000** farmers will be benefitted from increasing their vegetable cropping intensity.



“I can now realise my dream of making my son a doctor”

Md Gias Uddin Khan

Cultivating new fish species brings extra income



Md Gias Khan had been a fish farmer for 23 years, cultivating carp species like rohu, catla and mrigal. In July 2011 he took part in a training session on improved fish cultivation techniques for new fish species such as mono-sex tilapia, pangas (yellowtail catfish) and koi, held in his hometown of Mirpur, Kushtia in western Bangladesh. The training was organised for 40 selected customers by aqua chemicals company Fishtech in collaboration with Katalyst and its co-facilitator Innovision Consulting.

During the training, Gias learnt about cultivation techniques, such as the importance of keeping the pond clean, elevating the embankment so that the pond water does not overflow, and using feed correctly. Shortly afterwards, as part of an exposure visit also organised by Fishtech in association with Katalyst and Innovision, Gias visited Jessore in southwest Bangladesh, to see how fish farmers there were using the knowledge they had acquired from training sessions. Inspired by their success, Gias started cultivating mono-sex tilapia in a leased pond of 60 *decimals* (just over half an acre). He invested BDT135,000 (USD1,800) in 15,000 fingerlings, of which only five per cent died (for carp the rate can be as high as eight per cent). Gias made BDT90,000 (USD1,200) profit, which is 10 times more than he made from cultivating carp.

These increased profits were partly due to increased productivity - Gias can cultivate three batches of mono-sex tilapia per year, compared

to only one batch of carp. Cultivating more frequently also spreads the risk of loss from the fish being washed away by rain or flood water.

In 2013, Gias leased four ponds for fish cultivation, with a combined area of more than 1,250 *decimals* (12.5 acres), and by August had made almost BDT1.70 million (USD22,400) profit. His success has inspired other farmers who attended the Fishtech training to cultivate mono-sex tilapia.

Gias believes that fish farming can be very profitable, provided farmers get access to financial support from government. He re-invested some of his income into the business and has started to rear cows. He is also building a bigger brick house and plans to send his son to medical school.

By December 2013, more than **7,500** fish farmers are expected to use their knowledge of improved aquaculture techniques to start cultivating new fish species such as mono-sex tilapia, koi and pangas, to increase their income.

“I have never incurred a loss from growing maize”

Mosammat Bilquis

Maize contract farming and dedicated credit line helps farmer grow more maize



Maize is the third most important cereal crop in Bangladesh and a highly viable way to provide poor farmers with high profits. It is high-yielding, rich in nutrition, can be cultivated year-round and has a variety of uses. An added advantage is that a large number of women work in this sector, making it a significant contributor towards Katalyst’s goal of reducing gender inequality.

In 2008, Katalyst was working with CP, an international agricultural company (which sold quality maize seed and guaranteed to buy back the maize crop) and Rubel Ahmed, a maize contractor who provided quality maize seed and technical knowledge to farmers, bought back the maize grain from them and sold it to CP. Rubel decided to increase his farmer base by assisting the women who were working as labourers in the maize fields to become contract farmers. He organised them into groups, appointed group leaders, trained them with the help of Katalyst and its co-facilitator Winrock, and supplied them with quality maize seed on credit and other loans. He also bought back the maize they produced at the prevailing market price.

When Rubel’s farmer base increased, finance became a critical issue, since he had limited capacity to provide credit to his farmers. At the same time, farmers in remote areas had limited access to loans from financial institutions, as they could not provide the necessary collateral. So Katalyst, along with co-facilitator GMark

Consulting, partnered with Agrani Bank and National Credit and Commerce Bank to launch a pilot project whereby the banks would give loans to farmers through a dedicated credit line at subsidised interest rates of four per cent. The pilot project was a success and the two banks are now giving agricultural loans to farmers at agricultural loan rates.

Mosammat Bilquis was one of the day labourers whom Rubel encouraged to start maize farming. She bought seed, fertiliser, pesticide and other agricultural inputs from him and sold him the maize she produced at a fair market price, which she verified from her neighbouring farmers.

In 2011, Bilquis grew over 150 *maunds* (5,550 kg) of maize, which she sold for BDT61,000 (USD800), while the next year she grew 115 *maunds* (4,250 kg) of maize from which her revenue was about BDT80,000 (USD1,000). At the start of the season she got a loan of BDT15,000 (USD200) from Agrani Bank, which she returned a month before it was due.

After five years of cultivating maize, Bilquis has never incurred a loss from growing the crop. She has invested her profits, bought two cows and financed her daughter’s wedding. Bilquis wants to continue growing maize and to earn enough to buy land on the mainland to cultivate maize and to build a house.



By December 2013, around **170** women are expected to be involved in maize contract farming through four contractors in the three districts of northwestern Bangladesh where Katalyst works.



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