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Balanced Fertiliser Use for Higher Yields and Income

a mini case study

Implemented by



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Balanced Fertiliser Use for Higher Yields and Income

The agricultural practice in Bangladesh underwent major changes in the past years. Instead of cultivating regular variety of crops, Bangladeshi farmers are now producing high-yielding varieties by using agricultural lands for 3 or 4 crop rotations. Though this intensive production practice has increased overall productivity in the agriculture sector, it has contributed to extreme depletion of soil health and fertility by taking up essential mineral nutrients from the soil. To sustain the nutrient rich soil content and ensure higher yields, a balanced usage of fertiliser is becoming critical; however, many farmers in Bangladesh are not aware of benefits of balanced fertilisation and follow an inappropriate dosage of fertiliser. They are inclined to overuse macro-fertilisers and underestimate benefits of micro-nutrients and compost.

Katalyst has been facilitating awareness raising on the importance of balanced fertiliser application in Bangladesh since 2006. In the third phase, Katalyst focused heavily in promoting micro-nutrient fertiliser under its co-facilitation partnership with Innovision Consulting Ltd and facilitated

multiple private input companies through sub-facilitation and partnership grants in order to improve capacity of their staff, integrate customer orientated business model by improving their existing manuals, build capacity of retailers on balanced usage of fertiliser and motivate and make farmers aware to use balanced usage of fertiliser in their cultivable lands. Together with Innovision Consulting, Katalyst raised awareness among private input companies about the potential of market of micro-nutrients in Bangladesh

The Project

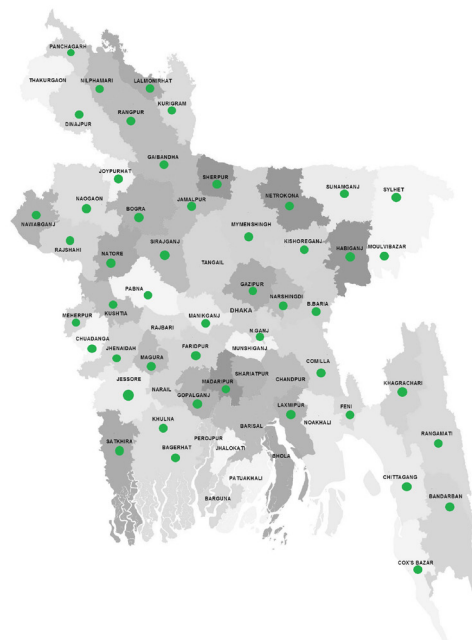
The Agri-business for Trade Competitiveness Project, branded as Katalyst, is one of the largest market development initiatives in Bangladesh. Working together with various market actors, the project generates new income opportunities for small and poor farmers across the country.

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.

and organized extensive awareness raising trainings for farmers. Taking part in the trainings, Bangladeshi farmers understood the importance and benefits of balanced usage of fertiliser and those, who practiced the application of balanced fertilisation techniques, have experienced significant yield increases amounting to additional monthly income of BDT 5,115. Assessments show that around 400,000 farmers were accessed with the information on micro-nutrient usage and benefits of balanced application of fertiliser.

Challenges faced in the sector

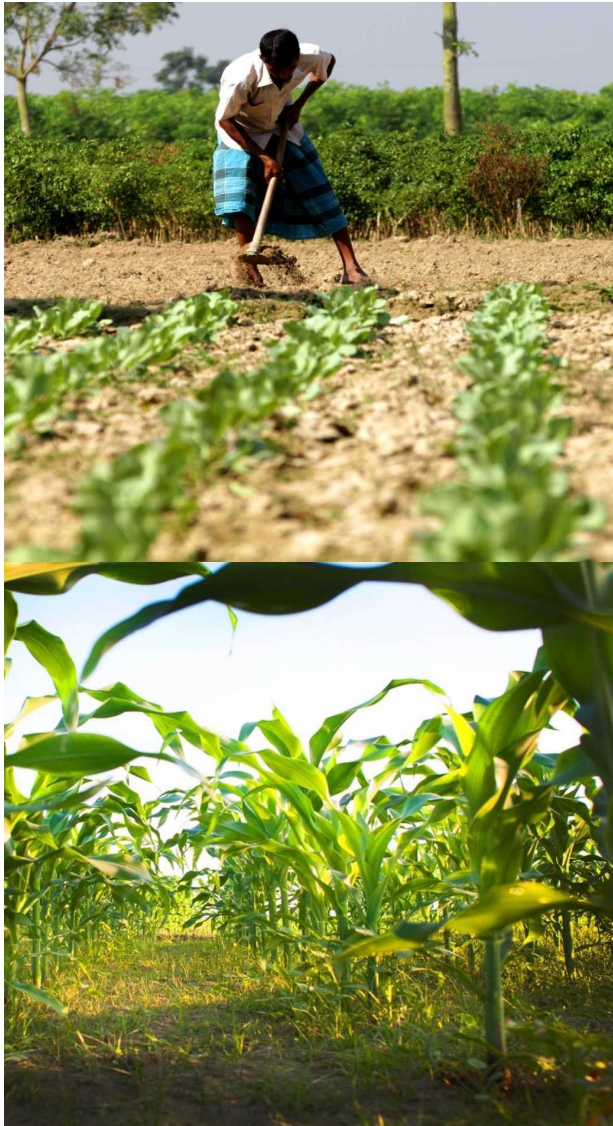
Appropriate selection and balanced usage of fertilisers is an important prerequisite in obtaining higher land productivity in growing vegetables and maize. However, farmers in Bangladesh are suffering from low land productivity and profitability due to inappropriate practices of fertilisers. Excessive farming and over application of macro



-fertiliser, especially urea/nitrogen, is damaging the soil fertility and contributing to lower yield. In order to ensure the soil health, fertility regeneration and ideal yield, the organic matter content of soil must be maintained at 5%. However, the organic matter content in Bangladesh's soil stands in most of the cases at less than 1%.

Currently, farmers in Bangladesh typically practice imbalanced fertilisation with over-usage of macro-fertilisers and under usage of micro-nutrients and compost. The reason of improper application of fertiliser is that farmers do not understand the benefits of practicing balanced dosage and are not aware of what constitutes a balanced dosage. Additionally, the high prices of micro-nutrients in comparison to macro-fertilisers, limited availability of micro-nutrients in smaller pack sizes and lack of supply to small scale or marginal farmers in remote areas reduce the demand by farmers for micro-nutrients in the market.





Apart from the farmers' lack of knowledge, the private input companies do not conduct balanced application of fertiliser specific campaign as they are not sensitized about the benefits of providing embedded information on balanced fertilisation. The current marketing strategy of many input companies concentrates mainly on disseminating information on their product portfolio, and mostly on pesticides. Micro-nutrients are less profit generating products as they move very slowly compared to pesticides and macro-fertiliser in the current market scenario. Therefore, the benefits of promotion of micro-nutrients for many input companies are not apparent and they lack motivation to share resources and getting involved in developing the market through training for retailers and farmers.

In this regard, Katalyst realized the need for immediate action towards developing the fertiliser market. Katalyst demonstrated to the private companies, if farmers understand the benefit of using balanced fertilisation, it will eventually lead to the growth of micro-nutrients and compost market and they can develop a sustainable and profitable portfolio.

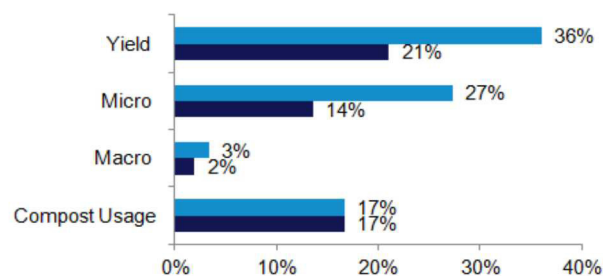
Bringing about change

In triggering a sustainable change in the fertiliser market in Bangladesh, Katalyst followed a market development approach and reached out to country's distinguished agro input companies such as ACI, NAAFCO, Syngenta, Auto Crop Care Ltd., Intefa, Haychem Bangladesh and Petrochem Bangladesh Ltd to partner with on joint promotional activities on balanced fertiliser. After profound awareness raising works organized by Katalyst and Innovision Consulting on potential market for micro-nutrients and its commercial benefits among input companies, the private companies have understood that they can expand their overall sales through effective promotional activity and have become intrigued to take active part in promotional activities on balanced fertilisation among farmers.

In this regard, with the assistance of Katalyst and Innovision, the private companies have updated their training modules and integrated in their training materials the concept of maintaining appropriate dosage of micro-nutrients for better crop production and land productivity. After updating the training materials, the partner companies trained their own marketing and field staff, who in turn organized trainings, demonstration

plots, farmer field days and NGO meetings for farmers and retailers. Special attention was given to train input dealers and retailers on the use of balanced fertiliser, since they play an important role in information sharing and considered to be the most accessible and reliable source for agriculture input related information for farmers in remote areas. Besides, some selected farmers have been trained directly by the company staff so that the reduction of overdependence of farmers on macro-fertiliser is ensured by receiving reliable information also from the first source.

Increase of Yield and Fertiliser Use



Through organizing the awareness raising activities both for retailers and farmers, the project aimed to ensure that farmers are able to get accurate information on land preparation, better fertiliser management practices, quality seed selection and plant protection measures like dis-

ease (nutrition deficiency symptoms) from different sources that motivate farmers towards practical application of balanced usage of fertiliser. All in all, around 391,000 farmers were accessed with the information on micronutrient usage and benefits of balanced application of fertiliser.

Evidence of impact

The farmers, who received information on balanced usage of fertilisers and applied it into their crop production practices, have realised immediate increased yield performances and an additional income. For instance, if the farmers received 1,600 kg/acre yield and BDT 55,500/acre profit on average before the intervention, after application of balanced fertilisation, they have received 2,000 kg/acre yield and BDT 94,500/acre profit. Out of 91,047 farmers using micronutrient at regular basis, 61,042 farmers have realised an average additional monthly income of BDT 12,414. Besides, using the balanced dosage of micro-nutrients, farmers experienced other added performances of their produced crops such as stronger plants and improved soil health, reduction of pest attack or disease rate and better quality, size and shape of crops than before. Seeing these positive effects of balanced dos-



Partner's Voice

"After joining Katalyst the quality dimension of our product promotion has changed. We started to plan everything and conducted the promotional activities in a timely manner. With Katalyst, we did the awareness raising not only as farmers' level but also at retailers' level. Since then the farmers also in remote areas are reached and our sales are increasing".

*Mr. Subir Chowdhury
from NAAFCO*

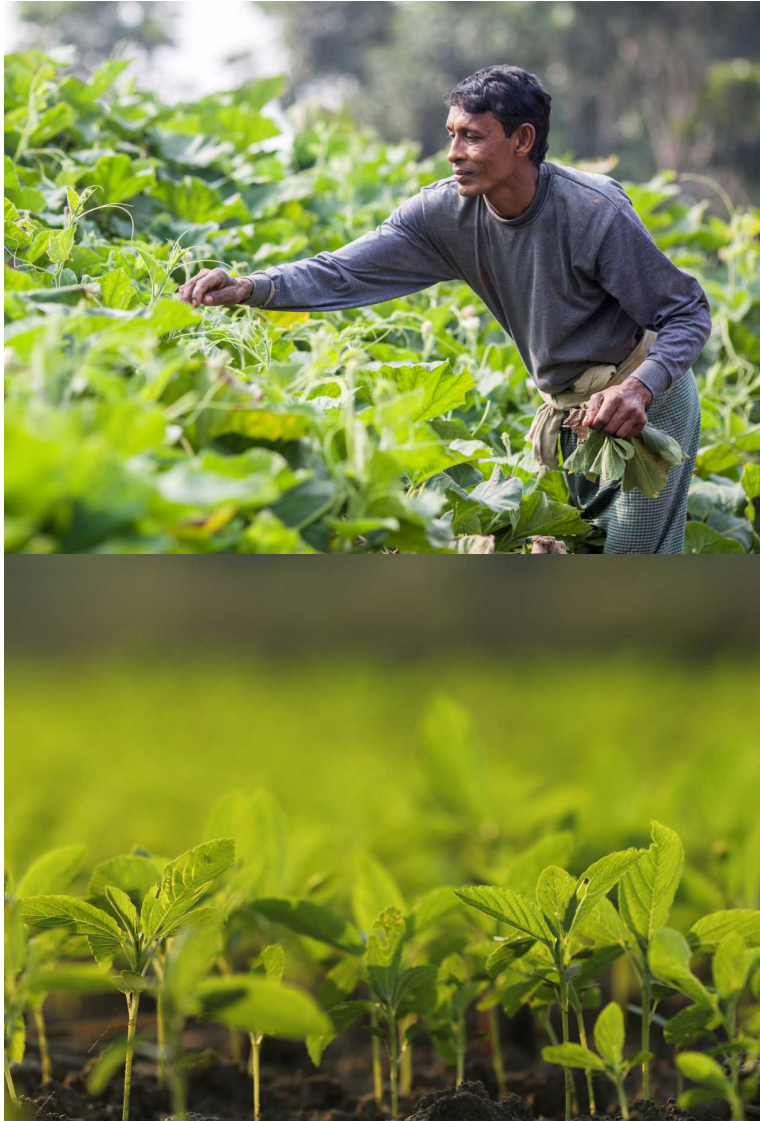


ages, farmers changed their previous practice of using an unbalanced mix of fertilisers.

At retailer level, the trained dealers and retailers have begun to disseminate the knowledge on the importance of balanced fertilisation to the farmers. The retailers are now keen to provide farmers with detailed suggestion on better input selection and usage. Previously retailers have thought that they have more profit by selling macro-fertilisers and pesticides, and thus promoted only macro-fertilisers and pesticides to the farmers. After the awareness raising campaign of Catalyst, the retailers are promoting the balanced dosage of fertiliser including micro-nutrients and compost as they have become aware that through promoting macronutrients, micro-nutrients and compost they can gain more profit than just promoting pesticides and macro. Their overall profit has increased because giving crop-specific and deficiency-specific, useful information to farmers, the retailers have built a better relation with them and this helped increase their customer base. The most important thing that the retailers have learned from the training is that they now understand that they can have a direct influence on their sales increase by giving useful information to the farmers.

Also, the private input companies enjoyed significant increase in their sales by promoting the information on balanced fertilisation both to farmers and retailers. The balanced fertilisation helped farmers and retailers to increase their income from higher yield and better quality crop that in turn led to opening of a new input market and more sales for private input companies. For instance, Petrochem has increased its annual sales of micro-nutrients to 33%, Syngenta to 17%, ACI Agro Limited to 27%, Haychem to 23% and Auto Crop Care to 31%. Besides, the private input companies understand that through training of retailers, they can reach farmers more effectively and efficiently. If previously they have disseminated information directly among farmers, they have witnessed the benefits of promoting information to farmers via retailers after the training, and they are now keener to involve retailers in disseminating information on fertiliser usage.



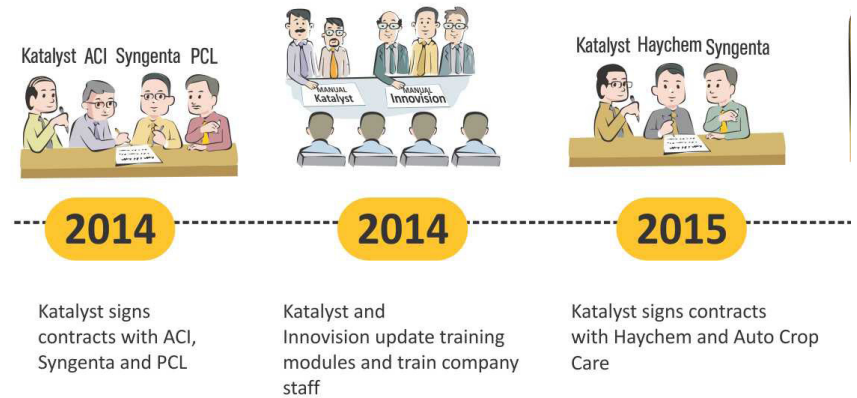


Scaling up/way forward

The future potential of this intervention is looking promising as the private input companies are planning to continue to disseminate promotional materials on balanced fertilisers and are proactive to carry out the intervention on their own, as the micro-nutrient market is gradually growing in Bangladesh. They are acknowledging the practical and financial benefits they have gained by engaging with Katalyst and willing to take more ownership on promoting balanced usage of fertilisers. Initially, the private input companies agreed to enter into partnership with Katalyst on a lower cost sharing basis. After seeing the positive results of the trainings, they have agreed to increase their cost contribution in the pro-motional activities.

For example, Syngenta shared 45% cost in the first year (2014) during Rabi season whereas, in the second year (2015) they have agreed to contribute 55% of the total allocated budget for the intervention. Other partners such

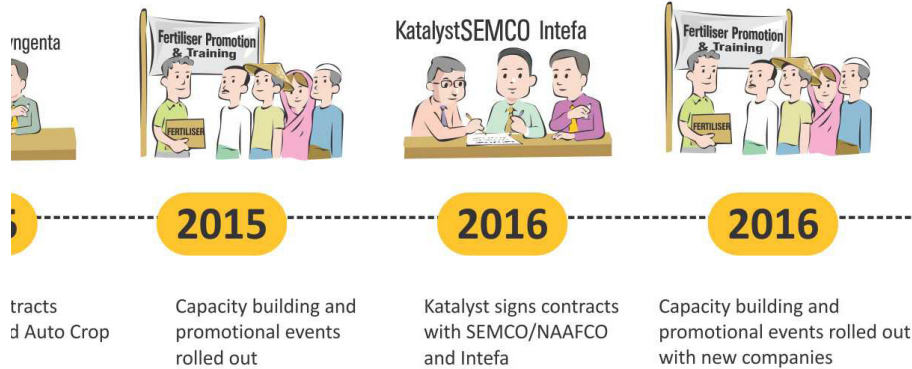
as Haychem and Auto Crop Care also agreed to increase their share after witnessing immediate effects of their work with Katalyst. Haychem shared 40% share in the first year (2015) during Rabi season, whereas in the second year (2016) they have agreed to contribute 60% to the project intervention budget.



Besides, the private input companies have invested further on reprinting and distributing additional number of promotional materials and reference books to farmers and retailers.

Haychem and Auto Crop Care are using the training modules developed by Katalyst for capacity building of company staff in other areas beyond project support and intend to reach out to more farmers with information on usage and benefits of balanced fertilisation. As a result of extension of intervention activities

and avoiding over application of macro fertilisers in agricultural practice, thereby contributing to improving soil health and fertility.



by the private input companies, more and more farmers are becoming aware about the benefits of balanced usage of fertilisers. Slowly but steadily they are changing their behaviour

