



Improving Public Agricultural Extension Services in Bangladesh Using the M4P Approach



Case Study number 7
The KATALYST cases

Improving Public Agricultural Extension Services in Bangladesh Using The M4P Approach



The KATALYST cases
Katalyst: Case Study No. 7
Daniel Nippard
October 2014

Foreword

The context

The economy of Bangladesh is primarily agrarian, with the agriculture sector accounting for about 19% of the Gross Domestic Product. The performance of agriculture, as a sector, has an important bearing on employment generation, food security and poverty alleviation, supporting the livelihood of over 25 million rural households (BBS, 2012). The productivity and yield of these farmers are heavily reliant on public and private agricultural extension services. Despite being the largest and the most credible source of extension services, the public extension offices are often unable to meet the extension needs of the majority of farmers within their mandated territory. This lack of access to services affects the overall farming output and puts small farmers in face of challenge. Thus their ability to move up towards economic success is compromised and many of them are eventually tied in poverty.

The project

Agri-Business for Trade Competitiveness Project (ATC-P), branded as Katalyst, is a market development project that aims to contribute to increasing the income of poor men and women in rural Bangladesh. The project does this by making services, input and product markets more accessible for the rural population. This helps in increasing the competitiveness and income of farmers and small enterprises. The project is implemented by Swisscontact under the Ministry of Commerce of the Government of Bangladesh. Currently Katalyst is in its third phase (March 2014 – March 2017) which is jointly funded by the UK (UKaid), Swiss Agency for Development and Cooperation (SDC), and Danish International Development Agency (DANIDA).

The case studies

In an effort to inform the wider development community about ‘what we do, how do we do it and the resulting impact it creates’, Katalyst has created a series of case studies. These studies analyse the perspective from which a market development approach can benefit the poor and the challenges it faces in its course of implementation. As for any sector in which Katalyst works, the primary reason for working in “Improving Local Government Services (ILGS)” was its relevance to the poor and growth opportunity for them. The interventions were designed to address the underlying causes of the constraints that affect the performance of the extension service delivery mechanism and the subsequent hindrances faced by farmers in rural Bangladesh. This case study illustrates Katalyst’s experience in terms of designing intervention ideas, testing them in small scale, route towards achieving scale and associated challenges, and how poverty reduction can be attained by better collaboration between the public and private sectors.

I would like to thank Daniel Nippard from the Springfield Centre who is the main author of this document. I also would like to give special thanks to Shahnewaz Karim, Nasir Uddin Ahmed and Mohasin Kabir of Katalyst who have given valuable contribution in preparation of the case study.



Markus Ehmann
General Manager
Katalyst



ABBREVIATIONS LIST

ILGS	Improving Local Government Services
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoF	Department of Fisheries
PPI	Public Private Initiative
SAAO	Sub Assistant Agriculture Officer
VFA	Veterinary Field Assistant
UAO	Upazila Agriculture Officer
UFO	Upazila Fisheries Officer
ULO	Upazila Livestock Officer
UZBMO	Upazila Business Membership Organization
BADC	Bangladesh Agriculture Development Committee
NAEP	National Agriculture Extension Policy
AEC	Agriculture Extension Component
NGO	Non-Government Organization
NATP	National Agricultural Technical Project
ICM	Integrated Crop Management
IPM	Integrated Pest Management





PHOTO: SHAHNEWAJ KARIM

TABLE OF CONTENTS

1. What is the nature of the problem that poor farmers are facing	7
1.1 Limited access to information important to their livelihoods	8
2. Why was it necessary for Katalyst to intervene in the public agricultural extension system?	9
2.1 Resource deficiency or resource inefficiency?	10
2.2 Improved coordination and networking function scan overcome shortcomings in planning and organisational design	14
2.3 Non-collaborative extension rooted in both policy execution and programme formulation weaknesses	15
3. How has Katalyst intervened to facilitate change?	17
3.1 Piloting a new public-private approach	17
3.2 Improving the model by coordinating regular farmer-extension officer interaction	21
3.3 Searching for the means to scale-up and limits to the natural diffusion of the approach	23
3.4 Complement, not replacement	28
4. How the associations have delivered for poor farmers	30
4.1 Outreach figures	33
4.2 Income assessment	37
4.3 Mini cases demonstrating informal benefit	40
5. Lessons learned	42

1 What is the Nature of the Problem that Poor Farmers are Facing?



PHOTO: HABIJUL HAQUE

As an ever more knowledge-intensive livelihood, farming increasingly relies upon the timely and appropriate communication of agricultural and market information from A to B to C, and back again. Farmers, rich and poor, benefit from being able to access such information flows, and are able to improve yield, sales, and income if quality information is received, understood, and acted upon. With farming communities dependent upon the performance of agricultural information systems, the models through which farmers receive information and communicate their needs must be fit-for-purpose, catering to both sectoral diversity and the differing capabilities and means of the farming population.

Bangladesh's public agricultural extension system is one such model, charged with delivering agricultural advisory services to farming communities across the country. Despite having the mandate to extend information services to each and every farmer, delivery approaches and resources are insufficient in design and scope to meet these organisational objectives.

A varied farming population requires both a flexible and receptive information system able to cope with ad hoc farmer demands as well as respond to the evolving circumstances of specific agricultural sub-sectors. Whilst the public agricultural extension system caters to some agricultural sub-sectors better than others, by and large important information (eg. on pest outbreaks) and knowledge (eg. on improved cultivation techniques) is not comprehensively communicated and many farmers from all sub-sectors remain out of reach.

Recognising that centralised, top-down modalities are often inadequate in an environment where information needs to be constantly being generated, interpreted, scrutinised, synthesised, and communicated, many countries have made moves towards trialling and mainstreaming more dynamic, decentralised, and collaborative extension models and methods globally over recent decades¹. Yet to implement such reforms, Bangladesh is facing challenges (eg. population growth, emerging diseases, and mounting climatic and environmental concerns) that will place increased stresses on farming systems, which may threaten the improvements in food production made in recent decades.

1. See William Rivera and Gary Alex's (eds) discussion paper and case study series (volumes 1-5) for the World Bank entitled "Extension Reform for Rural Development - Case Studies of International Initiatives", Agriculture and Rural Development Discussion Papers 8-12, World Bank, Washington DC, 2004.

Without improved agricultural information systems responsive to the needs of all farmers, marginal and small-scale farmers, in particular, will become increasingly side-lined. Where the information environment is characterised by fewer viable alternative means of information access than more developed mature economies, public extension systems will need to recalibrate so as to be more inclusive and effective to this segment than has customarily been the case.

1.1 Limited access to information important to their livelihoods

Research undertaken by the Bangladesh Agricultural Development Corporation (BADC) in 2008 revealed nearly three-quarters of farm-holdings in the country to be largely unaware of the best applications of agricultural inputs and associated productivity-enhancing or cost-saving cultivation and pest control practices². Home to nearly 20 million rural households, of whom many countable agriculture, fishing, and poultry-rearing as primary livelihood activities, such a low knowledge base with respect to simple production and farm management techniques, sums to a sizeable impact upon the competitiveness and incomes of rural communities nationwide. Beyond the reach of standard models of information delivery, the majority of the rural poor, particularly those more remotely located, are unaware of the small, often simple, changes they could ably make to their practices and investments so as to improve their farm-level performance. Less able to make informed decisions, these farmers not only forgo opportunities to enhance revenues, but become increasingly vulnerable to shocks too.

The majority of farmers have not attended any capacity-building events organised and delivered through public extension programmes, and only one-quarter are likely to do so within their adult lives. Many farmers therefore go without any formal curricula targeting their improved performance and near-100% of farmers do not receive any formally structured advisory services from government on a frequent basis, defined here loosely as once every five years. Informal interaction between farmers and extension officials is also uncommon. Indeed only forty-six percent of survey respondents recalled ever having been in contact with an extension officer to avail agricultural advice.³

Box 1: The importance of good agricultural information to farmers

Farmers across Bangladesh's most prominent agricultural sectors are seldom aware of the exact input application, production, and post-harvest processes that will confer greater productivity and cost-efficiency. The BADC finds many farmers to be unaware of the availability of high-quality seeds and only 40% have basic knowledge of appropriate pesticide dosages for their crop. Seventy-three percent of paddy farmers will typically spend 3,000 BDT/ha on irrigation, whilst the recommended level would cost only 1,200 BDT/ha. In prawn farming, a sector where the prevalence of illiteracy requires that agricultural information is provided orally, the utilisation of improved techniques can increase yield by 40kg/acre for the average farmer, according to in-house research. Up-to-date knowledge is itself one of the most important agricultural inputs.

Centrally-defined targets have also tended to create a disproportionate skew in certain aspects. Locally, the public agricultural extension system is skewed towards those producing priority (or notified) crops such as rice, potatoes, and vegetables ensuring that producers, particularly those of a more commercial mindset, are able to access the inputs (seeds and macro fertilisers) and information they need to meet consumer demand. Nationally, there is also a heavy skew towards the dissemination of production-related advice over and above market-related advice. Between the two norms, much falls between the cracks. Farmers producing secondary or minority crops receive little to no support. Farmers further miss out on other information relevant to their livelihoods, from market access, intelligence, and investment advice, to support in accessing supporting services such as formal finance, for example. The approach and design also leaves little room to manoeuvre in the face of communicable plant and animal disease vectors.

2. An officer of BADC discussed an upcoming publication regarding extension services in a meeting with Katalyst in 2008.

3. Around 25% of respondents from the 248 strong sample were estimated to be from non-poor farming households (as classified by land-holding size), hence the interaction between poor farming households and public agricultural extension employees is likely to be an even smaller figure than 46%. The survey was commissioned and carried out by Katalyst in 2011.



PHOTO: ADNAN WAHID

In a better functioning information environment, farmers of all means would have the option to avail agricultural information from a range of sources most appropriate to their needs and abilities.⁴ In Bangladesh, multiple information channels already exist, private and public, some nascent, others far better established. Though the variety of information solution continues to grow, awareness of the sources best placed to answer specific queries is low, and even if accessed, farmers as information consumers are generally unable to discern, ex-ante, the quality and reliability of the sources in each instance. In such cases, farmers tend towards their firmly-held belief of the 'trustworthy extension officer' as their preferred information sources. Indeed, Katalyst's own research from 2011 finds that 52% of poor farmers (n=800) rely on government agencies for agriculture-related information, be it through preference or lack of knowledge of alternatives.⁵ Bypassing the opportunity to improve the agricultural information services of public extension would therefore have meant circumventing an information source of importance to vast numbers of poor farmers across the country.

Extension agencies unable to cover their constituencies

In Bangladesh, agencies responsible for agricultural, fisheries, and livestock extension services face of-witnessed resource limitations, both in manpower and finances. Few in number, sub-district level (upazila) officers and their field staff (SAOs and VFAs) are often unable to meet the principal information needs of the majority of farmers within their jurisdiction. It has not been

4. Katalyst has worked extensively to augment existing and stimulate new private agricultural extension solutions for the smallholder farmer, from working with print and broadcast media production houses to working with telecommunications companies in search of telecentre and help-line based solutions. Strong preferences among farmers for publicly-delivered information, however, called upon Katalyst to engage also with public agricultural extension agencies.

5. Indeed, the same report finds that 39% of farmers surveyed (n=800) responded that they would first go to government to seek advice. Data comes from Katalyst's "Understanding Information Seeking Behaviour and Media Habits of the Rural Poor" report.

uncommon for 20 field officers to have the task of servicing anywhere up to 70,000 farming households – an average of 3,500 households per officer. Whilst the number of officers and the resources available to them appear insufficient, the current approach deployed to disseminate appropriate and timely advice, build the capacities of, and transfer knowledge to farmers can also be seen as inefficient given the somewhat intractable and unchanging nature of funding and personnel constraints.

Box 2: Profiling targets for information outreach

The Upazila Agricultural Office (UAO) in *Lalmonirhat Sadar* employs 23 field staff (SAAO) to assist the 62,000 farmers within their jurisdiction. However, with SAAOs responsible for undertaking all programme, project, and administrative duties as directed by the Department of Agricultural Extension, as well as work for other public agencies, they are able to meet only around 20% of their quota farmers.⁶

Upazila-level officials working for the Department of Livestock Services (DLS) and Department of Fisheries (DoF) are equally poorly resourced. The three Veterinary Field Assistants (VFAs) typically employed by the upazila's livestock office have vaccination targets of 35,000 cattle and 670,000 poultry, in addition to their training and investment project responsibilities.

As per the central government directive dating back to 1977, an SAAO is responsible for between 900 to 1,200 households. The reality in all upazilas assessed shows that targets are most often not fixed, but variable, and determined as a percentage of the agricultural households in any one upazila. Moreover, the population has almost doubled since 1977 but the number of SAAOs has not. As such, the targets dating back to the 1970s are more or less obsolete. In some areas, like Rajshahi and Sylhet, vacant positions exacerbate the demands placed on SAAOs yet further.⁷

As with many other countries, government resources have limits, and extension services propped-up by external funding (particularly grants or NGO/development agency executed programmes) are unsustainable in the long-run. Rather than ask “how do we get more funding into extension?” or “how can we redress public sector financing issues?” to expand outreach, Katalyst instead assessed how the use of existing resources might be made more efficient and effective. It was thought that adaptations to the extension approach could be made first and foremost as a viable and practical first measure to ensure that often very simple messages and/or advice could filter down to farm-level on wider scale.

2.1 Resource deficiency or resource inefficiency?

With limited funds available for knowledge transfer purposes, public extension authorities must be pragmatic and discerning in how expenditure is prioritised so that outreach is optimised without implications on quality.

Agricultural extension roles

To assess agency priorities, Katalyst sought to understand the working practices and responsibilities of upazila extension officers, looking at their typical lines of work, weekly tasks, and time-spend to locate any inefficiencies that impacted upon the inclusiveness, relevance, and overall information service delivery outreach. The main functions of extension officials at the sub-district level are documented below:

- **Planning for and overseeing local production targets:** Upazila officers and their field officers are tasked with overseeing local acreage and agricultural output targets for key commodities. At upazila-level output targets are defined and estimates made for the quantities of 'essential' inputs (seed, macro fertiliser) required to hit these targets that feed into national food security targets, with relevant officers having the additional responsibility to ensure that key inputs are distributed.

6. The Results of a National Extension Coverage Survey, 2003 by World Bank funded ASIR project available at <http://www.lcgbangladesh.org/Agriculture/reports/The%20Results%20of%20a%20National%20Extension%20Coverage%20Survey.pdf>

7. Statement correct at time of writing.

- **Knowledge transfer programmes (grouped delivery):** The principal means used by extension officers to transfer knowledge to farmers is through (formally structured) training programmes resourced out of the Ministry of Agriculture's development budget and through grants or low-interest loans from multilateral and bilateral donors.⁸ They are temporary, discrete investments designed to up-skill farmers' cultivation practices, introduce new, high-yielding varieties, and improve farmers' abilities to manage pests and diseases. For each year that the programme is active, extension officers will have a target to deliver a pre-set curriculum to a pre-determined number of participants. Farmers are largely taught in groups using a combination of classroom training, demonstration plots, and farmers' field days. Ranging from smaller district-level undertakings to larger nationwide endeavours, these programmes are 'live' for anywhere between 2-3 years to a decade in a minority of cases and can have a one-crop focus or focus on concerns that cut across different commodities, eg. integrated crop management (ICM) or integrated pest management (IPM).
- **Knowledge transfer (individual delivery):** Outside of the more formal grouped delivery outlined above, extension officers can be sought for support on a one-to-one basis by individual farmers with specific queries, usually at the relevant government premises. There are no specific targets for individual coverage, though between the knowledge transfer programmes and the one-to-one support, upazila officers are theoretically tasked with reaching and responding to the needs of all of the farmers within their upazilas.
- **Assorted administrative duties:** Extension officers would routinely be drafted in to support the coordination of miscellaneous clerical, statistical, and political tasks as delegated or instructed by superior officers, from censuses to local electoral processes. With a diverse and sizeable workload, deviations from core tasks result in human resources being not only few in number, but thinly spread.

Extension priorities

In terms of prioritising between the aforementioned lines of work, activities with specified targets hold precedence. As a result, work that both expedites the achievement of agricultural production targets for key outputs and the meeting of training programme participant targets is given priority.⁹ Other means of knowledge transfer outside of the more formal, structured

Box 3: Public extension officers - Jack of all trades?

Given that they are small in number, field officers of agriculture departments, have a sizeable workload and are responsible for undertaking a diverse range of duties. Among others, this includes: survey work, data collection, and needs assessment; technical advisory services and information delivery for cultivation, pest management, and appropriate technology transfer; farmer selection for farmer group formation and oversight; demonstration plot set-up and monitoring; farmer field school sessions; investment project work – education and infrastructural (training or management/oversight roles); input supply measurement, distribution and/or application; administrative duties; periodic plan development work; attending government-organised seminars and staff training workshops; and, coordination with between upazila-level extension agencies. It is clear that workload pressures emerge not only due to resource deficiency, but that they are borne of a lack of specialisation and inappropriate divisions of labour too. Naturally, the prioritisation of duties among the aforementioned list is a necessity. This impacts upon knowledge transfer mandates, certainly restricting outreach in service delivery with respect to advisory services.

8. For large knowledge transfer programmes - including, among others: the National Agriculture Technology Project (NATP), Second Crop Diversification Project, Bangladesh Integrated Agricultural Productivity Project, and the Agriculture Sector Programme's Agricultural Extension Component (AEC) - government's own resources make up the minority contribution to the share of the funds, from somewhere in the region of 3% (min) to 30% (max). The majority share originates from donor financing, either grant or low-interest loan (that may or may not be written-off). In this context alone, knowledge transfer components of important public extension programmes are wholly unsustainable, thus creating an imperative for revised and more sustainable approaches and modalities of knowledge transfer more suited to the improving of farm performances in the long-term.

9. Centralised target-setting processes contribute towards a certain degree of inflexibility and skewed priorities at the upazila-level. The two-tiered upazila targets (one for output, one for outreach) softly influence extension officers to focus their efforts on the lead and medium-sized farms as - these farmers - are more likely to contribute towards an upazila's production targets being met. Targets related to production, including input disbursement, have somewhat of an 'unspoken' or 'de facto' priority over information-outreach targets, though in reality, the mid- to larger farmers with whom extension officials interact over production forecasts are also likely to be the first considered for training programme participation.

knowledge transfer programmes are often limited especially if there are a number of different training programmes concurrently being executed in any one sub-district. Further, a significant portion of time is therefore spent on non-information tasks, and some on non-agricultural tasks.

Design and delivery of approach to knowledge transfer limits information outreach

The existing approach to delivering agricultural information to farmers is hindered by organisational priorities and planning processes that fail to make the most out of the hard-to-change human and financial resource shortages. Some of the key impacts on the rural populous are elaborated below:

- ***Exclusive and comparatively small coverage:*** Whilst training programmes are undoubtedly useful for those fortunate enough to participate, there is a sizeable and unfortunate exclusion effect that results from more resource-intensive, formal events. This exclusion effect results in part from the high search costs to the upazila offices of identifying the most appropriate prospective recipients of training. Many farmers reside outside the information loop carrying news of extension events, with news often only reaching the mid-sized and/or lead farmers either better-known to and/or more geographically or socially accessible to public officials. Farmers less 'plugged-in' to forthcoming events and those lesser able to advocate for their own participation are routinely excluded and will continue to be year-on-year. Many farmers have gone without advice for over a decade, many more have never participated in an extension programme. Without greater participant rotation, the wider diffusion of knowledge is minimised to discrete geographical or social circles.
- ***Limited responsiveness of curricula:*** Mismatches between information demanded and information supplied can appear as a result of the centralised development of curricula for extension programmes. Whilst non-formal education methods offset this to an extent, farmers are grouped and instructed as 'information takers'; recipients of information for which they had, at best, a latent demand. Extension agencies (DAE, DLS, DoF) have tended towards an information culture of 'give,' less so 'respond.' Responsiveness is therefore limited by virtue of farmers having little recourse to avail advice on concerns or issues for which they have a real demand. There are also limits to commodity coverage, as major notified crops receive higher priority in training programme curricula at the expense of other crops farmed by large numbers of poor producers. Hence, whilst training programmes can be defended as being somewhat reflective of a latent demand for information among poor farmers, and of sectoral interest to the average farmer, administering and implementing these 'supply-push' projects take up a large proportion of an employee's time, leaving little opportunity to respond to real demands for information at the farm-level, especially when other field- and upazila-level officer duties are taken into account.
- ***Untimely delivery:*** Limitations in responsiveness not only manifest in terms of curricula content, but in the time-dependency of information needs also. The design and delivery of knowledge transfer, combined with extension service priorities result in an approach that is not reactive to local, spontaneous needs or events, giving the impression that 'extension' is something that happens to farmers, not something farmers can control, expect, anticipate, request, or demand when they need it most.
- ***Farmer groups established only in the interests of public extension officials:*** Farmer groups are formed by extension officers for the purposes of delivering against knowledge transfer programme targets, for efficiency and for expediency. When formed, the composition of these groups is dictated by the design of the extension programme, and are largely conceptualised as vehicles that can be made use of merely for the lifespan of the programmes themselves. Groupings are conceived and organised by public authorities, for the benefit of the authorities, and not necessarily on terms or on principles consistent with long-term group functioning.¹⁰

10. Government has attempted to instil a purpose for long-term farmer group functioning in recent times. For example, accounting and fund management training to manage farmer group membership fees has been bolted-on to the training curricula of some knowledge transfer programmes, though this has not resulted in the majority of farmer groups continuing to collaborate once the programme ended. Perhaps the motive of more thoroughly administering group finances was too burdensome for group members, or perhaps access to pooled group money was not a significant enough concern to farmers.



PHOTO: RANAK MARTIN

The social and networking capital conferred to the groups through participation, as well as the information access benefits, are thus lost when the training programme comes to a close, as many of the groups effectively lie dormant or dissolve altogether once the project has ceased. As indicated, outside of training programme-centred knowledge transfer, field officers have a relatively atomised approach to knowledge transfer as they are not mandated to form farmer groups. Such individualised contact is far more resource-consuming than more permanent group-based delivery modalities would be.

Take home learning for Katalyst

Without a greater permanence of group-based outreach, routine interactions between extension officers and the majority of the farmers under their jurisdiction would remain difficult to achieve. Even once training programmes have been completed, and even if groups are incentivised to remain active, extension officers would not have the time to continue to inform, oversee, and motivate the groups directly, and would instead remain a burden on officers as they sought to roll-out their next programme.

In terms of content within these information flows, the more top-down approach to the planning of extension service delivery essentially distorts resource allocation, creating a mismatch between the information farmers demand at any one time and the information field officers have organised and budgeted themselves to supply. These mismatches will always emerge however well-researched, conceived, and designed such training programmes are. The nature of 'supply-push' or project-based information is that many sub-sectors, districts, and 'localised' priorities outside of these centrally defined focal areas will fall through the net.

Box 4: Description of the Agricultural Extension Component (AEC) Investment Project

The conventional knowledge transfer programme tended towards more defined groupings and were typically rigid in their composition and objectives. Under the AEC programme, 50 participants from 25 farm families are selected and organised into Farmer Field Schools (FFS). Each group is then given 20 weeks of training by an extension officer, with men given integrated crop management training, and the women split into three separate groups and given either bio-fertiliser production, homestead vegetable gardening, or homestead horticulture gardening training. Groups that develop a work plan and open a group bank account are then given a BDT 10,000 capitation grant to support the groups' capacity-building efforts. The second phase of the AEC programme counts 7,000 ICM groups spanning 328 upazilas nationwide – an average of just over 20 per upazila (or 530 farming households per upazila). In the previous phase, the AEC project created 9,000 IPM groups. In a meeting with Katalyst, a senior advisor to the AEC programme indeed acknowledged that many of the groups were facing continuity problems and that a greater focus on market linkages would have been an improvement.

2.2 Improved coordination and networking function scan overcome shortcomings in planning and organisational design

The question – “what should we, as a public agency, be specialising in?” is not often thoroughly considered within public extension circles. Despite the aforementioned resourcing constraints and the hierarchy of priorities characteristic of the over-burdened local government agency, decentralisation through devolvement or through delegation and collaboration had not emerged. Important roles were not being prioritised - the identification of training programme participants, and the continued liaison with farmer groups formed under previous, now closed, initiatives, for example - and no actions were being made towards seeking suitable support from other players where incentives and skills may exist to complement those of public offices. Essentially, this can be reduced down to how the public sector perceives its own role and how it should change given that mandated duties outweigh available resources.

With a narrower set of responsibilities following from greater coordination with local non-governmental players, for example, efficiency gains could be made with respect to the overall delivery of knowledge transfer through simple, low-cost improvements in their networking performance. With networking and coordination functions improved between public and non-public actors, delegation of time-costly duties becomes a possibility. In many aspects, the lack of professional interaction between public extension authorities and non-public players potentially better-equipped to support extension agencies is perhaps one characteristic of this disinterest in specialisation and division of labour, though it might go deeper than that, for example suspicion over competence and motivation. However, both specialisation and delegation – the transfer of roles and specific functions to relevant players 'closer' to the farmers – can improve information and knowledge flows. A significant proportion of the 'general' information demanded by farmers, and indeed, a good share of technical information, can be answered by non-public players, especially those geographically, socially, and perhaps even commercially closer to (and reliant on) farm performance.¹¹

However, with no such networks in place – where the diverse capacities and incentives of these different sets of market players can be reconfigured into a new, hybrid extension modality – responsibilities cannot be 're-assigned' and the challenge of improving (and increasing) farmer engagement will remain a conundrum for public offices. Until very recently, government had

11. Equally, whilst networks are useful for knowledge dissemination, they also provide a means of collecting farm-level information and requests from the far corners of upazilas, where farmer representation and participation is currently far weaker. As mentioned above, all but the lead farmers, or those better known to local government officials, lack the ability to advocate for the limited places at capacity-building events or even lack a simple avenue by which they can request support for any one particular issue more informally. Given that the majority of these 'marginal' farmers have some level of interaction with other, non-government market players – for example, their peers, fellow farmers, and the local private sector from/to whom they buy/sell – the utilisation of cross-sectoral networks to increase farmer voice and participation, as well as the demand-responsiveness of extension has a distinct potential that has not yet been tapped.



PHOTO: ADNAN WAHID

placed little emphasis on the fostering of public-private collaboration for service delivery. Professional relationships between public agencies and private players are virtually non-existent, as authorisation for local extension officials to look for how burdens might be shared across the different sectors has not historically been forthcoming. Modalities for information collection and dissemination will be resource-expensive so long as they continue to be distinct and so long as market players remain disjointed and disorganised. There is a real sense that with greater subsidiarity, particularly with the public sector making better use of the local private sector, gains in terms of information access are likely to result as access to each other's networks and specialisms open up. Such relationships would attain better economies of outreach and also lead to greater consistency in the 'quality' of messaging to the farm.

2.3 Non-collaborative extension rooted in both policy execution and programme formulation weaknesses

Despite the new-found emphases encouraging working more closely with non-public players contained within the various national policy documents on agriculture, fisheries, and livestock, concrete steps were not being made at upazila-level to move towards a more integrated extension system. The responsibilities of local-level extension offices remained unchanged, more collaborative or pluralistic delivery options were not explored, and official engagement with farmers remained top-down and supply-push. In part this stemmed from a very real uncertainty among local-level officials of how policy 'directions' are to be interpreted, the kind of relationships they were allowed to enter into, and what the boundaries around new practices and collaborations should be.

Box 5: Quotations from the national policy documents

The National Agriculture and Livestock Extension policy documents both highlight a public sector intent to begin to make the most of private sector resources with respect to service delivery:

The National Agriculture Extension Policy (NAEP), 2012: *"The role of the extension agent will be as the facilitator, not the doer - they will guide and help the private sector, FGs, and FOs in decision-making process."*

National Livestock Extension Policy, 2013: *"In the public sector, the role is to create a conducive environment and to perform regulatory activities, to sensitise and facilitate the private sector to participate in extension services delivery..." (section 7.12)"*

In essence, the lack of accompanying guidelines, counsel, and instruction from the relevant central agencies in Dhaka left local-level decision-makers ill-advised on how to execute these national policy directives. Whilst the policy space now permitted greater freedom and experimentation in general extension operations, service delivery, and knowledge transfer, the default position of upazila-level officers given the uncertainties surrounding policy implementation was the certainty of their 'business-as-usual' approach. Though national policy documents were advocating for collaborative approaches to gain efficiencies, reduce burdens, and improve overall performance, without a suggested model or template of what this would look like and advice on how it would be managed, extension staff at all levels could not explain how the private sector could be integrated and meaningfully used.

The “momentum” to forge closer relations with the private sector and explore new delivery options, has perhaps been equally stalled by informal norms and 'slow-to-adjust' individual attitudes that effect such institutional changes. In some corners, there were many key figures who also questioned the private sector as a source of, and conduit for, reliable, trustworthy information, holding back these granular movements towards a more collaborative organisational and operational culture and dissuading individuals with a greater willingness for change to foster new public-private relations.

Finally, extension officers were not accustomed to, nor comfortable with taking any significant actions outside of designated and clear tasks agreed with senior officials or passed down the extension agency chain of command. Unless and until private sector collaboration is written into knowledge transfer programme design by agencies' Planning Units and becomes a designated deliverable, or until an instruction is received for officers to apportion 'free' time to investing in networks and exploring means for delegation of tasks, officers will not autonomously undertake the network-building functions necessary to bring non-public players into these knowledge transfer and information service delivery roles.

3 How has Katalyst Intervened to Facilitate Change?



PHOTO: SHAHNEWAJ KARIM

With a substantial and sustainable increase in the resources available to local extension offices not forthcoming, improving extension services available to the farming community would require modifying, or finding complements to, the existing system and the encouragement of its officers to adopt a new way of 'doing business'. 'Increased funding, more employees, higher outreach' was simply not an option. For Katalyst, this meant experimenting with how information collection and delivery can be smarter and how the limited resources that are available can be allocated and utilised more intelligently, discretely, and strategically.¹² Specifically, this would involve creating new points of leverage where service delivery can be amplified and also working with public agencies to encourage specialisation and the assignment of new or the delegation of existing duties, requiring a reflection on their wider roles and responsibilities vis-a-vis knowledge transfer and information outreach specifically.

3.1 Piloting a new public-private approach

In 2006, Katalyst developed a new model that sought to improve the effectiveness of how public extension agencies collect and disseminate agricultural information from/to their rural constituents. It had three primary objectives: (1) to increase outreach and coverage to farmers

12. Katalyst's strategy focused solely on alleviating the bottlenecks in information flow, i.e. getting information from 'a-b-c' and back. The strategy deliberately targeted improving 'flow' in the first instance, in order to pave the way for improving the quality of information (the content) that can be carried once such bottlenecks are removed. When the information channels themselves are better functioning, Katalyst stated that it would turn its attention more to reflect on how knowledge from publicly-funded research institutes originates, is tested, and how it enters into the information flow. This case study therefore covers improvements made to the mechanics, or architecture, of the information 'flow' only, rather than addressing agricultural innovation systems, R&D functions, and investments in the quality of knowledge being transferred.

untouched by previous extension efforts, (2) to re-activate farmer groups formed by closed training programmes and thus 'plus back in' farmers who would otherwise fall out of contact with extension services, and (3) to introduce greater responsiveness to real constituent demand for agricultural information (as opposed to latent demand addressed through knowledge transfer programmes) for both unreached and recently reached farmers. The model created was premised on the leveraging of local private sector incentives and skill-sets in order to circumvent the known and binding constraints of public offices – namely, limited manpower and the high transactions costs associated with performing certain roles.

Finding existing market players to collaborate with

Through other initiatives implemented by the Katalyst programme, staff became aware of groups of private retailers, traders, and dealers – often small shop owners and individual entrepreneurs – operating within market places who had self-organised into market-based trader associations. Across all rural sub-districts, a large proportion of the customers of and suppliers to these entrepreneurs are farmers, either buying agricultural inputs or selling agricultural produce. Most of these associations had been running for many years, had solid internal governance structures, and were legally-registered. Members of these trader associations would share resources (vehicles, equipment, premises) and often have common funds, generated from years of member fee contributions, from which members can borrow.

Given the frequency of interaction between the farming community and the members of these associations - and not wishing to create new, parallel institutions in an already crowded space - Katalyst scoped the potential for these traders' associations to use their natural networking and organisational capital to support the flow of agricultural information to and from the farm. How could the offer of these associations be augmented for the mutual benefit of both farmer and business owner?

A new trader association-centred model is designed

The aim was to build the associations into a first 'port-of-call' for technical queries, but also into organisations that are able to liaise with both farmers and extension officers to ensure that, firstly, limited places on training programmes go to the most needy candidates - namely, previously untouched farmers - and secondly, that extension officers provide more demand-led services. Essentially, Katalyst planned to induce the local private sector into taking on some of the knowledge transfer, coordination, and communications roles customarily performed by public extension employees, though seen as comparatively easier for the local private sector to perform. For the associations, this involved executive committee members both nurturing relationships with 'dormant' farmer groups formed under previous government (and NGO-) initiatives, but also forming new farmer groups. Farmer groups would then be integrated within the association through the offering of honorary membership status.

Once the capacities and motivations of association members were better understood, Katalyst proposed that with minor technical assistance from the programme, members of association committees (usually the larger and more enterprising traders) would be able to use the offer of improved information services to broker new (and reinforce the quality and strength of existing) commercial relationships with farmers. For association members, this would likely mean increased revenues, either through sales of inputs or having higher quantities of goods to trade, thus incentivising association members to value investing in information flows to farmers and expand relations to incorporate farmers more distant from the market. Simply, farmers who are commercially in demand are far less likely to fall through the net. Building associations into these types of organisation required two key steps.

Katalyst's role in bringing the model to life

First, Katalyst had to encourage traders' associations to better engage with the public authorities. Extension officers were themselves not used to utilising the local private sector to

assist in their service delivery obligations, nor had they any concrete instructions from their superiors on how to do so. The impetus for forging a relationship, in the first instance, therefore needed to come from the associations themselves, supported by the programme.

Box 6: Training module content

Module 1: Advocacy, information management, and linkages

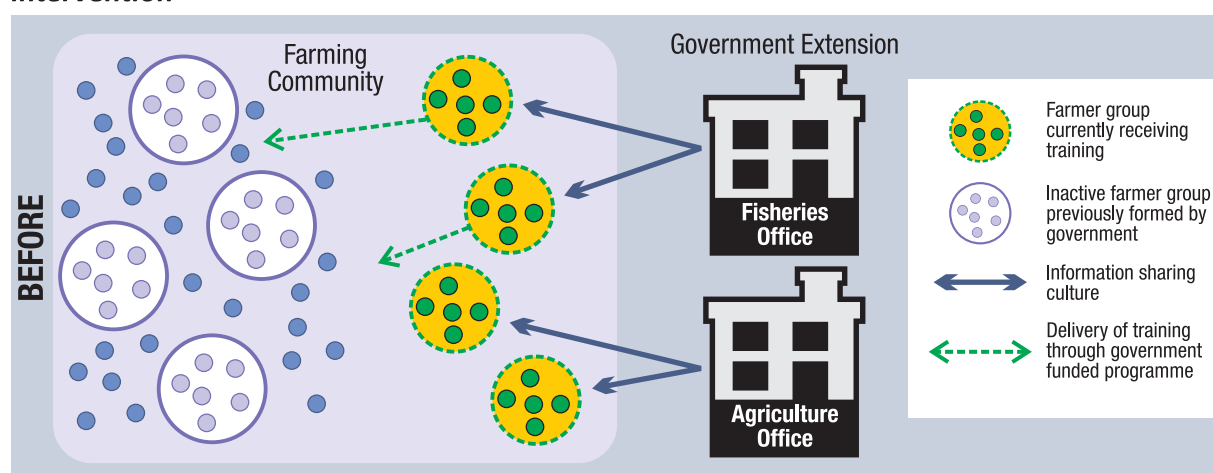
This module focused on: (i) educating association members on the benefits of lobbying extension officers for the greater access of farmers to training programmes and other upazila events; (ii) methods of collecting and recording the information demands from farmers; (iii) how to present issues to extension officers and persuade them to act; and (iv) means for members to update their own agricultural knowledge through identifying sources of information, collecting it, and strategies for disseminating it. Due to an earlier reluctance to induct female-only farmer groups into associations, a gender sensitisation training was also latterly included.

Module 2: Farmer group formation, induction, and organisational growth

This module focused on: (i) educating members on the benefits to themselves of forming farmer groups; (ii) strategies and means of motivating farmers to work in groups for the purposes of availing and sharing agricultural information; (iii) mapping existing farmer groups and how to form and induct new ones; (iv) managing the coordination of and messaging to multiple farmer groups; and (v) managing the organisational growth of associations as they take on farmer group members, including the need to keep records, take minutes, and organise training/extension events.

Second, Katalyst needed to support the associations to take on the new roles of information sharer, knowledge provider, and advocate. This required the tailoring of associations' internal processes and procedures so they would cope with the managing of new information and coordination-related functions, including the management of relationships between farmer groups and associations, as well as giving instruction on how to handle expansion in association membership. In order to capacitate traders' associations to perform these new functions, Katalyst designed and delivered two 3-day training modules for the governing committees of each association in fourteen pilot upazilas. One module covered information management, advocacy, and linkages, the second dealt with farmer group formation and management.

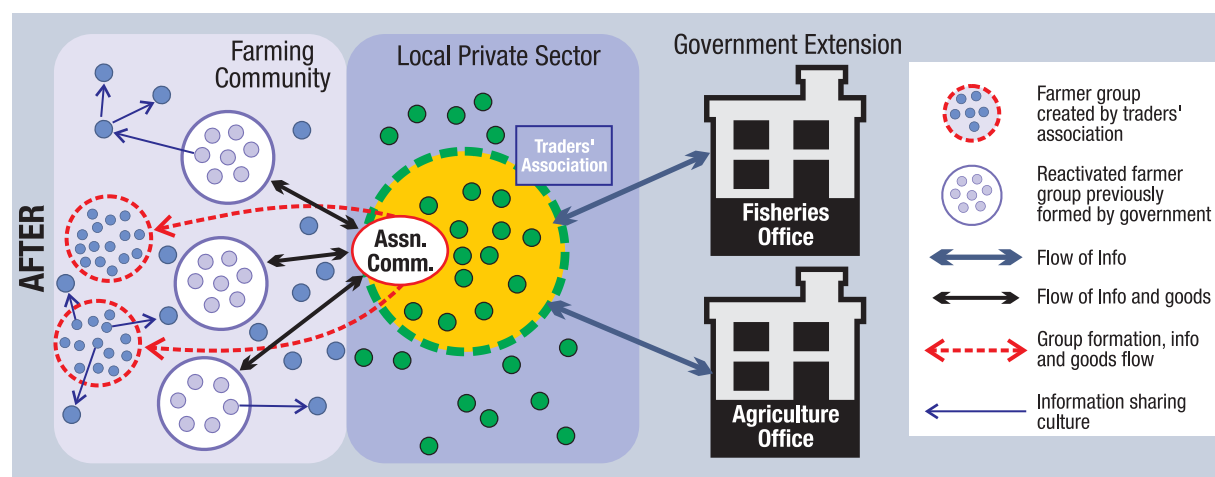
Figure 1: Stylised interpretation of government extension services prior to Katalyst intervention



Once trained, members of traders' association committees were 'hand-held' through an introductory phase of mapping existing farmer groups, dormant and active, within their sub-districts and identifying non-organised groups of farmers most able to arrange themselves into new farmer groups. Association committees were then encouraged to focus on building relations with such farmer groups and informing them of the 'new' information access benefits

to be derived from their senior farmer group representatives (heads or vice-heads) becoming honorary members of their respective local traders' associations. Farmer groups were then invited to apply for and attain membership of their respective associations to cement the relationship.¹³ Once these connections were in place, the association invested in developing these newly-formed bilateral linkages into a full tripartite relationship, brokering onward linkages to extension officers in their respective sub-districts (see Figure 2, below).

Figure 2, Stylised interpretation of the additionality offered by the new model¹⁴



With training complete and relationships developed, the new model for circulating important messages, sharing knowledge, and expressing demands, allowed for agricultural information to flow more freely and to greater numbers of farmers. On the one hand, public extension would be able to utilise the local private sector to, at the very least, broadcast messages for mass consumption. On the other, farmers would be able to use association members both for troubleshooting (a first-port-of-call for production and disease control advice) as well as a more permanent and reliable recourse to access and advocate for public extension that responds to their needs. One example of this latter role was in the associations' ability to request a portion of participant places on concurrent (active) knowledge transfer programmes to be reserved for their farmer group members. Association committees would keep records of who attended which programme event to ensure the fair rotation of farmers nominated for future programme events.

Initial impact

With time and resources conserved in other areas, extension officials were able to provide additional 'off-plan' (or 'off-calendar') training events, responding to farm-level demands; events that would otherwise not have taken place. In addition to the advocacy role described above, other tasks most easily and/or better performed by the local private sector, i.e. group formation and oversight, awareness-raising ahead of demonstration events, and responding to basic cultivation, farm management, and pest control enquiries, were de facto re-directed towards (or delegated to) association committees and their members. Meanwhile, the more specialist advice and the delivery of calendared training events remained under the remit of the public extension offices. Importantly, extension officials were beginning to see the value of their respective sub-district (upazila) traders' associations in complementing existing outreach approaches and in supporting general, and improved - for example, equitable - service delivery.

13. This may be for no fee, however, it is common that a nominal fee of 50 BDT/month (\$0.65) is charged.

14. Please note, this is a somewhat stylised diagram that represents only the additionality that the new model confers to the existing modus operandi of the extension agencies - it is not presented as a 'replacement' for it.. It also does not seek to accurately represent either the numbers of personnel working within extension agencies, nor the amount of farmers within the average farmer group. Finally, further to what is depicted within the diagram, there is a healthy information-sharing dynamic within and between farmer groups. Additional arrows were omitted to represent intra-group and inter-group information sharing to preserve the clarity of the diagram.

Box 7: Traders' association-centred extension - significant design features

Not imposing on association operations: Katalyst refrained from imposing any changes in structure, governance, and institutional design on the traders' associations they worked with, thus limiting the distortionary effects that the programme had. The notion was to impart just enough skills to perform and manage the new set of responsibilities at hand, not to dramatically overhaul associations that were already well-functioning. Given that the purposes as well as the capacities and motivations of association committees often differed from association to association, the extent to which the local private sector took up and deployed their new roles was left wholly in the hands of the association members themselves. Associations and farmer groups were also free to discuss their own membership fees. Very few targets or demands were set by the programme.

Avoidance of farmer group blueprints: Wanting to avoid 'off-the-shelf' farmer group approaches that interrupted natural organisational capital and local structures, Katalyst was also keen to keep the demands placed on farmer group composition, crop focus, and their internal procedures similarly low. It was the farmers themselves that sanctioned the nature of their grouping, the sub-sectors they were interested in, and the information that they required. Group design blueprints that often discouraged participation, expansion, and self-organising were therefore rejected, and trader members themselves were free to form or take on existing farmer groups as per their own interests. There was also no requirement for new farmer groups to be legally registered as the traders' associations were already legal entities and honorary association membership would extend this status to relevant farmer groups.

An emphasis on the informality of interaction: The model encouraged informal interactions between extension officers, traders, and farmer groups premised on the communication of key messages and needs. Whilst more formal, structured, and comprehensive instruction had its place (eg. when demanded by a large number of farmers), the organisation of such events exclusively would be too resource and time intensive for the players involved. Quicker and smarter information circulation and knowledge transfer, combined with the extensive promotion of information sharing behaviours at marketplace and farmer group levels, were key in keeping information moving. Information that associations gather informally also started feeding back into government planning not only for training content, but also in terms of demand estimates for important farm inputs, eg. animal vaccines.

Both complementary and additional: Associations now provided the means for farmers to access services that did not exist before; both 'formal' demand-led training (events) covering sub-sectors and requests for information not previously prioritised in extension planning, and the recourse to informal, ad hoc, trouble-shooting advice. Further than this, the model also allowed for a new stream of market-side information to flow concerning farm management, business planning, and market access elements missing from previous public extension initiatives. Association membership also conferred further non-information benefits on farmers, such as access to association endowment funds, generated by years of membership contributions, for low-interest loans (some associations have funds upwards of 6m BDT; or \$80,000, in value). Outside of endowment fund loans, growing examples of bilateral credit arrangements being established between individual member traders and farmer groups could be witnessed - from upfront cash loans, inputs on credit, 'de facto' contract farming with buyer guarantees, or more passively, with the trader acting as a 'guarantor' for the farmers in securing a loan from a formal financial institution.

3.2 Improving the model by coordinating regular farmer-extension officer interaction

Public agricultural extension in Bangladesh has traditionally been a relatively one-way affair. Knowledge would be generated in central agencies and research institutes and flow downwards in a linear manner, budgeted for and pushed from bodies in Dhaka at the highest level through to the network of extension officers in the field at the lowest level. The collaborative arrangement Katalyst introduced to the 14 upazilas between 2006-2009 improved upon this by offering a



model which allowed for greater interaction and a circular flow of local-level information between the farming community, private sector, and sub-district extension offices. It was a model that was iterative in nature, where enquiries could be made, solutions sought, and follow-up questions asked. It allowed for a greater timeliness of support also, with recourse to advice available at farmers' own demand and in accordance with real-time needs; an improvement over the existing extension approach, whereby field staff and upazila offices were difficult to track down when more urgently demanded by farmers. After all, what are the chances of farmers being selected to participate in a training event on a subject they are seeking information for and exactly when they need it?

Developing public-private initiatives and incorporating larger private players

Though progress was visible, the new model was still somewhat of a supplementary measure in sub-districts where conventional practices remained prevalent. Katalyst needed to build in more space for farmers to set their own learning and information needs agendas so these could inform government planning practices and make better use of the time extension officers would otherwise spend answering individual queries. Looking to build upon their nascent improvements to extension, Katalyst sought to augment the model introduced further with a greater focus on the identification of farmers' information needs spanning a whole production season, and, with it, the institutionalising of routine interactions between nominated farmer group representatives and those able to best advise them. From this, the concept of the commodity-based "public-private initiative" (PPI) was developed and trialled in the 14 original pilot upazilas.

The objective of the PPIs were to bring together nominated farmer group representatives (sourced from several farmer groups interested in one common commodity), their association committee counterparts, and a public extension officer to jointly identify the nature of support needed and plan for the delivery of timely solutions before and throughout the growing season as necessary. Katalyst developed a short training module to educate the aforementioned stakeholders as to how PPIs could provide a more supportive delivery model for the knowledge requirements farmers were demanding, and advising how such initiatives could be set-up and managed. Following the training, initial planning meetings culminated in the penning of MoUs laying out the roles and responsibilities incumbent on each player within the PPIs as well as the



PHOTO: RANAK MARTIN

identification of prospective national private sector players (mostly input firms) with the incentives to commit resources to sponsoring or co-sponsoring additional extension events and the production of new materials under various PPI arrangements. Where sponsorship could not be secured, associations would often commit their own funds to contribute towards more modest events and knowledge transfer materials.¹⁵ In both instances, officials from public extension offices were central to events, often delivering them, though never financially contributing themselves due to their off-calendar, off-budget nature.

Sponsoring PPIs appealed largely to input firms wishing to expand their dealership networks, enter sub-districts where they have little to no presence, and gain direct access to a new customer base with a rich information-sharing culture. Whilst a marketing and distribution strategy for them, for the farmers and extension officers, forums like these provided the resources and impetus for more comprehensive knowledge transfer agendas to occur. With greater private sector incentives re-configured into the trader association-centred extension model, Katalyst was able to alleviate some of the more pressing resource constraints that held back more substantive improvements in farm performance among their target group and use these hallmark PPI events to underpin and uphold momentum for continued farmer interaction throughout the agricultural year.

3.3 Searching for the means to scale-up and limits to the natural diffusion of the approach

By 2009, 14 upazilas in Jessore and Rangpur regions were benefiting from the efficiencies and improved service outreach afforded by Katalyst's new trader association-centred extension model and the stream of PPIs that were coming on-line. Interim assessments carried out in the upazilas of *Mithapukur* and *Lalmonirhat Sadar in Rangpur* sampled farmers from 6 farmer groups and found 83% to be aware of their farmer groups' participation in the new model and the nature of the information services on offer, and over 20% of farmers to have already benefited from availing information-related extension services through this new network

15. With private sector sponsorship came a degree of product promotion, so only quality input companies would be invited by the associations and extension officials would be on hand to give a more balanced 'consumer education' perspective on products pushed through sponsorship, nominating similar, competing products as alternatives for farmers where appropriate.



PHOTO: ADNAN WAHID

directly. Moreover, Katalyst observed a healthy enthusiasm among local-level extension officials that had been involved in the programme up to that point.

Whilst the 14 upazilas worked in thus far (representing 3% of upazilas countrywide) had made a case for the model's wider adoption, central government were keen to see an extended version of the trial to provide further evidence of the model's merits before making commitments to instruct their own staff to invest time and resources into mainstreaming the model nationwide. Conscious to not simply replicate past intervention activities, and not wishing to expend the same resources over a three-year period to cover only 6% of upazilas countrywide, Katalyst began to look for ways in which the trial could be scaled-up with less effort and diminishing levels of direct support from the programme itself.

Being reliant on government to pick-up the baton

Yet to be championed by decision-makers within central departments, however, Katalyst had no other partnership option for taking the model to scale. Unlike Katalyst interventions elsewhere, the team working on promoting this model were wholly reliant on their counterpart government agencies to sanction the model for wider application and adopt the 'scale agent' role.

Recognition of the model's effectiveness in assisting local offices to move closer towards their outreach targets had not occurred for two principal reasons. First, at this juncture, participating in the model was still somewhat 'under the radar' - there was discomfort among officials who felt authorisation from their superiors was necessary. Second, advocating the virtues of the model over conventional approaches would have been tantamount to officials admitting to 'previous' inefficiencies and that outreach targets of the past were far from being met. Moreover, recognition could not even spread from district to district as upazilas within districts had little interaction with their counterparts in nearby districts. The ability for Katalyst to encourage trial upazilas to support neighbouring upazilas to copy the approach was constrained by the lack of horizontal communications and institutional working relationships. Even if these elements had been in place, human resources were so thinly spread that the likelihood of fostering peer-to-peer learning was deemed slight.

Box 8: Exploring alternatives - was private-sector led scale-up a possibility?

Katalyst also explored alternative, non-public sector options for taking the model to scale. They first looked at how the traders' associations themselves might disseminate their own learning to similar associations in neighbouring upazilas. However, the relationships and the incentives were simply not in place. Associations from one upazila to the next had no working relationship or 'formal' contact with one another and the small businesses that made up these traders' associations tended to be independent enterprises, not traders connected to similar 'sister' enterprises as part of a 'chain' network, franchise, or common brand.

Second, Katalyst explored the possibility to leverage the growing private sector interest in the PPIs among larger input supply firms like ACI, Bay Agro, Navana, and Syngenta. Such firms often had one or two licensed dealers within each association, so consideration was given as to whether dealer licensing strategies of large corporates could be tapped to expedite the expansion of the model. There were complications with this line of reasoning too. The level of effort involved in setting up the model - in identifying, up-skilling, and 'hand-holding' such associations and fostering relationships with local extension officers - was unattractive to these large companies. More than happy to participate in mature initiatives through PPIs, input supply companies did not wish to invest in the relatively high set-up costs, as they would have no exclusivity over the wider association network once the model was up-and-running.

Ultimately the decision to recognise, endorse, and dedicate resources to the deployment of the model at a national level could only be made by a handful of individuals in Dhaka that the Katalyst team could not then access. Further investments in engaging with the upper echelons of government to court 'buy-in' were needed. Moreover, increasing attention on the positive and complementary contributions the model was able to make to existing practices required Katalyst to really focus on collecting evidence, leading to internal improvements in monitoring and results measurement - qualitative and quantitative.

Taking the model to eighty-two new upazilas: diminishing costs, half the time

In March 2010, Katalyst made the decision to extend the trial to incorporate eighty-two new upazilas in two waves; first sixty, then a further twenty-two, taking the number of participating upazilas to ninety-six in total. The decision to extend the pilot was a response to government's request to see more substantial evidence of the model's nationwide applicability. In the absence of full government buy-in, and caught between having proved the concept and being committed to scale without a 'scale agent', Katalyst opted to fine-tune intervention approaches, changing tactics to use government and former government personnel as 'consultant' trainers in new sub-districts as well as selecting new sub-districts more strategically to encourage the model's spread to neighbours. Moreover, there was an increased focus on lowering the cost of replicating the model's adoption in new upazilas, costing around 15,000 BDT (£125) per upazila.

Box 9: Passing the sustainability test

In mid-2011, Katalyst undertook an interim impact assessment, randomly selecting nine of the original fourteen upazilas with whom they had worked between May 2006 and December 2009; four from Rangpur and five from Jessore, interviewing 248 farmers in total from 28 different farmer groups. With little involvement for two years, outside of monitoring commitments, the programme was looking to determine whether the trader association-centred model and PPIs were continuing to serve poor farmers. Headline results are documented below.

- The original fourteen traders' associations had inducted 721 farmer group members, allowing 25,242 farmers to access this new model for knowledge transfer.
- There had not been any instances of farmer groups disassociating themselves from traders' associations following induction, nor any known cases of farmer groups dissolving or disbanding.
- Fellow farmers and farmer group members rose to become the most prominent 'first port-of-call' for 57% of respondents (up from 25% baseline) when in the pursuit of agricultural information

demonstrating a healthy effect on information-sharing behaviour at the farm level. The traders' associations themselves were the second most important 'first port-of-call' with 17% of respondents, overtaking government extension officials who had fallen from 46% to 16%, demonstrating the burden-reducing effect the associations were beginning to have.

- Sixty-four percent of farmers responded that the main benefit of belonging to a farmer group was the ability to access important information on production and farm management. Access to common funds (56%) and improved commercial relations (48%) were cited as other significant benefits.
- Nearly three-quarters of respondents reported having availed one or more information services – defined as either formal (training) or informal (advice) – directly from the associations since their farmer group was inducted.

The first modification Katalyst made was to utilise the committee members of associations from the preceding phase alongside enthusiastic extension officers who had benefited from the model to support the delivery of modular training in new upazilas. The second modification was to be found in Katalyst's approach to encouraging the model's natural spread. Whereas previously the fourteen upazilas that participated in the first phase were spread thinly across many different districts, the programme chose to select three upazilas each across twenty districts aiming to maximise the likelihood of non-participating upazilas within any one of these districts learning of the model's successful implementation in a neighbouring upazila and moving to copy.

Katalyst was also very conscious of the need to build an evidence base documenting upazila and PPI successes with the new model that captured all aspects of improvements in service delivery and value addition taking place. Evidence of improvements would be routinely communicated to DAE, DLS, and DoF officials in Dhaka to more formally advocate for the model's wider adoption among senior civil servants in the central agency. For scale-up, political capital was a 'must-have' as was the need for the programme to position itself as a trusted short-term 'strategic advisor' to the department. For this, the programme began to focus more attention on aspects of soft diplomacy, including the organisation of field trips for officials to see the model in action, showcasing its functions and usefulness with respect to operational efficiency and easing outreach target burdens.

Figure 3. Phases of implementation demonstrating change in project focus (2006 – 2013)

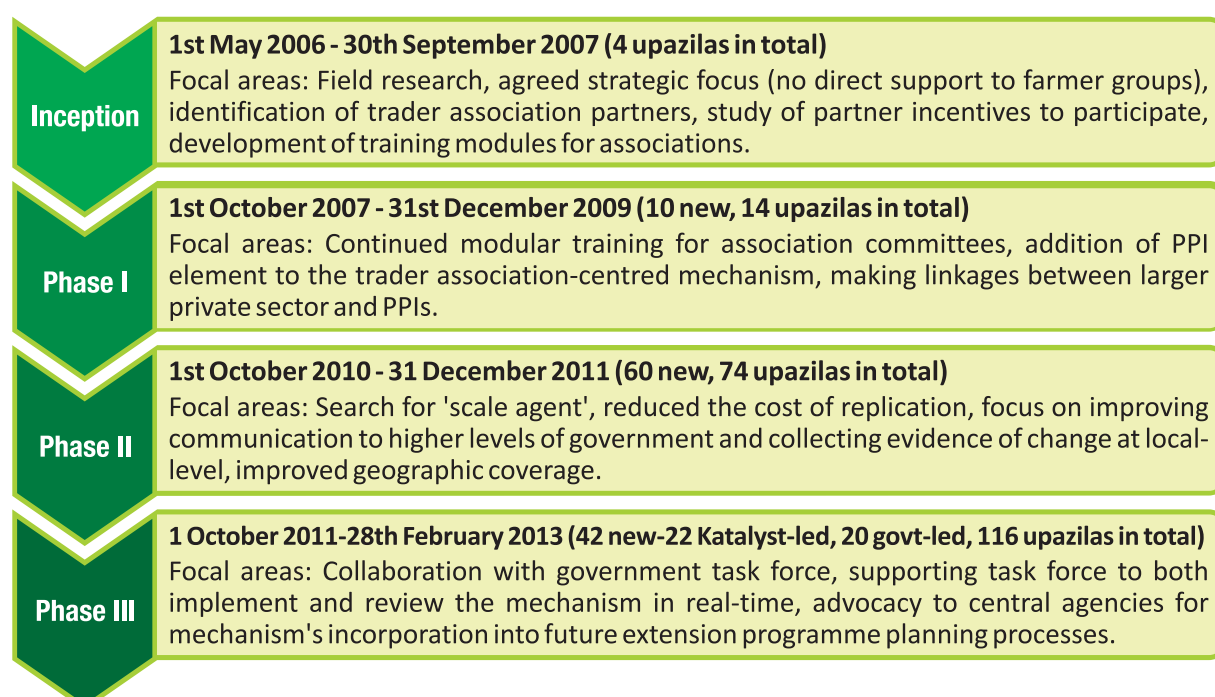




PHOTO: ADNAN WAHID

Government agrees to play a more active role

In 2010, the three central departments agreed to take on a more 'hands-on' role in overseeing the trial's extension. With assistance from Katalyst, the task force was charged with monitoring improvements in service delivery and following the progress of the model's implementation, understanding how support was being provided by Katalyst and with what intensity. In July 2011, and representing a landmark shift in the government's own commitment, the task force also agreed to provide mentoring and technical backstopping to twenty more upazilas where they themselves would take the lead on establishing the model and PPI processes.

The inauguration of the task force heralded an active push from central agencies to better understand the model and its benefits than had previously been the case. The task force requested upazila-level offices - agriculture, fisheries, and livestock - to apportion sufficient time and resources into understanding how they might best utilise the support of their respective local traders' associations. Where formerly, involvement in setting-up the model was far more passive, senior officials had requested for upazila staff to actively collaborate with traders' associations from the outset and organise all activities necessary for getting the complementary flow of information up-and-running. Although the upazilas took on a proportion of the costs (mostly non-financial and in-kind) associated with organising and coordinating the founding of the model in each upazila, contributions from Katalyst were still expected.

Box 10: Composition of government task force and its key roles

The task force was composed of 2 senior representatives from each of the three principal extension departments – the Department of Agricultural Extension (DAE), Fisheries (DoF), and Livestock Services (DLS) – and two programme staff, and two from Katalyst. Aside from periodic field visits, the Dhaka-based task force had counterpart task forces in each of the participating upazilas from whom they requested regular reports that charted progress against a set of pre-defined performance indicators. Examples of these indicators are presented below.

- No. of farmer groups - old and new - and total number of farmer inducted into the association

- No. of trainings, meetings, and farmer field days that respond to farmers' own requests for services/support
- No. of PPIs formed, proportion of those with a 'business plan', and number of events organised/completed
- No. of private companies (or associations) who sponsored (self-funded) PPI events and number of farmers who have benefitted from the services provided through PPI events
- No. of farmers that have received 'extension' services through the new model and number of farmers who have received extension services for the first time as a result of traders' association induction (additional farmers)
- No. of farmers that report an average increase in their productivity as a result of receiving a service through the new model (or after attending a PPI event)
- No. of associations providing services to farmers without programme (Katalyst or government) support
- No. of associations with recognisably improved relations with government offices

3.4 Complement, not replacement

Aiming for central government's definitive endorsement of the model as a complementary means of both delivering information services to farming communities and understanding farmer needs, Katalyst was very clear from the beginning that the model's introduction would not replace existing modalities of extension service delivery. The notion was to increase service outreach through instigating improvements to the coordination, planning, and networking functions of upazila authorities, leaving behind local public offices that were better able to engage with both farmer groups formed under previous government and/or donor-funded programmes¹⁶ and the harder-to-reach farmers within their jurisdictions.

All efforts had focused on supplying central departments with the evidence required for them to issue national instruction and accompanying guidelines enabling local-level upazila offices not only to collaborate with local traders' associations, but exactly how they might wish to go about it. In March 2013, the task force submitted their final report to the DAE, recommending that both the traders' association-centred model and the PPIs be implemented in all possible upazilas nationwide as a supplementary channel for meeting the information and extension service needs of farmers across the country. In response the DAE mandated that all Upazila Agricultural Officers begin to utilise traders' associations for extension service delivery, organising important events, communicating the incidence of pest/disease outbreaks, linking farmer groups to markets, and establishing and maintaining PPIs, representing a significant milestone for the Katalyst project. For upazilas not covered by the Katalyst project, the DAE also issued a step-by-step guideline covering how traders' association-centred models and PPI platforms are established and how extension officers can capacitate associations to take on the new roles under the instruction.

16. A handful of Integrated Crop Management groups formed under the most recent phase of the AEC programme (Danida) have joined their respective local upazila traders' associations, typically citing three justifications for such a move: (i) improved market linkages, (ii) better access to a range of services from local government departments, and (iii) an increased comfort with having the trader association committee play a group 'guardian' role. Elsewhere, the sizeable Second Crop Diversification Project (ADB) extension programme held discussions with Katalyst and the DAE to link farmer groups formed under the programme to the network of upazila traders' associations to improve their terms of market access.

Box 11: DAE guidance issued - a call to all upazilas nationwide

Use traders' association for...	Specific purpose for collaboration
Extension service delivery	• Selecting farmers for training events • Understanding the training needs/demand of farmers
Organising important events	• Organising of national events, farmers' field day, and agriculture fairs. • Requesting associations to inform farming community about upcoming events
Communicating pest and disease outbreaks	• Collecting information from the farm level (symptoms of damage and spread) • Raising awareness among farmers of the outbreak • Distributing technical information to support farmers to handle the crisis
Linking producers to markets	• Linking farmer groups formed under different programmes to associations
Resolving specific issues via PPIs	• Planning and executing responses to local agricultural concerns

In operational terms, instruction has also been issued requiring junior and senior extension officers to interact with traders' associations at least twice and once a month, respectively, as part of routine duties. At the beginning of each season, upazila extension officers have also been instructed to sit together with their local traders' association to establish a PPI committee to identify information needs of farmers and formulate a work plan for the implementation of activities therein. District-level extension officers have been mandated to oversee PPI activities and will also provide a platform for upazila officers to present their achievements and share future plans with their peers within the same district jurisdiction.

This said, the programmatic nature of extension service design requires the guidelines to be embedded within the planning units responsible for both current and future extension programming so as to institutionalise the new mandate for donor-funded and designed programmes too. Given the significance of donor funding to extension programming in Bangladesh, Katalyst are both simultaneously advocating to non-Katalyst donors to recognise and endorse the guidelines and to either amend existing or incorporate into new programmes those key elements of the traders' association-centred model and the associated PPI processes so as their sustainability is not undermined by the aid industry itself.¹⁷

17. At the time of writing, the Director General of the DAE had committed to writing a letter to the Directors of each of the ongoing projects requesting that they take note of the new policy guidance and aims to organise workshops with the major donor-funded programmes to follow-up on the letters sent. Katalyst, meanwhile, continues bilateral discussions with the aforementioned programmes to encourage their incorporation of the model into programme implementation.



PHOTO: ADNAN WAHID

Recognition of both the model has grown significantly since the end of Katalyst's initial work in the fourteen upazilas of Jessore and Rangpur. Central agencies have permitted the model to continue in the upazilas where it is currently active and have been pleased with the developments in the twenty upazilas where their own personnel have lead in the establishment and maintenance of the model. Task force members have been further convinced of the model's potential to bring together farmer groups, formed under now closed government extension programmes, as well as those formed under still active extension programmes, under the umbrella of the traders' associations so as to intermediate the information flow to and from public offices. Now thought of as a useful complement to existing means of extension service delivery among the 116 upazilas participating and among head office based decision-makers, national-level instruction to roll-out the model represents sizeable progress.

Box 12: Voices from government

The following quotations given by important government stakeholders, from all levels, showcases the effect that Katalyst has had on extension services delivery, demonstrating not only attribution for the efforts the programme has expended, but highlighting government ownership and momentum for change also.

- *"The trader association-farmer group model and PPI platform can help the Department of Livestock Services to implement our government programme in spite of work force deficiencies."* - Saidur Rahman, ULO, Pirgachha
- *"This is a very impressive initiative for disseminating extension information and services. We will participate to establish effective linkage"* - Md. Abdul Jalil, DD, DAE Moulovibazar
- *"This is our project; we need to nurture this for our own benefit. So, whenever you visit Katalyst programme areas, [we must] monitor the progress of traders' association activities"* - Md, Abdul Quddus, Director, Training Wing, DAE (in a discussion with DD, DAEBogra

- *"The challenge of limited human resource for extension service delivery could be solved through using these traders' associations"- Dr. Samar Kumar Ghosh, DLS*
- *"This is a new, innovative concept; the extension department should use this model both for extension service delivery and for providing better marketing opportunities for farmers"- Mr. Kamruzzaman, DoF*
- *"I'll organise workshops with all my officers to take lessons from the Katalyst programme"- Director General, DAE*

Changes in information-seeking behaviour among farmers

There has been a significant shift in farmer mindset with respect to their preferred source of agricultural information. Data shows that farmers are far more likely to go to their farmer groups or members of their respective traders' associations in pursuit of agricultural information than to other individual farmers and public extension service personnel since the model has been up-and-running in their areas. Farmers looking less to individuals (other farmers and govt officers) and more to local networks (farmer groups and associations) should translate in the medium-term to higher public sector outreach with less effort, as signals of farmer preference begin to reach public offices and time is re-allocated accordingly. Such a sea change could potentially lead to the reduction of official time set aside for individual service outreach activities, and a substantial increase in the time apportioned to establishing networks, maintaining information flow to local private sector players, and coordinating with traders' associations at every sensible juncture.

Table 1¹⁸ Farmers' preferred (first-choice) agricultural information source, pre- and post-model

Info source	Agriculture		Fisheries		Livestock	
	Before	After	Before	After	Before	After
Individual farmers	44%	8%	40%	6%	35%	6%
Public extension	41%	18%	38%	17%	39%	17%
Other	11%	2%	12%	1%	19%	2%
Farmer groups	4%	32%	10%	28%	7%	43%
Association members	0%	40%	0%	48%	0%	32%

The shift in mindset demonstrates how successful the model has been in giving farmers within farmer groups that are well-connected to traders' associations of reliable recourse for answering farm queries and availing important agricultural information. Given that many of the farmers surveyed would have been members of dormant farmer groups prior to Katalyst's intervention, it is interesting to see how the model has injected such groups with a new-found purpose and a renewed worth in the eyes of their members. The data also reflects delegation in action, demonstrating how the model has created an environment where demands for agricultural information are manageably responded to by the new farmer group and traders' association networks, de facto freeing up public official time.¹⁹ The numbers seeking advice from associations are exaggerated further in the event of a farm emergency (disease/pest incidence), with traders' associations being the principal recourse for 53% of farmers, compared to 10% of farmers who would attempt to locate upazila officers first. That diverse information is being sought reflects the improved demand-responsiveness the model. Knowledge to improve cultivation practices, respond to farm threats, and produce in line with buyer demands and quality requirements can be pursued independently and when needed. Where the model and

18. An impact assessment carried out by AC Nielson in 2012 for ILGS provided the data.

19. This data is even clearer when the responses from the heads of farmer groups are isolated. These responses show an increase to 56% from a baseline of zero from those reporting traders' associations as the first port-of-call for agricultural queries, contrasting a decline from 54% to 23% for those stating public officials as their preferred source for agricultural information.



PHOTO: MOBASSER HOSSAIN

PPI processes have been adopted, farmers have been able to draw knowledge for whichever subject or matter they wish, including matters that the government had not previously conducted training for.

Box 13: Voices from traders' association committees

The following quotations have been taken from committee members of the traders' associations with whom Katalyst's programme has worked. They emphasise the positive social and commercial outcomes enjoyed by the local private sector since the model was adopted in their respective localities.

- *"The thirty-four farmer groups that we have inducted under the Gaibandha Sadar traders' association regularly contact us with different issues, both agricultural and non-agricultural. We try to solve by raising the issues with the upazila officers or by taking other actions that will help them. This relation has helped me to grow my business and increase profits."* - Md. Forkan Hakkani, President, Gaibandha Sadar UZBMO, Gaibandha
- *"The linkage with farmer groups all over the upazila has increased my recognition in the neighbouring areas. With a better reputation, I now have increased business opportunities and more social influence."* - Md. Akhtaruzzaman Al Munsur, Executive Member, Manda UZBMO, Naogaon
- *"We sit with our farmer groups regularly, every month or two months, and we discuss with them all activities that are to take place in coordination with the traders' association. Our relationships have become stronger and we have gained a mutual trust for each other."* - Madhu Mia, President, Bishwanath UZBMO, Sylhet
- *"I am now better linked with the government departments and officers, whose help I can take when needed. The farmers under the traders' association can now benefit from better information linkages and are able to make more profit too."* - Md. Ziaur Rahman, Vice-president, Jhikorgacha UZBMO, Jessore

Reduced extension officer burdens

To ascertain the impact that the model was having on extension officers' ability to cater to the diverse range of information needs among their farmer constituents, the survey interviewed 30 upazila-level extension officers covering agriculture, livestock, and fisheries to better

understand their current responsibilities and estimate the effect the model was having in removing the burdens associated within formation service delivery on public employees. Findings suggest that for roughly half of the working week (47% of the time), extension officers were engaged in either planning or administrative support tasks, with training programme delivery (29%) and responding to individual enquiries (24%) second- and third-order priorities respectively. With such a vast proportion of the working week spent preparing reports, creating voting cards, rationing diesel, policing fertiliser distribution, handing out seeds for notified crops, and so on, it was important that the time officials did spend on knowledge transfer activities was as efficiently organised as possible. Indeed, 93% of the officers stated that they had made use of the traders' associations since arriving in their positions (average time in position was only 12 months) and that they had been of assistance to them in their work.²⁰

Whispers of wider interest and the model's diffusion

Katalyst have noted three instances of non-programme traders' associations getting in touch with programme traders' associations to request advice on how they managed the migration from being a SME-based association to one that has expanded to include farmer groups and linkages with both the local public agencies and the larger private sector. Despite this interest, Katalyst have not yet heard of any non-programme traders' associations that have made concrete moves to implement such changes. Now that the instruction and guidelines have been issued, Katalyst will be closely monitoring for model uptake independent of programme activities.

4.1 Outreach figures

The programme has seen the traders' association-centred model established in 116 upazilas to date, with records showing some **4,396 farmer groups** representing **nearly 213,000 farmers nationwide**; 164,000 of which are male and 49,000 female. Depth of coverage and the extent to which farmers within farmer groups inducted will have benefited will naturally not be equal across these 116 upazilas as the number of beneficiaries is undoubtedly a function of the maturity (time since inauguration) of the model in respective upazilas, though based upon the 248-strong farmer sample (2011 survey)²¹, and the 445-strong farmer sample (2012 survey)²², some conclusions can be drawn and are presented below.

Table 2: Growth in participating traders' associations, farmer groups, and farmers (2009-2012)

Year	Participating associations	Farmer groups	Total farmers
2009	14	721	25,242
2010	74	1,571	54,981
2011	74	1,977	99,139
2012	116	4,396	212,782

20. Given that the average time responding officials had spent in their posts was 12 months only, it was assumed that some of the officials interviewed were so new that they had not yet had the opportunity to work with the associations in their respective upazilas, thus accounting for the remaining 7%. Either that or the majority of association activity within the 12 month period concerned a sub-sector (eg. livestock) for which the interviewee (eg. Fisheries Officer) was not responsible for.

21. The 2011 impact assessment was undertaken in-house by members of the Katalyst team. Nine out of the fourteen original upazilas (traders' associations) were randomly selected as were the farmer groups. Katalyst staff interviewed the presidents of each farmer group and a random selection of regular farmer members on their farms.

22. The 2012 impact assessment was undertaken by an external research firm called Nielsen together with members of the Katalyst team. In this regard, 30 out of the 119 upazilas (traders' associations) were randomly selected as were the farmer groups. Nielsen enumerators interviewed the upazila extension officers (UAO/UFO/UOs), the presidents of each farmer group, and a random selection of regular farmer members on their farms.

Growth in service delivery

The new model and the associated PPI processes essentially offer farmers the opportunity to interact on both a formal basis (eg. classroom or field-based instruction, PPI meetings) and an informal basis (eg. swapping information, tips, and recommendations at the shop, communicating the whereabouts of a demonstration plot or the date of a vaccination round, agreeing guaranteed buyer schemes, sharing commodity price information etc). Whilst the former method tends towards cultivation, disease management, and input usage methods and practices, the latter can include all of the aforementioned categories of advice as well as market access information and commitments and a range of embedded services.

Formal information service beneficiaries

Both formal and informal interactions have led to benefits for farmer group members, with an estimated 15,150 farmers believed to have benefitted from attending a formal training event to date.²³ Using the findings of a farm-level information-sharing survey, an estimated 43% of farmers who have directly participated in upazila training events share key information of the training with an average of 10 other farmers, both within and outside of their farmer groups. Farmers receiving details of the training second-hand apply the information in just over half of the cases (52%), which gives an approximate figure of 35,410 additional beneficiaries of training events when the service usage to service benefit discounting ratio of 96% is taken into account.²⁴

The benefits of the PPI platform

Prior to the creation of PPIs and the culture of regular contact and planning around learning needs, informal interactions were the principal currency of the model. Since their introduction, however, formal interactions have grown significantly. These more formal exchanges have taken two forms - both the repeated curricula of existing (or past) extension programme materials and the development of new curricula in response to farmer learning needs identified by association committees. As a consequence the number of formal events that would otherwise not have taken place in the participating upazilas has grown significantly following the instituting of over 390 PPI committees by 116 traders' associations and the respective government extension agencies.

Table 3: No. of PPI Committees established by phase of programme and by sub-sector (Sept 2012)

Phase	Lead agency	No. of associations worked with	PPI committees established			
			Agriculture	Livestock	Fisheries	Total
I	Katalyst	14	19	8	3	30
II	Katalyst	60	65	67	44	176
III	Katalyst	22	24	25	23	72
	Govt.	20	22	21	20	63
	TOTAL	116	130	121	90	341

Three-hundred and ninety additional training events have resulted from the PPI committee agreements covering 16 different sub-sectors/issues, as of August 2012. Of the 16,550 farmers

23. In fact, 16,550 have received training since implementation began, however, it has been found that 96% apply the knowledge from the training (source: Jessore component of the 2011 impact assessment), and that 96% of these benefit from the application of the knowledge (source: 2012 income assessment), which accounts for the 15,150 figure in the main text.

24. We must exercise caution with these service access to usage to benefit calculations given the small sample sizes that discounting ratios are based upon. The Jessore component of the 2011 impact assessment collected information from a sample of 112 farmers. The 2012 income assessment surveyed 115 farmer beneficiaries. Access to services and impact figures will also be lower in the 102 'second and third wave' upazilas as programme work in these upazilas only began in October 2010. This is important because the Jessore data from 2011 was taken from a random sample of the original 14 'first wave' upazilas.

under the traders' association network who have attended a training event themselves, over 6,000 farmers (approx. 13% women) have attended as nominated by their PPI committees; a figure that represents over 550 different farmer groups. Nearly one-third of the PPI trainings events completed to date have concerned the fisheries sub-sector (30%), whilst events on core cash crops (14%), vegetables (11%), the use of balanced fertiliser and compost production (11%), poultry (7%), and livestock (7%) have also been among the most common subject matter.

Whilst not exact, Katalyst has attempted to keep a record of the major driving forces behind the curricula development and delivery at these additional events hosted by the various traders' associations, finding approximately 85% of events to be government- or research institute-led and 15% to be private sector-led, either by the local traders' association committees themselves or through sponsorship by larger agri-businesses. Evident here is the fact that limited government resources are going further, either leading or participating in an additional 390 instructive events, and equally, that the model has been expediting public extension agencies links with the private sector.

Informal information services beneficiaries

Impact assessment data drawn from a random sample of 9 traders' associations from the original 14, in 2011, found that forty-fourpercent of respondents (109of 248 farmers) had reported having availed one or more informal information service directly from association members since their farmer group was inducted into their respective association, with just under half of this number actually having received two or more information services. Applying discounting factors of 94% (information access to application) and 76% (information application to improved farm performance), taken from the 2011 and later 2012 impact assessments respectively, gives 78 farmers out of the 248 farmer sample who are estimated to benefit from accessing an informal recourse to agricultural information via their farmer group's membership of the local traders' association. Two years on from Katalyst's departure in the 14 original upazilas, over 30% of farmers were thought to have directly benefited from applying the advice they had received via the associations.

Looking ahead

Generalising so as to forecast the informal service beneficiary numbers for 2015 across the 116 upazilas that Katalyst and the government have engaged with over the course of the programme, over 65,000 informal service beneficiaries are predicted should ratios hold equivalence; not taking into account the indirect beneficiaries reached as a result of farmers receiving information second-hand through word-of-mouth. Importantly, this number will grow day-by-day as farmer group and association relationships mature. Assuming the commercial, social, and policy motivations that underpin the new complementary information and coordination channels endure, and assuming the remaining 350+ upazilas across the country take-up the model as a way to increase information outreach as a result of central government instruction, the potential number of farmers afforded benefit through participation is very large indeed.

But are these new farmers?

With all this said, it is not just important to know the number of farmers who have attended such events, but the proportion of these that were previously 'untouched' or 'out-of-reach' of extension events customarily planned and communicated solely by government extension agencies. The proportion of those accessing services for the first time as attendees of formal training events is crucial to understanding the value that the models adding and how they are complementing existing extension service delivery. Zooming-in on agricultural crop producers who had received training since 2011, the 2012 impact assessment found that out of 140 farmers asked, 76% had reported having attended an extension event for the first time as a result of their farmer group's induction into the local traders' association.²⁵ The figures suggest a good

25. Further, 5% of the first-time attendees actually attended two formally organised events since their farmer group was inducted, having previously never attended an extension event prior to their farmer group's induction.

circulation of training event invitation and a very healthy incorporation of first-time event attendees, assumed to be some of the most needy farmers. The 24% of repeat attendees - those that had previously participated in an extension event of some nature - corresponds well to the 28% of 39 farmer groups surveyed who had members that had to some extent participated in a government extension programme in the last 5 years (2007-2012) and the proportion that had reported having received direct technical, asset, or subsidy support (15% of farmer groups).²⁶ For livestock farmers (68 out of 81 farmers) and fish farmers (151 out of 209 farmers) surveyed, the first-time event attendee ratios were equally positive.²⁷ Unfortunately no figure can be estimated for the number of informal information service beneficiaries who are benefiting from extension services, albeit re-routed through the traders' associations, for the first time.

Will the modality sustain?

With the information to hand, it is difficult to see the model's unravelling and the flow of information benefits drying up in the coming years. Associations are financially solvent, so much so that many (82% of 30 associations surveyed) do not ask inducted farmer groups to pay membership fees, and so much so that association committees mostly host and co-fund materials for formal PPI training events without charge. Impressive too has been the rate by which farmer groups have been absorbed into the traders' associations. Over the two-year period, from February 2011 to January 2013, the number of farmer groups inducted as honorary members within the 74 traders' associations up to and including Phase II of the programme grew from 285 to 2,687 corresponding to an increase in prospective extension coverage among member farmers of around 5,000 to 128,000. The upward trajectory is certain to slow, however, the trend indicates the value attached to association membership among the farming community and suggests a satisfaction with the benefits.

Further, association committee members, of which 60 were surveyed, report a variety of motivations that underpin their commitment to their new collaborative role in supporting extension services, from social incentives, to better backward- and forward-linkages, and to improved business performance (eg. the ability for local collectors to bulk and sell in higher volumes to larger traders or for input dealers to increase sales). Government extension agencies are equally keen to invest time to commit to the achievements thus far, with a near 100% satisfaction rate among those whose staff have interacted and made use of the associations. The model has also allowed government to maintain contact with groups that had previously disbanded following programme activities, as well as the good number of 'first-time' information beneficiaries (through both formal and informal modalities) being reached that contribute towards the achievement of officers' mandated targets. Lastly, 95% of farmer group presidents (37 out of 39 surveyed) felt that their farmers were enjoying more opportunities to access extension services since their integration into the local traders' associations than was previously the case, confirming the positive service delivery outreach data findings reported above.

Is it pro-poor?

Katalyst's 2011 impact assessment revealed seventy-five percent (75%) of participating farmers selected from the Rangpur and Jessore regions to be in the marginal or small farmer categories, cultivating between 0.05-2.5 acres of land. Farmers typically had between 15 to 20 years of farming experience and moderate levels of formal education with 45% having studied between classes 6 and 10. More often than not, farmers belonged to households with more than five members, and in the majority of cases, they were the only earning member. Nearly nine-tenths of those surveyed were male. Katalyst also trialled the use of the Progress out of Poverty Index; a

26. This is not to say that some proportion of the farmer groups questioned had not been formed by, or received support from, local or international NGO organisations. In this respect the survey results (of 15%) maybe underestimating the support that the sample of farmer groups received as the survey did not investigate whether or not farmer groups had received technical or financial support from non-governmental sources. Therefore, the 15% maybe somewhat nearer the 24% repeat attendee marker in reality.

27. It is worthwhile to note that there is no figure for displacement here. It would be interesting to compare the number of first-time attendees recorded for formal training/PPI events against the number of first-time attendees reported by conventional government planned extension programmes to uncover the counterfactual. However, it is fair to say that the 6,000+ farmers that have thus far participated in formal PPI events, as a result of Katalyst programme activities, have not displaced any other farmers as these constitute additional training events that would have otherwise not taken place.



PHOTO: ADNAN WAHID

framework currently used by various multilateral donor organisation and NGOs as a clear and transparent methodology for assessing how 'pro-poor' sectoral interventions are. Using 10 easy-to-collect, verifiable indicators, scores are generated from participant respondents that are deemed to be highly correlated with the poverty status of the household. The score relates to an index that will give users any particular household's "poverty likelihood," that is the probability that the household falls under the \$1.25/day and \$2.50/day poverty lines. Across the four regions of Bangladesh where Katalyst is working to improve public extension through the association-centred model, the Index results from a 219 strong sample of direct beneficiaries estimate a 82% likelihood that farmers earn less than \$2.50/day (PPP, 2005), and a 43% likelihood that farmers earn less than \$1.25/day (PPP, 2005).²⁸

4.2 Income assessment

Whilst heightened operational efficiency of local government agencies and the higher outreach that the model affords are commendable alone, it is important to understand the nature of the productivity, revenue, and income benefits that the new arrangements have helped to extend to smallholder farmers.

Estimations of benefit from formal information services

Given the sheer diversity of impact that the new model has had on farmers from a number of different sub-sectors, it is not always useful to attempt to estimate and extrapolate averages for productivity gains, cost savings, and profit increases. Irrespective of this, in late 2012, Katalyst used a basic "snowball" approach in 7 upazilas to identify 115 farmers from the agriculture (n=61), poultry (n=30), and fisheries (n=24) sub-sectors²⁹ who had benefitted from attending an

28. The accuracy of the scorecard is contingent upon the stability of the relationship between the ten-point indicators and poverty. So long as this does not change significantly and that the scorecard is applied to households representative of the same population from which it was constructed, the process will produce unbiased estimates of poverty likelihoods. Unfortunately the data employed in developing the latest PPI scorecard is over 5 years old (taken from the 2005 Bangladesh HIES) and there is justified reason to assume that the relationship may have changed between some of the variables and poverty likelihood. The PPI score may also not have been as pro-poor as anticipated as the sample comprised direct beneficiaries only. As 'early adopters' of any particular service, direct beneficiary farmers tend to be less poor and more progressive than indirect beneficiary farmers. An expanded sample that includes both direct and indirect beneficiaries as per actual beneficiary weighting would likely be more reflective of the poverty status of the intervention's target group.

29. Twenty-three livestock (cattle) farmers were also interviewed for the income assessment, though exact figures for benefit could not be derived and hence income study results were discounted for the purposes of this case study. Figures could not be estimated largely because of the smallholder business model and the snapshot methodology of the study. Firstly, farmers do not sell a head of cattle each year. Secondly, cattle are not generally bought per kilo, but instead are price graded less rigorously on observable characteristics of 'healthiness' and age. Benefits conferred from the vaccinations administered and animal health training given, when applied, would have resulted in healthier cattle, reduced disease incidence, and improved weight gain. At the time of study, 100% of farmers reported witnessing improved cattle health. Quick market polls gave figures of somewhere in the region of BDT 7,500 more per head of healthier, weightier cattle, than those observably weaker.

additional training event organised through their local traders' associations to participate in an income assessment to find out the extent of the benefit.

The income assessment was a simple 'before' and 'after' study. For production, market price, and cost of farming inputs data, participants were asked to recall information from the corresponding season immediately before attending the training and immediately after attending the training. The figures provided were then used by the researchers to estimate net profit/income change. Researchers were also asked to look for justifications behind unexpected outcomes (ie. +/- market price fluctuations and spikes in the costs of inputs like animal feed), so that any figures reported that seemed to be extreme outliers could be talked through and potentially removed.³⁰ A decision was made to not opt for a control group for each of the sub-sectors due to the limited validity in doing so³¹ and the great expense that would have been incurred through tracking down farmers that fit the criteria.³²

Tables 4: Agricultural sub-sector income study findings³³

Paddy productivity & income change, n=35	Mean	Deviation	Min	Max
Yield before training (kg/decimal)	26.8	14.05	1.1	66.7
Yield after training (kg/decimal)	31.0	15.8	0.9	60.6
Net income before training (BDT/decimal)	311	181.6	69	661
Net income after training (BDT/decimal)	218	128.2	26	653
Potato productivity & income change, n=14	Mean	Deviation	Min	Max
Yield before training (kg/decimal)	60.8	31.12	21.5	120
Yield after training (kg/decimal)	78.0	32.9	28.0	144
Net income before training (BDT/decimal)	174.0	27.7	-473	737
Net income after training (BDT/decimal)	325.8	529.5	-162	1900
Vegetable productivity & income change, n=12	Mean	Deviation	Min	Max
Yield before training (kg/decimal)	35.6	35.2	4.5	107.7
Yield after training (kg/decimal)	44.2	34.2	1.8	104.8
Net income before training (BDT/decimal)	235.2	272.6	-35	725
Net income after training (BDT/decimal)	329.9	320.6	-46	771

Agriculture

Whilst the income results may lead us to think that the training has had a negative effect in paddy, this decline in farm profitability was in fact due to both a drop in market price, from BDT 800 per 40kg the year before the training took place to BDT 550 per 40kg in the corresponding season following the training. The increase in the price of the key input urea, from BDT 12-15 to BDT 21 per kilo was also significant. Looking at yield alone, however, we are able to identify a clear positive effect for the mean output scores from the 35 respondents. Should the price of the marketed produce have remained constant across the year, net average income change would have in actual fact been BDT 414/decimal. For both potato and vegetables³⁴ there was a clearer effect in evidence, though the sample sizes may be too small to draw wider conclusions. Further,

30. Some of those interviewed were discounted because they were considered non-representative participants and skewed the data considerably. These were mostly large farmers who, in agriculture/fisheries had a far higher than average small-holding/pond hectareage, and in poultry/livestock had far higher than average numbers of animals.

31. The model allows information to flow to a greater number of people. It is assumed in the case of formal interactions (ie. government employee delivered training events) that the quality of information delivered is accurate and reliable and is thus responsible for the net income benefit at the farmer level. As Katalyst has not affected any change in the content of information that flows through this new model, information quality is a variable that requires monitoring, but not testing.

32. Selecting a control group where access to information or 'farming knowledge' are the variables being tested whilst other key characteristics need to be held constant is a difficult task due to the information-sharing culture within farming communities and the need to select farmers with similar profiles and means.

33. All calculations provided by Katalyst's Monitoring and Results Measurement (MRM) team.

34. Vegetables grown by vegetable farmers included: cucumber, tomato, red spinach, bottle gourd, and bitter gourd.



PHOTO: ADNAN WAHID

95% of farmers linked their change in farm yield to the training they had received making attribution from the farmers' perspective strong and gives the programme confidence to claim that the practice changes that resulted from attending the training were responsible in the main for the improved performance.

Table5: Poultry sub-sector income study findings

Productivity & income change, n=28 ³⁵	Mean	Deviation	Min	Max
Feed conversion ratio before training	1.8	2.1	0	10.62
Feed conversion ratio after training	1	0.8	0	2.29
Net income per chicken before training	20.6	55.8	-68.5	150.0
Net income per chicken after training	28.3	56.8	-104.9	159

Poultry

Increased incomes have derived from improved feed conversion ratios (FCRs), the attainment of expected weight in a shorter time, healthier chickens selling for more (per kilo), and reduced incidence of poultry death from disease, in spite of rising feed costs. From the 30 farmers questioned, there were 13 incidences of poultry disease affecting farm output in the season prior to receiving training, however only 4 farms had outbreaks following training. Indeed 10 of these 13 farmers would suffer poultry disease striking in over 50% of their breeding cycles. In terms of attribution there was a clear message from farmers that the improved net return to poultry farming was as a direct result of attending training.

Table 6: Fisheries sub-sector income study findings

Pond productivity & income change, n=22 ³⁶	Mean	Deviation	Min	Max
Yield before training (kg/decimal)	18.5	15.0	3.3	70
Yield after training (kg/decimal)	21.8	14.7	0.78	60
Net income before training (BDT/decimal)	999.8	1216.6	-420	4700
Net income after training (BDT/decimal)	1813.5	1891.2	-43.3	7246.7

35. Two outliers were identified and removed so as to not skew the sample.

36. For these questions, two respondents' answers were not taken because land size was significantly higher than average and one result was a significant outlier, and presumed mistake.

Fisheries

The training given on commercial fish cultivation, production techniques, and the use of quality inputs has resulted in a 15%+ increase in average pond yield and significant improvements in income (largely resulting from switching to different breeds and/or cultivation systems). This has been due to the use of higher quality fingerlings (reared by the farmers themselves) and the reduced incidence of fish mortality and pond diseases affecting yield. In addition, six attendees who had previously had some incidence of disease affecting their fish stock have found no signs of disease or infection since receiving the training and adjusting their techniques. Similar to the finding in the agricultural sub-sectors above, the attribution score indicates that training programme attendance was a principal contributor to increased fish pond performance in the eyes of the fish farmers surveyed.

4.3 Mini cases demonstrating informal benefit

The model also confers a host of benefits outside of the income gains derived from the attendance formal training events, from improved informal interaction with commercial actors resulting in improved access to markets, informal contracts, and better market information. Though real and occurring at a higher frequency than formal interactions, these benefits are impossible to fairly and accurately quantify with respect to identifying a generalisable income change figure.

In the box below, a representative sample of mini cases have been detailed to demonstrate the nature of specific direct income benefits Katalyst's target group have enjoyed through their farmer group's association membership. Whilst the nature, intensity, and quality of informal support differed from one association to another, the diverse cases presented are deemed illustrative of the types of benefit availed by farmers across all 116 upazilas worked in to date.

Box 14: Mini cases demonstrating informal and value-added benefits of the model

Improved collaboration with industry

In 2008, many poultry farms of **Jhikorgacha upazilla** were infected by avian influenza. The government responded by culling thousands of chickens to prevent the spread of the disease, resulting in almost half of the poultry farms in *Jhikorgacha* stopping their business. Farmer groups began to request that their traders' association act, and together with the upazila livestock officer (ULO), the association conducted a survey among its farmer members to determine what the existing level of knowledge was within farmer groups of bio-security measures. The survey revealed an urgent need for bio-security training, however, with funds limited, the upazila livestock office was unable to meet such a need. As a result of this a public-private initiative (PPI) was brokered by the local traders' association in 2009, connecting the upazila livestock office to farmer groups with sponsorship provided by three national level input supply companies – *Navana*, *Bay Agro*, and *ACI* – all with a business interest in poultry inputs. One hundred-and-fifty farmers were trained and important materials provided. Since 2009, poultry farms in *Jhikorgacha* upazila have not suffered any instances of avian influenza and an assessment undertaken by the livestock office finds that farmers are following the principles and practices of the bio-security system communicated at the training events.

Members of **Sunamganj Sadar traders' association**, many of whom are also agro-input dealers licensed by larger national input suppliers, approached their district representatives to explore options for closer collaboration between the association, the farmers, and the large private companies themselves. In June 2011, *Sunamganj Sadar* traders' association arranged a meeting with three private companies (*Syngenta*, *ACME*, and *ACI*) where association members from two other upazilas in the *Sunamganj* district were also invited to attend. Participants came to a mutual understanding that the private companies and the committees of the associations would prepare a joint plan for farmer group training and other support to be provided over the following six months. The plan details capacity-building events for farmer groups across six different upazilas within the

► *Sunamganj* district arranged by their respective traders' associations, where technical assistance in conducting the training would be provided by the large input suppliers and other organisational costs be borne by the associations and farmer groups themselves. *Syngenta* and *ACME* have already started their training programs for the samity farmers. Up to and including January 2013, *Syngenta* had organized 6 training events on the process of increasing production of AUS paddy, two each were held in *Dakhin Sunamgonj*, *Jamalganj* and *Bishwambhorpur*. Eighty-eight farmer members from different farmer groups have been trained in total.

Improved access to non-information services

Credit

Members of ***Biswanath Surus Pally*** Maize and Seed Production Farmers Group added a common fund generation dimension to their farmer group, deciding to regularly deposit savings that members can withdraw from should adverse situations arise. The farmer group were suggested to take this action by the *Kaunia* Traders' Association, with whom they have close contact. As a result, the group are now depositing savings amounting to BDT 50 each on a monthly basis, or BDT 60 the following month if a payment is missed. By June 2011, the group had a common fund of BDT 74,000 (c. \$1,000) to contribute towards strengthening their organisation and the betterment of member farmer livelihoods.

Farmers belonging to ***Shadipur Vegetable Growers Association*** in *Chougacha* received training on the balanced use of fertiliser and have gained improved access to finance through their upazila traders' association. Here, the trader supports the local bank by dividing his farmer groups into smaller loan groups, to whom a "group loan" can be made. The association member oversees the loan process, providing an informal guarantee to the bank that the farmers will not default. Farmers within the group had always used fertiliser, however, its misapplication, particularly the untimely nature of its application meant that the crop benefited very little. With new knowledge and access to credit, with which inputs can be bought on time and as required, farmers have significantly improved productivity with claims that production has doubled in the last two years as a result.

Mediation

In ***Belkuchi Krishi ICM Club***, a maize farmer, Md. Tota Monu, received mediation support from the traders' association to help to settle a dispute he entered into with a local seed retailer after unknowingly purchasing poor quality inputs. After buying and sowing four packets of maize seeds, the seeds failed to germinate. He took the issue to the seed retailer, who was unwilling to discuss the matter further, and so unable to settle the matter on his own, he looked to the association for assistance. The committee advocated for compensation and Mr. Monu was later repaid the BDT 960 he spent on the seeds some weeks earlier.

Improved access to markets

Mung bean contract farming

Swonirbhor, the traders' association of Gurudashpur upazila, facilitated the production and marketing of around 200MT of mung bean through one of their PPI schemes. Nearly six hundred farmers were trained to produce export quality mung beans and given technical assistance concerning post-harvest management. The produce was exported to Japan through a private company named, Grameen Yukiguni Maitake Company Limited, benefiting 300 farmers who had applied the learning from the training and seized the market opportunity, to the tune of 2,000BDT/MT above local market price. The traders' association contacted potential buyers, selected farmers from their farmer group network, and organised the training events provided by the UAO.

5 Lessons Learned



PHOTO: ADNAN WAHID

One-by-one, countries have shifted away from outmoded, centralised, and thread-bare public extension systems towards multi-institutional, pluralistic systems where agricultural advisory services - knowledge transfer and capacity-building - are increasingly being delivered and/or paid for in a multiplicity of ways. Indeed, the agricultural extension scene is now far more varied than ever before, with private actors, in particular, playing significant roles; from contracting-out and fee-for-service arrangements to a growing number of embedded service offers resulting from farmer-trader and farmer-input seller relationships. The Katalyst programme has been successful in adding new dimensions to Bangladesh's public extension system; a complementary information channel whereby advice is re-routed through local traders' associations for amplification and re-packaging and where the associations themselves play a critical role in supporting the information demands of the farming community to be heard and responded to. The experience has left Katalyst with several insights that may be of use to donor agencies, developing country governments, and development practitioners elsewhere. These are shared below.

Lessons from the model itself

Compared to the 'conventional' donor-funded extension programmes where extension officers are effectively bought as 'donor-employed trainers', the Katalyst strategy has instead bought longevity and a permanence of information flow more than it has bought a set number of newly-trained farmers. Given that information and knowledge always need updating, the recurrency of interaction afforded by the model and the PPIs - where farmers have a means to reach government officers or a credible local information source with the irregular, non-routine concerns rather than 'wait' for advice to arrive - are

substantial improvements. Indeed, the recurrency of interaction element alone has been responsible for rejuvenating hundreds of disbanded and dormant farmer groups, rescuing the organisational capital created by now closed government and donor-funded programmes. This recourse to seek information and the ability to 'get in touch' with those that can advise them is what has kept and what will continue to keep farmer groups functional entities, which themselves offer a platform for other commercial actors to take advantage.

Engaging with local government extension agencies

Katalyst had the option to choose whether to begin to engage at the higher or the lower-levels of government when implementation commenced. This was actually an option between creating an 'informal' momentum and drive for change that was able to be evidenced and communicated to the central agencies as so-called 'positive deviants' or 'successful outliers', against, advocating more 'formally' for a chance process having identified the individual 'champions' of change at ministerial level. Given the difficulty of undertaking an effective 'personality inventory' of central agencies from the outset, where without evidence, it would have been demanding for Katalyst to convince the many hard-to-shift mindsets of the programme's model. In this light, starting small 'in the field' with those distant enough from the centre that there was less discomfort with experimenting represented a sensible approach.

Katalyst have also had to move the status quo beyond the "we can't do this because we have limited manpower and finances" line. From the outset, the language used by the programme has been one of "helping to remove burdens" and "simplifying existing workloads" and "this one activity saves you from doing ten separate activities." This has helped local government officials with more of a technical mindset than a strategic mindset to warm to the programme's approach, focusing on economies of time and effort, rather than on sub-optimal extension outreach. Similarly, Katalyst has also highlighted both the programme's and government's shared interest in increasing outreach and "helping officials to reach their targets" whilst being cautious not to raise the risk aversion of extension officers by promoting the new model as "complementary" to existing practices, not as a replacement for them. So too would the costs of uptake be borne out in the allocation of human resources and investment in organisational change, over-and-above any financial investment. The nature of the engagement has helped to cultivate a trust and understanding between the two parties; an understanding that was further cemented by the creation of the task force and the programme's invitation to government to monitor progress.

Dealing with rotation

Katalyst came face-to-face with a common problem during implementation; dealing with the seemingly continuous rotation of public officials, the personnel 'merry-go-round.' To counter this, the programme aimed to ensure a legacy for the newcomer to inherit through the maintenance of a formal 'file' by the programme field staff which was to be kept in the extension office itself - including 'official' meeting minutes (if there was no official agreement) and a copy of the MoU (if there was an official agreement). The file also contained an 'office order' from respective departments that instructs all officers to cooperate for the smooth implementation of the programme. Katalyst was equally pro-active in arranging introductory meetings with local partners and associations for new public personnel,, in establishing new personal relationships, and in coordinating district-level meetings to raise awareness of the programme's work (one jurisdiction up from the upazila-level). Important to note, however, that not all aspects of rotation were negative. There was empirical evidence to suggest that officials who had been transferred from an upazilas where Katalyst had been working, to an upazila where the programme had no presence, carried with them positive messages regarding the leverage the model and PPI processes had in their work. Now that the central instruction and guidelines have been issued, with very light backstopping support from the task force, it is thought that these officials will form part of the second-wave of later adopters with no prompting from Katalyst itself.

Affecting an attitude shift in the conceptualisation of extension services

One question Katalyst has been asking itself is whether or not the central instruction and guidelines will be enough? Katalyst has not yet managed to effect change to the real underlying cause of extension service design and practice; that of the wider programmatic and target-setting culture, itself, perhaps too political to change. With the 'churn' of donor- and government's self-funded extension programmes, it is easy to see how the easy-to-adopt complementary model instigated under Katalyst might be lost and for 'business as usual' to return as new donors offer programmatic support and where extension programme design units may not place advancing public-private information networks at the top of the menu. Can



PHOTO: RANAK MARTIN

this model ever sit within a top-down, centralised planning, and donor-driven organisational culture? It has been promising to see growing interest in the traders' associations and PPI processes from other donor programmes - AEC, SCDP, and NATP - and has been equally promising that the DAE's Director General has proclaimed the Katalyst programme's model as being one way to provide market-oriented extension services. Whether the exact incarnation of the model and the PPI processes will be carried to and supported to grow in virgin territory is not altogether known, though the key take-home point for government is that they have not yet begun to fully utilise the nascent and latent informal and formal networks for information-sharing, nor have the public extension services as a whole taken on-board all of the benefits of investing in collaboration. Irrespective, it is likely high time to let the dust settle on over 5 years of Katalyst efforts and let participating upazilas who are enjoying the benefits advocate to their peers for the model's wider adoption.



House 20, Road 6, Baridhara, Dhaka-1212, Bangladesh

Tel: +(88) 02 8833172-4

Fax: +(88) 02 8835452

www.katalyst.com.bd

www.swisscontact.org.bd

Implemented by



Funded by

