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The U.S. Government's Global Hunger & Food Security Initiative

REPORT ON EVOLUTION OF FARMBOOK IMPLEMENTATION IN BANGLADESH

Prepared by: Bangladesh Institute of ICT in Development (BIID)

December 2015



USAID
FROM THE AMERICAN PEOPLE





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USAID/BANGLADESH

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Acronyms

BIID	Bangladesh Institute of ICT in Development
CRS	Catholic Relief Services
DAE	Department of Agricultural Extension
DAM	Department of Agricultural Marketing
EAS	Extension and Advisory Services
ICT	Information and Communication Technology
MoA	Ministry of Agriculture
MEAS	Modernizing Extension and Advisory Services
SAAO	Sub Assistant Agricultural Officer
USAID	United States Agency for International Development
VSO	Voluntary Services Overseas

Executive Summary

Bangladesh Institute of Information and Communication Technology in Development (BIID) is an inclusive business initiative engaged in developing Information and Communication Technology (ICT)-enabled products and services to support private (for profit, nongovernmental organization) and public (government) initiatives targeted for the rural segment in providing them with access to ICTs and ICT-enabled information and services. BIID's core area of expertise is agricultural extension and advisory services (EAS) provided under the service brand named 'e-Krishok'. e-Krishok is an initiative that is aimed at farmers with the desired goal of providing services from which they will benefit both regarding their farming activities and opening up opportunities in new avenues that will ultimately translate into increased income. BIID continuously works with various partners and with new technologies and tools to explore innovative ideas and improve its service basket. One such tool was the introduction of Farmbook in collaboration with the United States Agency for International Development (USAID) funded Modernizing Extension and Advisory Services (MEAS) project. The tool was pioneered in 2013 following extensive discussion with MEAS partner Catholic Relief Services (CRS) to understand its potentials in Bangladesh. BIID is partnering with the Department of Agricultural Extension (DAE) to implement Farmbook at ten different locations in Jessore district through DAE field agents (also called Sub-district Agricultural Officers, SAAOs) and in Baira Union of Manikganj district. Farmbook was also implemented in Baira with BIID's own agricultural advisor, as this Union Parishad (local administrative structure comprised of 15-20 villages) serves as one of BIID's/e-Krishok's innovation labs. The action research project (pilot) with MEAS had two distinct components- (i) translation and roll-out of the C3RS five skills modules and (ii) scaling up of Farmbook.

During the implementation phase of this project, various customizations to both the five skills modules and Farmbook were gradually undertaken based on the field experiences, feedback from users, and through taking the local context into account. The customizations included transforming the modules into factsheets, developing a profitability calculator on mobile based data collection platform, built on a particular platform called "iFormBuilder."¹ Finally, a mobile application for profitability calculator and business plan canvas has been developed so that anyone will be able to access the service through downloading the app.

Throughout the implementation of the pilot action research activity, "Farming is Business and a Farmer is an Entrepreneur", was promoted as the core message with the aim to encourage farmers to adopt business planning within their farming practices. Several strategies were adopted at different phases of implementation such as branding the service, working with the government agencies who are the last mile linkage to farmers, working with different partners such as CRS/Caritas Bangladesh, Oxfam and Voluntary Services Overseas (VSO) to integrate Farmbook in various projects and improvising and adapting to the process.

Thus the implementation of Farmbook through this pilot action research has given BIID, MEAS, and CRS the opportunity to engage with various stakeholders, innovate and come across several success stories. The most important outcome of the activity is that a simplified version of Farmbook was ultimately developed which seems to be fitting for the context of Bangladesh. The simplified version facilitated scaling the service up among stakeholders. They found it easy to roll out and doable in the field in comparison to any other business planning solutions that are currently available in Bangladesh. As a scale-up model, the profitability calculator is now being implemented at schools, so that young students can serve as a transformative medium for the farmer families. The following report provides a detailed account of the evolution of Farmbook in Bangladesh.

¹ iFormBuilder is a mobile based platform developed by Zerion Software for data collection. Through this platform, robust and flexible forms can be built and real time data can be shared through the cloud.

Introduction

Agriculture is one of the most important sectors of Bangladesh's economy, contributing 19.6 percent to the national GDP and providing employment for 63 percent of the population. Farmers in Bangladesh often face numerous constraints that prevent them from accessing EAS that could assist them in improving their livelihoods and/or increase agricultural production. The DAE predominately provides extension services under the Ministry of Agriculture (MoA), which has the largest field force of agricultural officers, also called SAOs.

Besides, several NGOs provide extension services which are mostly relevant to improving livelihood programs, while few private companies provide EAS as a value added service. There are also few agricultural help desk services by mobile operators and toll-free agricultural service furnished by the government's Agricultural Information Service (AIS) under the MoA.



Bangladeshi Farmer © BIID, 2015

All too often, farming is not regarded as a 'business' that could bring profit to the farmers, and especially smallholders consider farming as a subsistence mechanism which they have been for generations. Such a perception prevails among the extension or field agents as well, which in turn limits their capacity to assist farmers operate as business enterprises with an emphasis on maximizing profitability, not just increasing production. Extension services are mostly focused on promoting new technologies, varieties, offering solutions to problems with pests or diseases, and increasing production. The DAE gears little of their activity towards improving market linkages and growing the profitability of farmers through enhancing their skills on business planning and accessing market opportunities. Therefore, increased productivity does not translate to increased profits since farmers do not plan their work based on market information. Moreover, they do not see the importance of business planning through which they can evaluate their profitability. The only market-oriented service provided is that of the Department of Agricultural Marketing (DAM), which reports on market prices of certain crops at certain marketplaces. There are some Contract Farming arrangements, some of which include embedded advisory services, promoted through large commercial firms where farmers sell their products to specified buyers. Unless farmers learn to perceive and practice farming as a business, a productive, market-driven agricultural sector is far from becoming a reality in Bangladesh.

Farmbook is a field based ICT tool designed to help farmers understand the cost elements, technology, quality input support services and monitoring of profits that can be achieved by employing different farming options (what crops, what varieties, what inputs, what practices) and linking to markets. It is a tool to enable field agents to help farmers plan their farm businesses more efficiently and evaluate their productivity and profitability. It also helps farmers develop skills for making marketing plans for their specific crops even before planting begins. The tool has also been conceived as a project or institutional management tool, or a means of helping to manage field agents, and support the needs of remote field agents to be able to share their data with project managers.

BIID introduced Farmbook in collaboration with the USAID-funded MEAS project. The tool was pioneered in 2013 following extensive discussion with MEAS partner CRS to understand its potentials in Bangladesh. The DAE has been engaging with BIID to test Farmbook as a farm management and business planning

solution at the field through its extension officers in ten upazillas within Jessore district. BIID also obtained the extensive support of SAAO at Baira union under Manikganj district in engaging with farmers, data collection with the help of tablet device provided to him under the project, verification, and business planning.

The implementation of Farmbook actually began with training of field agents using the CRS-MEAS suite of Five Skills training (now also called “SMART Skills” http://wp.ekrishok.com/?page_id=352) and business planning through field agents, but later modified to a simplified ‘profitability calculator’ (based on the Farmbook tool) and factsheets (based on the Five Skills training material and other sources). Farmbook implementation can be characterized in two separate phases;

- Phase 1: the original version of the application was implemented
- Phase 2: application was modified to a mobile based platform for profit calculation to reach individual farmers

The objective of this report is to share the experiences of Farmbook implementation, capture the learning gathered through field implementation, and identify the best practices to maximize utility and expedite the process.

Objective

The core objectives of Farmbook as contextualized within the agricultural prospects and extension scenario in Bangladesh are:

- Develop business planning skills of farmers with details about their costs, revenues, sales and profits
- Enhance skills of farmers to make them more efficient in terms of group management, financial management, marketing and innovation
- Enable farmers with skills to operate within value chains and to analyze market opportunities and costs to engage competitively with the formal market
- Introduce ICT enabled business planning tools to help field agents/extension officers to organize farmers, collate information and help farmers to assess their profitability

However, in the later phase, the objective was reevaluated to:

- Provide a simple and user-friendly platform profitability assessment
- Develop farmers’ interest and skills in keeping accounts
- Help farmer’s adoption of the profitability calculator

Guiding Principles of BIID

Farming is business; farmer is an entrepreneur

Acknowledging the life cycle and ecosystem of the agricultural sector, BIID always considered farming as business which contains all components of standard business procedures to operate the activities efficiently, the farmers also have to be skilled with basic business knowledge like any entrepreneur.

ICT is a tool rather than a service; respond to the local demand and readiness

To address the challenges and gaps in agricultural extension, it is tempting to introduce fancy ICT solutions rather than consider its sustainability, effectiveness, and user-friendliness. While designing any ICT solutions, BIID studies the local perspectives and address the demand and local readiness. If ICTs become the priority, then extension will miss out on the vision and ultimately fail to bring expected results.

Drive through innovation

Innovation is the key in the field of e-Agriculture. Any initiative has to be driven by the innovation approach with flexibility to accept feedbacks and adopt changes.

Think outside the box and beyond the project

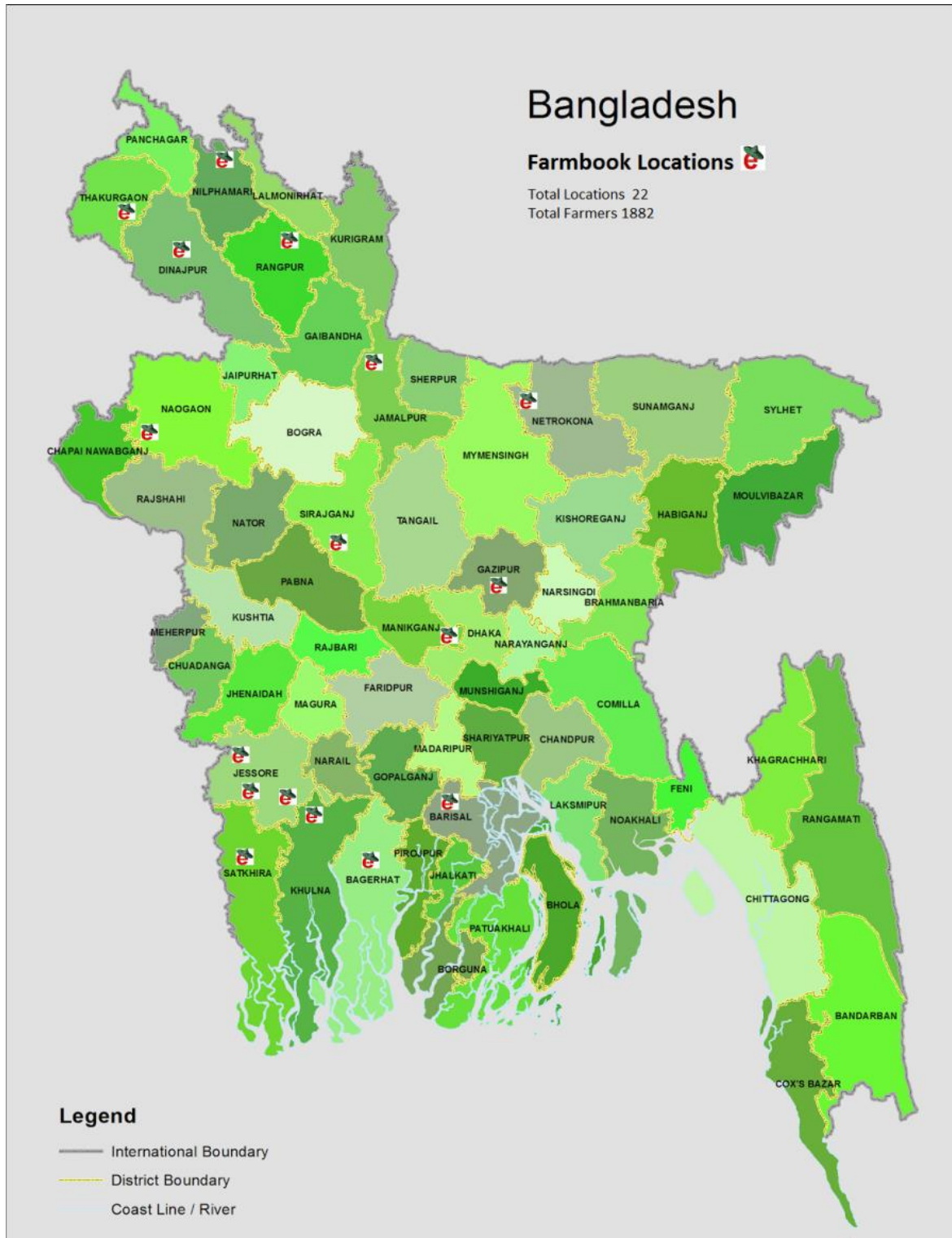
Most of the organizations follow the strict outputs (mostly number based) defined in the project, but BIID always incorporates field experiences and stakeholder consultations before finalizing the interventions. Also, BIID considers the adoption of services under the e-Krishok brand if the solution fits in. This helps BIID overcome the limitations of time-bound projects and ensures sustainability.

Phase 1: Working with Farmer Groups

Location

Initially, Farmbook was launched in eleven locations, of which ten locations are situated in Jessore district and one in Manikganj district. It is being scaled up to include locations in Noagaon, Netrokona, Dinajpur, Satkhira, Bagerhat, Rangpur, Jamalpur, Sirajganj, Gazipur and Barisal districts.

Figure: Farmbook Locations



Farmer Profiles

BIID has been working with more than 5,000 farmers based on certain criteria for selection in the locations identified for Farmbook piloting. This includes willingness to adopt new technologies and ICT solutions, willingness to work in a group, and willingness to attend trainings. Pro-activeness and enthusiasm are the other qualities emphasized when selecting *lead farmers* who will play a major role in the adoption of Farmbook and demonstrating its impact to others. The farmers selected were smallholder to large farmers² who are in a position to enhance their productivity and access the market. Age is another major criterion, and priority is given to young farmers who are usually the forerunners in accepting new technologies and methods.

Beyond Project Targets

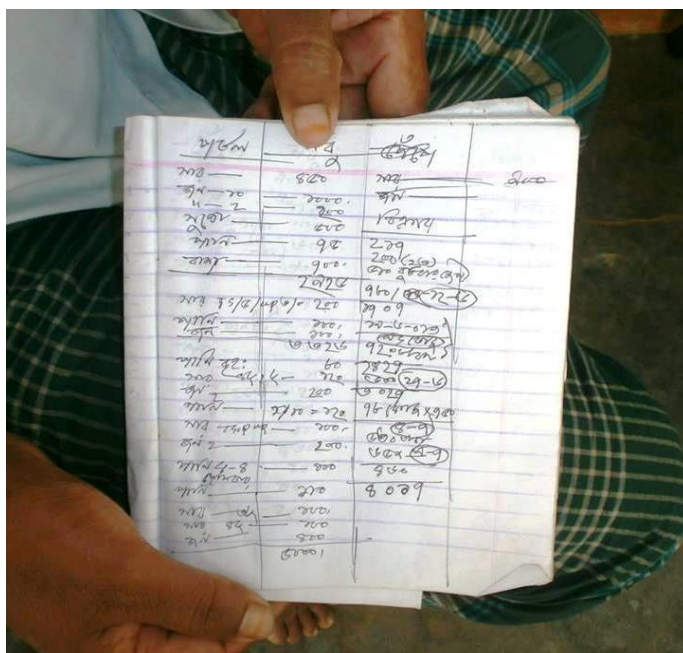
BIID follows the strategy to integrate new ICT solutions by adopting the same under e-Krishok service brand. In case of Farmbook, BIID also went beyond the project targets and adopted the solution to different other organizations and customized the solution as per the responses of the farmers.

Addressing Existing Challenges

Farmers are traditionally unfamiliar with managing any business planning, rarely maintain their accounts of any transactions, or keep any records properly. Hence, they have a limited understanding of their farming costs and actual revenues or profits. Only a small selection of farmers keeps records – and then only a summary – and farm largely based on assumptions. Due to the lack of proper planning (production, demand, supply, marketing, etc.) and cost-benefit analysis, often farmers cannot make the right decision and maximize their profit. The Farmbook solution primarily aimed to address these basic issues to empower the farmers with skills on planning for production, marketing and profit calculation. The photo (see below) shows the traditional practices of record keeping, which does not help the farmers make any proper business decisions.

Selection of Field/Extension Agents and Trainers of Trainers

The selection of field agents was primarily made per the recommendations of the DAE based on certain criteria for and effective delivery of Farmbook through them. At some locations, BIID partnered with DAE to implement Farmbook through SAAO, while at other locations, BIID engaged other partners. IN the southern region, especially in Jessore, SAAOs were engaged who are usually working the closest with farmers. At other places such as in Dinajpur, Jamalpur, Rangpur, Nilphamari, Khulna and Barisal, NGO partners (CRS/Caritas Bangladesh, Oxfam, VSO) were brought on board who are already working with smallholder and marginal farmers in groups. Manikgonj, a BIID field agent, was directly engaged Baira in organizing farmers' plans and providing training. As with the selection of farmers, certain criteria have been set to select field/extension agents:



Traditional record keeping by farmers © BIID, 2015

- Eagerness openness to adopt new technology
- Minimum capacity of using ICT tools (computer, internet)
- Pro-activeness in collecting data, organizing farmers and conducting training
- Willingness to improve the value chain to help farmers

² According to Bangladesh Bureau of Statistics, farmers who have 0.5-2.49 acres of land are small holder farmers, farmers who have 2.5-7.49 acres are medium and those who have 7.5 acres and above are large farmers.

To familiarize agents with Farmbook and get them ready to use the tool, two sets of Training of Trainers (TOT) were provided to them. The first TOT was on the use of Farmbook application and the second was on conducting SMART Skills Training. Additionally, a set of goals and targets were being assigned to each agent with incentive packages in order to ensure efficient service delivery. Regular follow-up and feedback were implemented to address any queries or problems.

The Farmbook Cycle

To streamline the Farmbook implementation, a ten-week Farmbook implementation plan was developed. The activities within the cycle were divided into three stages, which are organization, training and business plan development and assessment and business plan closing. The major activities included:

- TOT of field agents
- Organizing farmers and registration
- Group formation for business planning
- Business plan initiation and business canvass development
- SMART Skills training
- Business plan development (field data entry) and closing

The SMART skills training was scheduled at different stages of business plan development so that farmers/target beneficiaries are able to learn, adopt, and integrate the skills into their practice. Feedback is taken at the end of each training session to help understand how farmers are relating the skills to their regular activities, and to understand their needs and the effectiveness of the training. Data is collected throughout the business planning process. The aim of the implementation cycle was to build capacity of beneficiaries/farmers to access markets and develop their enterprises.

Stages of Implementation

The implementation of Farmbook began with training the agents to use the SMART Skill sets modules as well as operate Farmbook. To make the training modules more accessible, they were translated into Bengali. A considerable portion of the SMART Skills training modules have been translated in their full version. Later the modules were condensed into shorter versions and customized with relevant topics in order to make it easily deliverable at TOTs and also provide as handouts to the trainees. Similarly, the module for the application has also been translated into Bengali and customized to reduced version so that it can be used as handouts during trainings. Hands-on training with a practical application at the field was emphasized so that the agents become familiar with using the platform.

The next step was motivating farmers and registering and forming groups. To facilitate the process, the interface was converted into hardcopies so data could be collected more easily from the field. The agents



Farmer Group Meeting © BIID, 2015

Major Observations

1. Lack of incentives and low level of motivation of farmers as well as field agents is a major challenge
2. Farmers feel interested in the training once they can relate to the skills with their day-to-day activities
3. Trainings are more effective if sessions are conducted within few days apart, so that farmers can remember the lessons from previous sessions
4. Use of multimedia tools can be more effective in training delivery. Handing out notes can also help farmers to practice at home with help from family members
5. Low level of literacy is a major impediment for farmers in keeping records and providing valid data
6. Farmers often ask for additional support, such as access to credit

first collected data from the field, then entered it into the application when convenient, and finally synced the data whenever they had access to the internet (the Bengali version of the application had been developed before undertaking implementation phase). After forming groups, the farmers gathered to work on the business campus to learn how to business plan. The farmers were also given SMART Skills training. The training was typically conducted in the courtyards or fields through participatory discussions on major topics and SMART Skills messages. At the end of each session, farmers were asked to give feedback on the topics discussed, how they could relate it to their daily practices, and give their opinion on the training. A lead farmer was selected for data collection and a demonstration plot. The lead farmer was regularly guided during the crop season and followed up until closing of his business plan. At the closing of the business plans, results were shared with the group so that they were aware of and understood the implications of the business planning.



Training of trainers on Farmbook. Organized by BIID and DAE/MoA © BIID, 2015

Challenges of Data Collection

Getting valid data (detailed and accurate) was a major challenge in the business planning process. A large part of Farmbook business planning involves collection of each farmer's data within a group. However, since farmers generally do not keep any records, they often fail to provide appropriate data or provide irrelevant data. As such, collected data must be cross-checked and validated which slows down the process of data entry.

The Farmbook application is a sophisticated interface, but it is often deemed complex and challenging by the field agents who are responsible for data collection and entry. As such they are daunted by the task which is a major drawback for the project. In addition, enormous amount of data needs to be collected which also discourages the farmers from cooperation and diminishes their interest in the process. A simple version of the application on a mobile device could be solution to this problem. A mobile-based application would also make it more accessible and farmer friendly to contribute to scaling it up.

Incentive

Keeping the attention of the field agent as well as farmers is a major challenge at the field level. Extension agents are often involved with several other projects which sometimes provide them with handsome incentive packages that keep them busy. Besides, sometimes they are not convinced that the application is beneficial and express the opinion that keeping manual records are much easier and preferable. Such views are also expressed by farmers for whom keeping financial records is a challenging task due to low level of literacy. As such, to keep their interest in Farmbook, incentives are required, as well as demonstrations of the benefits of Farmbook.

BIID Case Study: 1

Farmbook transforms Saiful from traditional Sub Assistant Agriculture Officer (SAAO) to Smart Agricultural Extension Officer (SAAO)

Mr. Saiful Islam, a 35 years young-energetic proactive and ICT-friendly SAAO was working at Avaynagar, Jessore, (now posted at Fultola, Khulna) Bangladesh. He joined as Block Supervisor (BS, later renamed as SAAO) DAE, MOA, in 2006 with diploma in agriculture. Mr. Saiful used to manage (record and report) all his information and data in a manual process and never used any ICT tools for any official purpose.

In 2013, DAE nominated ten SAAOs to participate in the Farmbook project implemented by BIID. These selected SAAOs were trained by CRS, USAID, and BIID before launching the Farmbook solution in field. BIID offered refreshers courses and initiated the pilot in five upazilla (Sub District) in Jessore; later it was scaled up to 20 locations spread all over the country.



Saiful sharing his works with visitor © BIID, 2015



Farmbook participants © BIID, 2015

Saiful initiated his ten groups for Farmbook and facilitating to maintain the records of farmers. Ten business plans already been developed for 100 farmers who are also very happy to know their financial information of their farms and produces.

In addition to managing Farmbook, Saiful now maintain all his records and reports in digital format, even though the DAE still lack an ICT application to manage this information digitally.

There are 14,200 SAAOs are working under DAE and they are the last mile extension service provider in the agricultural sector. A coordinated effort with this approach can

transform the DAE as well as the existing extension service delivery and management into a smart extension service in Bangladesh by integrating ICT solutions like Farmbook.

Promotion of PPP models in Bangladesh

MEAS is collaborating with BIID, a private ICT firm in Bangladesh and CRS to pilot a customized version of Farmbook translated into Bangla by BIID. BIID is promoting Farmbook application under its e-Krishok service, an ICT enabled extension and market linkage service for farmers and extension workers. BIID has developed its own ICT applications such as 16250: Voice and SMS-based help line and e-Learning program for extension officers. BIID has been collaborating with DAE on the Farmbook piloting and has trained SAAOs in the pilot sites. There are challenges in the technical, management and human resources aspects but this tool has good potential use in agricultural extension.

Source: Report of MEAS Evaluation and Site Visit In Bangladesh, September 21-26, 2014, Dely Pascual Gapasin, Evaluator

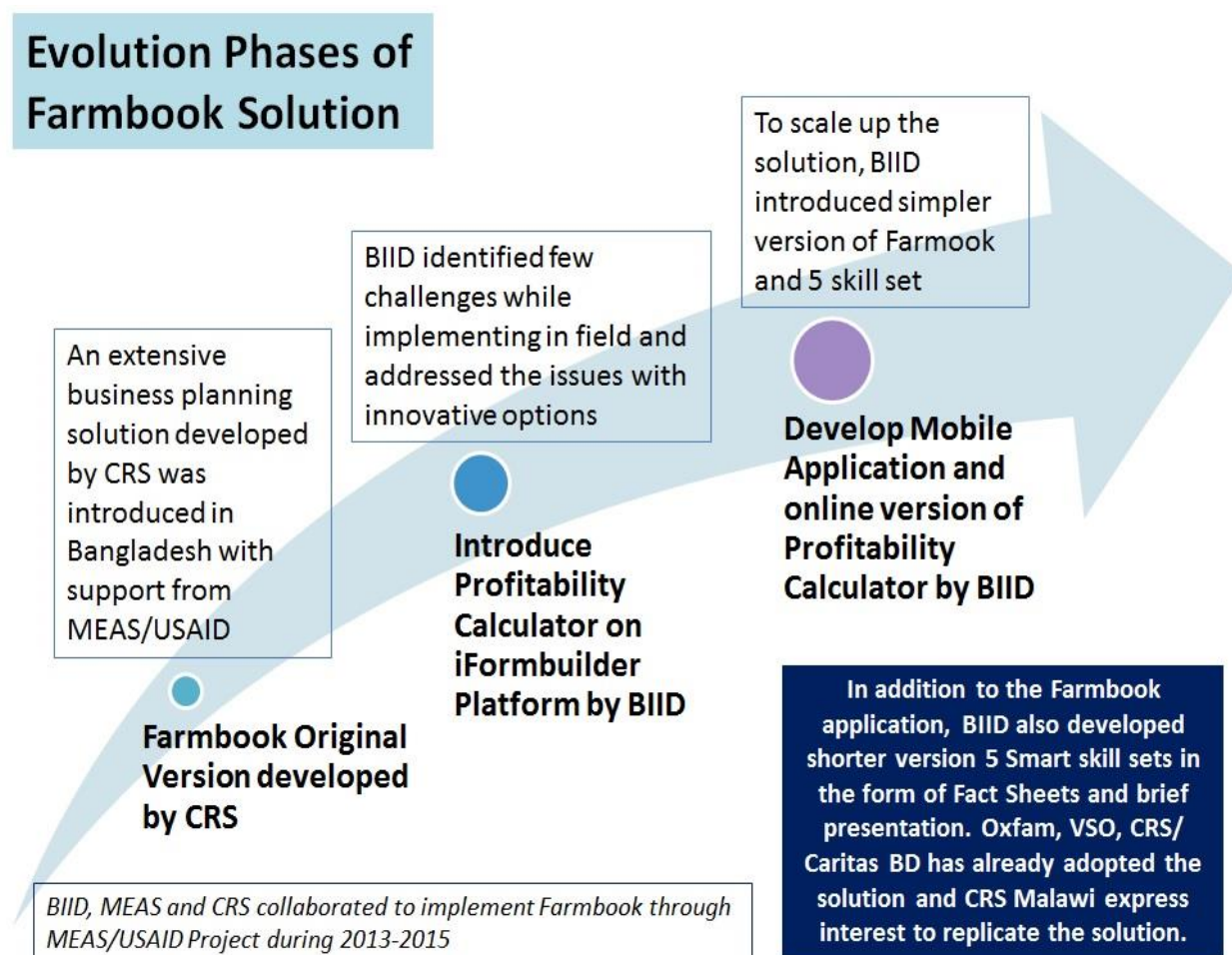
Table: Farmers Reached in implementing Phase

	Name of Organizer (SAAO /Farmbook User)	Location	No of Farmers
1	Md. Mahbubul Alam,SAAO	Jessore Sadar, Jessore	100
2	Md. Shafikul Islam,SAAO	Jessore Sadar, Jessore	100
3	Md. Masudujjaman ,SAAO	Jhikorgacha, Jessore	100
4	Md. Nurul Islam,SAAO	Jhikorgacha, Jessore	100
5	Md. Torikul Islam,SAAO	Chowgacha, Jessore	100
6	Tapos Kumar Ghosh,SAAO	Chowgacha, Jessore	100
7	Md. Younus Ali,SAAO	Avoy Nagar, Jessore	100
8	Md. Shaiful Islam,SAAO	Fultola, Khulna	100
9	Shadhon Kumar ,SAAO	Monirampur, Jessore	100
10	Farhad Sharif,SAAO	Monirampur, Jessore	100
11	Md Gafur,SAAO	Singair, Manikgonj	100
12	Md. Saydur Rahman,UDC,Entrepreneur	Avoy Nagar, Jessore	100
13	Md. Arif Hossain,Director,urban,Entrepreneur	Purbodhala, Netrokona	100
14	Mst. Shahera Khatun, Entrepreneur	Niamotpur, Noagaon	100
15	Md. Atikur Rahman,Entrepreneur	Goria, Thakurgaon	100
		Total	1500

Phase 2: Transforming the Farmbook Process

The next sections in the report gives account of how the Farmbook has evolved through customizing its implementation process, translating the SMART Skills sets and developing briefs / Factsheets, modifying the application to mobile-based platform, and creating value while overcoming its weaknesses. To respond the field feedbacks and local demand, in this phase a simplified profitability calculator was developed which can be used on mobile phones. In addition, BIID developed a set of strategies such as delivering a core message throughout the process, working with individual farmers, and working with different partners to increase efficiency and maximize its impact. BIID also identified the latent demand of such ICT-enabled solutions among different potential users and initiated partnership to introduce the solutions at the field level through the existing e-Krishok service packages.

The following diagram shows the phases of Farmbook evolution in Bangladesh:



The major outcomes are briefly discussed below:

Profitability Calculator

In order to minimize the process of data collection, a simpler and minimized version of profitability assessment was developed, called the 'profitability calculator'. It includes cost heads of major activities during a crop cycle which are typically required in the local context. As such, farmers can easily understand the calculation process, relate to their experiences, and remember them. The profitability calculator was primarily developed as a form that farmers fill in. The cost heads includes the expenditure for inputs such as seeds, fertilizer, pesticides, labor costs, and irrigation. Farmers can calculate a total estimated cost and an actual expenditure and their net profit/loss at the end of the crop season. Thus, they can have an overview of their farming in terms of finances, understand the importance of keeping records, and are encouraged to adopt smart farming to maximize their profit. The vision behind this is through increasing their efficiency in farming, farmers can be linked to a demand-driven market in the long run.

Profitability Calculator on iFormbuilder

BIID developed the profitability calculator (PC) on the iFormbuilder platform, a mobile-based platform for data collection where several types of forms can be developed as per requirements for data entry. The platform is integrated with web so that any data collected from a remote location can be viewed from the web panel. Seeking this opportunity of a mobile based platform, the profitability calculator was transformed into an iFormbuilder-based application. With this platform, data can be collected to from field can be accessed real time upon syncing. Field agents with devices such as smart phone or tablet could collect data of farmers very easily and also share data within limited internet. For limited usage and paid users, the version was found to be workable and the most doable and simple solution for data collection and basic report generation. BIID has been testing and using the platform with different partners and collected data from the field. As the user numbers grow, however, iFormbuilder is perceived as expensive and difficult to develop the reports as needed by the partners. Hence BIID initiated developing a simple version of PC and independent mobile-based solutions to address these challenges.

Around 30 field organizers were trained and 500 farmers enrolled through the PC activities and assessed their farm profit / loss in different locations.

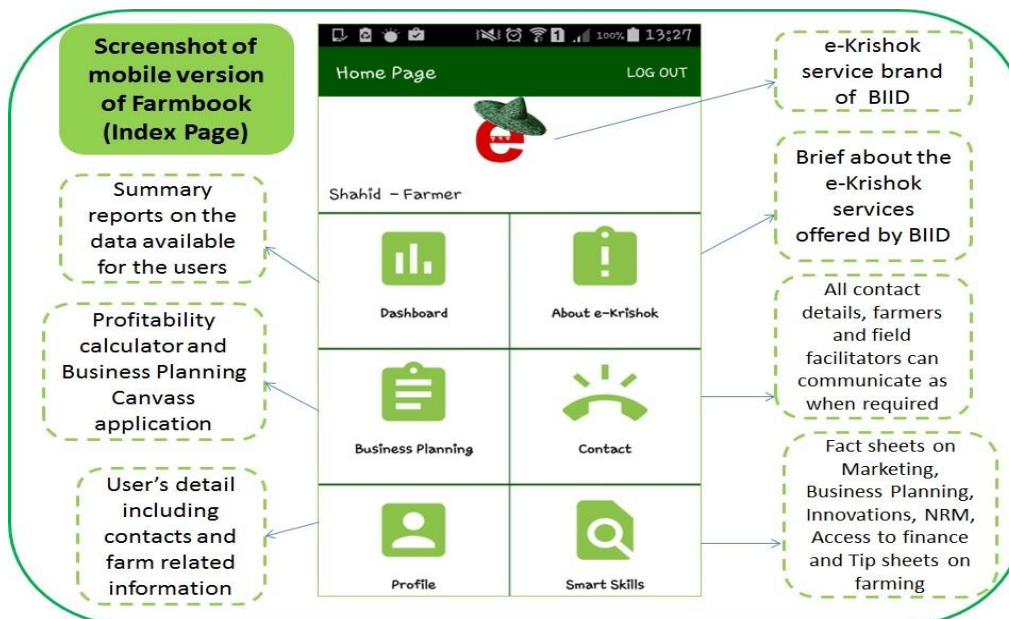
Implementation of Profitability Calculator

Both hardcopies of form and the mobile-based platform were used for implementing the profitability calculator at the field level. At first, hands-on training was provided to field staff for installation of the application on their devices and on the process of data entry. Then they were given the task of helping farmers in profitability calculation with the help of the paper-based form and their mobile devices. In some cases, the calculation was done in paper first, and then the data was entered to the device and synced. Sometimes the data was entered and the calculation was done directly on the device, depending on the convenience and availability of the farmers. In Baira upazilla of Manikganj district, BIID field staff was assigned to conduct 100 profitability assessments of farmers for a certain crop season. Each farmer was also given a hardcopy of his

respective business plan so that he/she could review the plan during the following season. During the winter season (Rabi), a new profitability calculation of the farmers is being conducted so that they can compare the data of different crops and make proper business choices and plans accordingly. Similarly, in Dinajpur and Barisal districts, training has been provided to the field organizers of partner organization, Caritas Bangladesh, who engage in profitability calculation of their beneficiaries later on so that they can graduate from smallholder farmers to businesses. In the latest intervention activities, training is being provided to field and office staffs of three implementing partners of Oxfam GB - Gonochetona, Pollieree and SEED at Rangpur, Dinajpur and Nilphamari districts. BIID also provided training to a team of field organizers of VSO to introduce the PC into their project, which is operating in three southern districts, namely Bagerhat, Satkhira and Khulna.

Business Planning Application

A mobile application has been developed for business planning with two basic components – profitability assessment and business plan canvas. Once the application is finalized, it will be available at android-based platforms so that any user will be able to download the app and use it in his/her device. Thus, users can develop their own business plans and assess profitability with the use of this simple application. They will be able to store their business plans and develop new plans. The features will also include a comparison of different business plans, and centrally manage data sharing and feedback. This will make it possible to get user information on the uses of the application. The application is being developed in both English and Bengali to make it more accessible to target users as well as those who are looking for a business planning solution.



Translation of SMART Skill Modules

Apart from the Farmbook software, the mobile application also includes an e-learning program on SMART Skills that are required for farmers to increase production and income and successfully engage with markets. In order to facilitate the adoption of Farmbook at the field level, a significant part of the project activities included translating the modules into local language and customization with local illustrations. The objectives of this were to increase the accessibility of farmers, extension officers, and other stakeholders to ensure dissemination of learning materials among broader extension and marketing communities. Thus, a major portion of the modules were translated with proper consideration of factors such as language, jargon, and target audience understandability. The translation was carried out in several steps, including proof reading, field testing, and copy editing. The modules were shared with field agents to help understand their level of acceptance and their feedback. However, field results revealed that the elaborate modules were

টিপস ও ফ্যাক্ট শীট	ব্যবসা পরিকল্পনা
<p>সুসংগঠিত ভাবে ব্যবসা করার জন্য নির্ধারিত কার্যসমূহকে ব্যবসা পরিকল্পনা বলে। সফল ভাবে ব্যবসা করার জন্য লক্ষ্য ও কার্যক্রম নির্ধারণ করার জন্য একটি ব্যবসায়িক পরিকল্পনা থাকা উচিত।</p> <p>যেমন, একজন কৃষককে চাষাবাদ করার পূর্বেই তিনি কি ফসল লাগাবেন, কতটুকু জমিতে লাগাবেন, উৎপাদন খরচ, কি পরিমাণ লাভ হবে, কোথায় বিক্রি করবেন তার একটি পরিকল্পনা করতে হবে।</p> <p>ব্যবসা পরিকল্পনার জন্য যে সকল জিনিস বিবেচনা করতে হবে:</p> <ul style="list-style-type: none"> মূল সহযোগী বা সার্ভিস প্রদানকারী --- ব্যবসা পরিকল্পনাটি বাস্তবায়ন করতে আমাদের মূল সহযোগী বা সার্ভিস প্রদানকারী কারা এবং কার কাছ থেকে আমরা কি ধরনের সহযোগিতা বা সার্ভিস আশা করছি? মূল কার্যক্রম --- ব্যবসা পরিকল্পনাটি বাস্তবায়ন করতে কি কি কাজ করা লাগবে? অর্থাৎ উৎপাদনের পূর্বের কাজ থেকে শুরু করে বাজারজাতকরণ পর্যন্ত যে যে কাজ করা লাগবে প্রস্তাবিত পণ্যের বিশেষত্ব --- প্রস্তাবিত পণ্যটির কি কি বিশেষ বৈশিষ্ট্য থাকবে বা কাস্টমারের চাহিদার সাথে সঙ্গতিপূর্ণ 	<p>কাস্টমারের সাথে সম্পর্ক --- বিভিন্ন শ্রেণীর কাস্টমার কি কি প্রত্যাশা করে এবং আমাদের ব্যবসা পরিকল্পনার সাথে সেগুলো কীভাবে সমন্বয় হচ্ছে? যেমন: চিকিৎসা</p>  <p>কাস্টমারের ধরন --- কাদের জন্য আমরা পণ্যটি উৎপাদন করব? আমাদের সবচেয়ে গুরুত্বপূর্ণ কাস্টমার কারা? যেমন: বৃহৎ ক্রেতা, পাইকার, ফরিয়া</p> <p>মূল সম্পদসমূহ --- আমাদের প্রস্তাবিত পণ্যটি উৎপাদনের জন্য কি ধরনের সম্পদ প্রয়োজন এবং কীভাবে যোগাড় হবে।</p> <p>যোগাযোগের মাধ্যম --- উৎপাদিত পণ্যটি কীভাবে কোথায় কাস্টমারের নিকট পৌঁছানো হবে, কাস্টমাররা কীভাবে স্বাচ্ছন্দ্যবোধ করে, আমাদের মাধ্যমগুলো কীভাবে সমন্বয় করা হবে, কোন মাধ্যম গুলো সবচেয়ে বেশি কার্যকর, কোন মাধ্যম গুলো ব্যয়ের সাথে তুলনামূলক অধিক ফলপ্রসূ, গ্রাহকের আচরণের সাথে আমরা সেগুলো কীভাবে সমন্বয় করছি</p>

difficult for the users to follow and adopt. As such, the modules were reconsidered and upon thorough review the 5 SMART Skills have been reduced to factsheets to disseminate at field level. The factsheets are intended to convey core messages more easily and in a brief manner and can also be shared with extension agents and farmers more easily. The factsheets will also be available through the mobile application and online platform so that anyone will be able to access them. These factsheets are available in Bengali and English.

BIID also developed a very brief presentation on Farmbook to give an overview of the application and its benefits for the targeted audience, especially for the organizations and field organizers.

BIID Case Study: 2

Mohammad Abdul Awal from Charjamalpur village in Baira union of Manikganj district, had been a farmer as long as he can remember. Farming has been passed down to him from his father and grandfather. Therefore, like other farmers Md. Awal grew up as an experienced and knowledgeable farmer, having inherited both land and traditional cultivation skills from generations of family members. While such experience and knowledge provides him with a firm foundation, many farmers still operate without adequate modern agricultural production and marketing information,



Mohammad Abdul Awal © BIID, 2015

resulting in knowledge stagnation that excludes them from gaining additional income and protecting themselves against threats. According to Md. Awal, he occasionally receives public services from government field agents for availing relevant and timely information during the cultivating season and mostly depends on fellow farmers and input sellers for information about agriculture.

When Mr. Awal came to know about the Farmbook service under e-Krishok, he took the opportunity to speak to BIID experts who suggested he use a new variety of tomato called “Bigol”, which would be beneficial according to his land, weather, and market. After selecting the crop, Md. Awal was assisted by a BIID expert to develop a business plan using the business canvas tool and Farmbook. They sketched out every detail of the plan of action from the preproduction to postproduction levels. The farmer compared his profitability with the previous year’s production of eggplant (Brinjal), which suggested better financial return from the new crop. In general, most of the farmers do not approach their profession of farming as a business and do not develop a proper plan of action before starting cultivation in terms of quantifying their profit. At this phase, for the first time Md. Awal considered cultivating tomato from a business perspective. His land was selected as a demonstration plot to closely monitor the crop cycle according to the business plan. Based on business plan, he scheduled crop production activities. Over the crop season, Md. Awal recorded all the financial information using Farmbook through the BIID extension agent. By the end of the season, the crop had increased in production by 50% compared to usual tomato cultivation (1000 to 1200 kg in 10 dec. land). This time Md. Awal produced 1600 kg of tomato from 10 decimals of land. At the production level his profit increased notably.

Mr. Awal’s success demonstrated other farmers the importance and benefits of business planning in agriculture.

Implementation Strategies

Branding

“Farming is Business”, a core message of BIID in adapting Farmbook, is delivered at every stage of the implementation process. The objective behind this is that through repeated communication, target beneficiaries will be more aware of its uses and benefits and will be more likely to be involved in the process. To this end, Farmbook is being promoted as a “business planning and develop as business enterprises” set of tools. BIID has been working to get the message out that “Farming is Business” from the very beginning, starting from the introduction of Farmbook, training developing business plans and demonstration plots, and assessing profitability and sharing results with farmer training. Keeping in mind the objective of the training modules and the targeted training audiences, the modules have been customized into a simplified version. The objective behind this is to get the core message of each SMART Skill through to the farmers, making modules they can relate to in their day-to-day activities. The trainings are also provided in local language, developed as alternative materials, and training sessions focus on being interactive so that farmers stay interested in the contents being delivered. They are also prompted through questions and feedback so that farmers can understand the links between those skills and their regular practices. The training sessions are conducted at close intervals, beginning each session with recaps of previous sessions so that farmers can remember what they have learned. Feedback is obtained at the end of each session to learn from farmers about their expectations and achievements from the sessions.

Working with SAAOs

Another key strategy is keeping SAAOs involved in the process in developing skills of farmers, communicating with them and delivering the core message to them. The reason behind this is to create ownership of the government extension agents, having them onboard as a major stakeholder. This will help enhance the credibility of Farmbook and contribute in sustainability of the initiative. Besides, SAAOs are the last mile agents of extension and as such their participation is important for reaching maximum coverage.

Identifying Early Adopters

Early adopters are usually the lead change agents who play a vital role in adoption of new technologies. As such, BIID tries to identify those lead agents as lead farmers in a group on location who are promoted as spoke persons demonstrating the benefits of Farmbook through business planning, profitability assessment and sharing outcomes with fellow farmers. Besides, they are involved in demonstration plots to make the outcomes more visible and demonstrable for other farmers.

Scaling Up with Partners

In the evolving Farmbook process, particular emphasis is put on developing partnerships with different stakeholders. The advantages of partnerships are, firstly, that there is ownership of the process and joint interest in meaningful outcomes and, secondly, a larger reach in terms of

geographical area and number of clients. Therefore, BIID engages with local and national level NGOs who are already engaged with farmer groups through various projects.



SAAO developed Business Plan Canvass with his group © BIID, 2015

This also provides the added advantage of working with already existing groups who have developed some level of trust and experience of working together in groups for mutual benefits. This also reduces the time required in registering new farmers, collecting baseline information and forming new groups. Caritas Bangladesh and CRS are joining as implementing partners at Dinajpur and Barisal districts, where Farmbook is being implemented with women farmer groups of Caritas.



Oxfam organized ToT on Farmbook © BIID, 2015

BIID also facilitated training for the Oxfam partners (three NGOs, namely Gonochetana, Polisree and SEED) and VSO Bangladesh field staff and volunteers on Farmbook solutions, primarily on Profitability Calculator and Business Plan Canvass. A group of farmers has been trained of these tools in couple of locations jointly with Junior Chamber International (JCI) Bangladesh.

Table: Number of Clients in Scale Up Phase

	Partner	Location	Farmers Reached
1	CRS	Barisal	89
		Dinajpur	103
2	Baira High School	Baira,Singair, Manikgonj	30
3	Md. Gafur,SAAO,DAE	Baira,Singair, Manikgonj	30
4	Oxfam	Gonochetona, Bakshigonj, Jamalpur	10
		Pollisree, Dimla, Nilphamari	30
		SEED, Kaunia,Rangpur	30
5	VSO	Satkhira	20
		Bagerhat	20
6	FACAB	Bagdumur,Sirajgonj	20
7	Union Digital Centre	Gazipur	20
		Total	402

Scaling Up at Schools

In rural areas, young students are often involved in helping their families in agricultural activities. They also serve as transformative mediums for their older generations through conveying information and helping in adoption of new technologies. There is an opportunity for Farmbook to build on this, so Farmbook has been introduced at schools. The faculty responsible for providing agricultural education at the school was also involved to encourage students in the process. Students were trained on the profitability calculator and forms were distributed so that they can help their family members in developing business plans. At present this project is being implemented at Baira High School in Manikganj district.



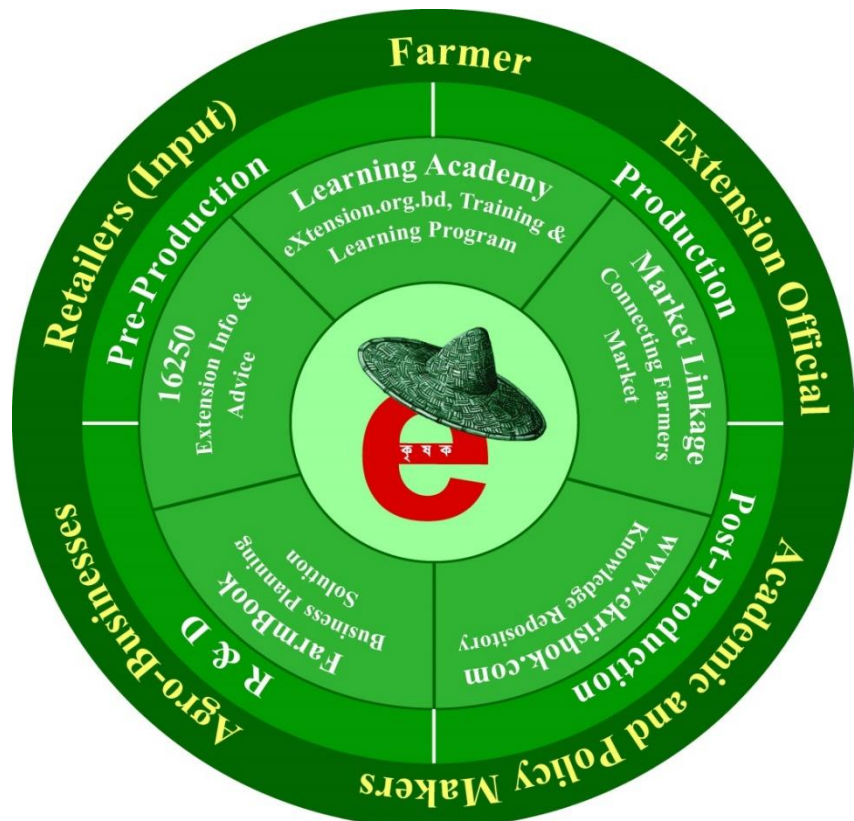
Demonstration plot © BIID, 2015

Sharing with Farmers

Sharing the output of the business plan and profitability assessment with clients is the critical final step. The clients reflected that the exercise and understanding how farming can be developed into a profitable business is solidified. Therefore, at the close of each business plan, the outcome is shared with the farmer groups and feedback is taken from them to understand how they see its application in the next season and help them plan accordingly.

Farmbook alone is not enough: Need/Demand a for bundling of services

Farmers prefer to get extension services from a single source and trust the already established relationship whether its government extension officer or retailer or any other institutional source. Usually, these sources offer services that cater to most of the farmer demands. Hence, introducing Farmbook as a standalone service may not give the expected output. The diagram shows how BIID adopted Farmbook under e-Krishok service basket.



Outcomes

© BIID, 2015

Scaling Up Strategy

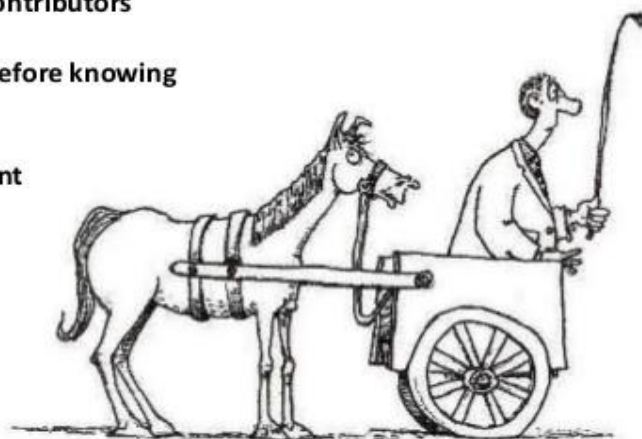
BIID is in the process of scaling up the Farmbook solutions in a different package, based on previous field experiences and feedback of the farmers. Since BIID wants to bring the ICT solution to a broader domain

in terms of wider partners and geographic locations, the following strategies will be followed for scaling up:

1. Understanding the demographic perspectives and respond to local demand, capacity and readiness
2. Multi-stakeholder partnership and position the solution as a service
3. Integrate with most usable ICT solutions – simpler version, bundle with both traditional (Hardcopy) & modern ICT facilities (Web and Mobile based)
4. Creative learning methods and ensure adoption field feedback
5. Developing a cadre of champions
6. Set extension service in forefront rather than technology (see the diagram below)

Temptation to put the cart in front of the horse ...

- **Committing to a tool or application before understanding the needs and abilities of the audience/users (farmers, intermediaries) and contributors**
- **Filling the “cart” with content before knowing where the journey is going to**
- **In-house technology and content development vs. collaboration and building on what is already there**
- **A solution in search of a problem?**



It is easy to get very excited about certain ICT applications (the cart and its content) but on its own (and in front of the cart) this will go nowhere.

Source: http://www.micronetiq.com/archives/2008/06/putting_the_car.html

Adoption of learning for MEAS Initiatives

MEAS/USAID, as one of the most innovative and research focused initiative, BIID foresees adoption of BIID learning in any future projects can foster the scaling up the Farmbook solution to wider extension domain. In terms of flexibility under the MEAS project than the usual project limitations (specially, strict specific outputs), the support for Farmbook was an excellent opportunity for BIID to go beyond the targeted output and respond to the farmers need at field which led to innovate better solutions and develop the Profitability Calculator, Business Plan Canvass, and factsheet-based learning materials instead of the longer versions of SMART Skills. MEAS can surely adopt the BIID experiences in new projects and share widely among relevant stakeholders.

Strategic Alliance between BIID and CRS

CRS has been leading the ICT for development since last many years where the BIID mandate also best fit in. Based on ongoing partnerships with CRS, BIID foresees a more collaborative approach and joint initiatives to pursue beyond the Farmbook solution and foster broader ICT for development domain. More action research and innovation initiatives can be pursued jointly by BIID and CRS in the long run.

Interest on Potential Uses and adoption as Mobile Application

Through piloting, innovation and testing, BIID has achieved a demonstrable outcome of Farmbook implementation that can be replicated at other places. BIID has been demonstrating the profitability

calculator to relevant stakeholders working in the field of agricultural extension and those who are looking for a farmer-friendly solution for business planning. In a recent visit to Malawi, partners have expressed interest in replicating the solution through their various projects; the CRS team, specifically, was keen to adopt the BIID version of Farmbook solutions. BIID is also in discussion to add the service as a mobile application and available in the cloud to subscribe and download the solution. This will open up a new era for Farmbook to reach at the finger-tips of farmers and reach millions.

Conclusion

ICT-enabled business solutions (Profitability Calculator and Business Plan Canvass) for farmers and micro-entrepreneurs in agricultural sector have great potentials to scale up. BIID along with its diverse partners can expand the service locally and globally. The innovation component of the BIID strategy will uphold to customize the solution as per the local need and readiness.



A young farmer in his demo field © BIID, 2015

Annexes

1. 10 Week Work Plan
2. Fact Sheet Sample - Profitability calculator
3. Fact Sheet Sample – Business Plan Canvass
4. Screen Shot of iFormbuilder based Profitability calculator
5. Screen Shot of mobile application based Profitability calculator
6. Screen Shot of web based Profitability calculator
7. Sample reports of Profitability calculator
8. Screen Shot of mobile based price information service

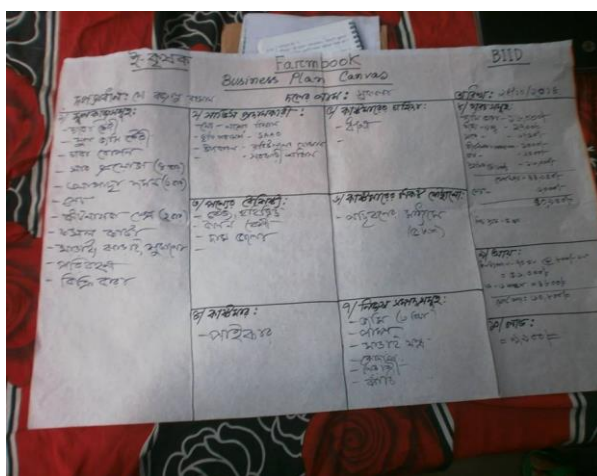
Photographs of Farmbook



Farmers Group at Khulna



TOT at Jessore



Locally developed Business Plan Canvas (BPC)



JCI training on BPC



Field demo of Business Plan Canvass



iFormbuilder team demonstrate the service

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