

Development of Value chains in High Value Crops

National Agricultural Technology Program - Phase II Project (NATP - 2)

Annual Progress Reports

2016 - 17

&

2017 - 18



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Hortex Foundation

As Strategic Partner of the

Department of Agricultural Extension (DAE)

Sech Bhaban, (3rd Floor), 22 Manik Mia Avenue, Dhaka - 1207

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Published by

Hortex Foundation

Sech Bhaban (3rd Floor – west wing)
22 Manik Mia Avenue
Sher-e-Bangla Nagar
Dhaka 1207

June 2019

Assisted by

National Agricultural Technology Program – Phase II Project (NATP-2)

Text and Composition by

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Supported by

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Print : 200 copies

Printed by

Likhon Printers

238, Dhaka University Market, Katabon Dhaka.

Cell : 01712-056889

Executive Summary

The Annual Progress Reports for the years 2016-17 and 2017-18 on value chain development (VCD) activities with selected high value crops (HVCs) being carried out by Hortex Foundation are presented here in one volume. Hortex is providing the technical services in VCD in 30 pilot upazilas across the country as the 'Strategic partner' of the Department of Agricultural Extension (DAE) for the National Agricultural Technology Program Phase II Project (NATP-2). In improving farmers' market access, the activities emphasizes on improved post harvest management (PHM) practices with six HVCs along the value chain for vertical expansion and horizontally across other popular ones.

During 2016-17, Hortex could only undertake limited project initiation activities like preparing AIF guidelines, orientation meetings with stakeholders at Dhaka and some upazilas, preparing ToRs and advertising for personnel, participating in a fair, drafting a procurement plan, and finalization and signing of the 'Strategic Partnership' with DAE. One Commodity Collection & Marketing Centre (CCMC) at Parbatipur functioned and 100 tons of HVCs were marketed during 2016-17.

During 2017-18, NATP-2 project activities could be started from January 2018 whence all staff could be mobilized. Most of the efforts during this period went in training events; organized for DAE officers, Hortex staff and CIG farmers. The four ToT courses were attended by 93 DAE officers including 12 women from upazilas and districts. A total of 10 training courses were organized for AAEOs/SAAOs, which were participated by 300 of them including 32 women. The 30 LBFs were trained for their duties and responsibilities through two training events. A total of 1913 CIG farmers including 300 women farmers were accorded day-long training in 64 batches in 21 pilot upazilas. The common topics in the training courses included proper PHM practices, food safety, marketing and linkages through POs, MMCs for better marketing. Hands-on PHM practices were the hallmark of CIG farmers' training. The ToTs of the DAE officers enabled them to take the training classes for the SAAOs and CIG farmers as resource speakers. It is noteworthy here that the training manuals for the courses were prepared and were made available.

A total of eight CCMCs were initiated on rent at Belabo, Shibpur, Raipura, Delduar, Madhupur, Savar, Nakla and Palashbari. From the NATP phase-I, there were two permanent CCMC structures at Parbatipur and Kapasia. During 2017-18 a total of 965.35 tons of vegetables were marketed through these CCMCs. In May and June 2018, a total of 52 tons of vegetables were exported through the CCMCs at Shibpur and Belabo to Saudi Arabia, Malaysia, Dubai and Kuwait.

Other significant activities included linkage meetings with traders and for such facilitations officials at various tiers of DAE were involved including the UNO at Kapasia. Hortex Foundation participated in three fairs for vegetables and fruits at the national level.

Publication and printing of documents included Training Manual -1000 copies, Newsletter -600, Booklet-1500, Brochure on NATP-2 at Hortex-4000, Poster-1000 pieces, and other office-use items.

Challenges faced, among others, was in finding a proper-sized structure for a CCMC in the rural markets, in organizing farmers' training and most importantly, in minimizing price gap for farmers' value added products at the CCMC.

Contents

Executive Summary	iii
Contents	iv
List of Tables, Figures and Annexures	v
Abbreviations	vi
Part One : Introduction	1
1.1 Background	2
1.2 The objective	2
1.3 Role of Hortex Foundation in NATP-2	3
Part Two : Annual Progress Report 2016-17	5
2.1 Inception of NATP-2 and DAE-Hortex Strategic Partnership	6
2.2 Project initiation activities	6
2.2.1 Orientation meetings on NATP-2 and DAE-Hortex Partnership	7
2.2.2 Participation in National Fruit Fair	8
2.2.3 Finalization of Procurement Plan for 2016-17	9
2.3 Marketing of High Value Crops (HVCs)	9
2.4 Financial Progress	9
2.5 Procurement Progress	9
Part Three : Annual Progress Report 2017-18	10
3.1 Mobilization of NATP-2 at Hortex	11
3.2 Implementation of Value Chain Development activities of NATP-2	11
3.2.1 Training Programme implementation	11
3.2.2 Establishing and initiating the CCMCs	16
3.2.2.1 Marketing of HVCs through the CCMCs	18
3.2.3 Facilitation of Linkage Meetings	19
3.2.4 Social Mobilization activities	21
3.2.5 Demonstration of improved Postharvest Management (PHM) technology	21
3.2.6 Market Survey	21
3.2.7 Campaign on PHM needs and Food Safety	21
3.2.7.1 Participation in Fairs	21
3.2.8 Documentation and Publications	23
3.2.9 Environmental and Social Safeguards	24
3.3 Project Coordination	25
3.4 Monitoring and Evaluation	25
3.5 Success Story	26
3.6 Key Challenges	27
3.7 Lessons learnt	28
3.8 Financial Progress	29
3.9 Procurement Progress	29
Annexures	30

Tables A 1 to A 10 are listed under List of Tables and Figures in page v.

List of Tables, Figures and Annexures

Tables		
Table 1	Selected HVCs for vertical expansion shown against Value Chain Cluster upazilas in NATP-2	3
Table 2.1	Financial status of NATP-2 activities at Hortex Foundation for 2016-17	9
Table 3.1	Training for Value Chain Development completed during 2017-18	12
Table 3.2	Experts chosen as resource Speakers for the different topics in the ToTs	13
Table 3.3	Names of upazilas where CCMCs have been initiated	15
Table 3.4	Women participation in NATP activities	25
Table 3.5	Progress along the Results Framework and Monitoring	26
Table 3.6	Financial status of NATP-2 activities at Hortex Foundation for 2017-18.	29
Figures		
Fig 1	Progress of CCMC establishment between 2016-17 and 2017-18	15
Fig 2	Volumes of HYVs marketed through the CCMCs during 2016-17 to 2017-18	19
Annexures		
Table A 1	NATP-2 Project upazilas covered by Hortex Foundation for value chain improvement with selected crops	31
Table A 2	Detailed information on training activities of NATP-2 carried out by Hortex Foundation during 2017-18.	32
Table A 2.1	CIG farmers' Training Venues (Addendum to Table A 2)	33
Table A 3.1	Product-wise agro-commodities marketed through the CCMC at Parbatipur, Dinajpur during 2016-17	34
Table A 3.2	Month-wise quantities of agro-commodities marketed through Parbatipur CCMC during 2016-17	35
Table A 4.1	Quantities of Agro-commodities marketed through CCMCs during 2016 to 2018 under NATP2.	35
Table A 4.2	Volumes (tons) of agro-commodities marketed per month through the CCMCs during 2017-18.	36
Table A 5	Volumes of export by month and vegetables through CCMCs of Belabo and Shibpur upazilas, Narsingdi district 2018	37
Annexure 6	M & E Format -2: Market access by farmers with volumes of their produce sold (for use in the register at CCMC)	38
Table A 7	RADP allocation and financial progress : 2016-17	39
Table A 8	RADP allocation and financial progress : 2017-18	39
Table A 9	Procurement of Goods, NATP-2, Hortex Foundation, 2016-17.	40
Table A 10	Completed Goods Procurement of Hortex Foundation, NATP-2 during FY2017-18.	40
Annexure 11	List of Personnel	41

Abbreviations

AAO	Additional Agriculture Officer
AAEO	Assistant Agriculture Extension Officer
AEO	Agriculture Extension Officer
AIF	Agricultural Innovation Fund
BARI	Bangladesh Agricultural Research Institute
BAU	Bangladesh Agricultural University, Mymensingh
BLS	Baseline Survey
CCMC	Commodity Collection & Marketing Centre
CIG	Common Interest Group
CP	Collection point
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DOF	Department of Fisheries
DPP	Development Project Proposal (formulated by the Govt of Bangladesh)
DU	Dhaka University
Hortex	Hortex Foundation
HVC	high value crop
IFAD	International Fund for Agricultural Development
LBF	Local Business Facilitator
M&E	Monitoring and Evaluation
M&IE	Monitoring and Impact Evaluation
MMC	Market Management Committee
MoU	Memorandum of Understanding
NATP-2	National Agricultural Technology Program- Phase II Project
PAD	Project Appraisal Document (of the World Bank)
PHM	post harvest management
PIMS	project information management system
PMU	Project Management Unit, NATP-2
PO	Producer Organization
PSO	Principal Scientific Officer
RFM	Results Framework and Monitoring
SAAO	Sub-Assistant Agriculture Officer
SAU	Sher-e-Bangla Agricultural University, Dhaka
ToR	Terms of Reference
ToT	Training of Trainers
UAO	Upazila Agriculture Officer
USAID	United States Agency for International Development



Part One
INTRODUCTION

1. Introduction

The Annual Progress Reports for the years 2016-17 and 2017-18 on value chain development activities involving high value crops (HVCs) carried out by Hortex Foundation as part of the National Agricultural Technology Program Phase II Project (NATP-2) are presented here in one volume. Therefore, the progress of activities are described according to the years mentioned.

Hortex Foundation is working as a 'Strategic Partner' of the Department of Agricultural Extension (DAE) for the NATP-2, providing technical services for the said value chain development under a strategic partnership agreement.

1.1 Background

Hortex Foundation was established in 1993 as a 'not-for-profit' organization under the patronage of the Ministry of Agriculture, Government of Bangladesh (GoB) for the development, promotion, and marketing of exportable agricultural/horticultural produce, particularly high value non-traditional crops to high price mainstream markets for improving farmers' income and national economy. The main focus of the Foundation is to organize, set up and develop or improve the value chains of high-value high quality agro-commodities for domestic and export markets. Accordingly, Hortex has worked on its mandate over the years through a number of projects, such as:

Support for Horticultural Export Development Project (1996 - 99)

Agricultural Services Innovation and Reform Project (ASIRP) (1999 - 2003)

Capacity Building in Administering SPS & Environmental Standards relating to Fresh Produce Export to EU (2006 - 2007)

Regulatory and Standard Requirements for Accessing Fresh Produce Markets in the EU countries (2007)

Studying the Requirements for Entrance of Bangladesh Fresh Horticultural Produces to the Upstream Markets in UK (2009)

Supply Chain Development Component (SCDC) of National Agricultural Technology Project (NATP, Phase-1) (2007 - 14)

Development of Food Control Guidelines and Pilot Implementation across the Horticulture Value Chain - Participating in the FAO-Food Safety Programme in Bangladesh (2014 - 2016)

These activities have thus enriched Hortex to provide technical support in value chain development aspects for horticultural products and related food safety standards.

The National Agricultural Technology Program Phase II Project (NATP-2) was initiated in 2015 by the Government of Bangladesh with support from the World Bank, IFAD and USAID. It followed on its first phase that was implemented during 2007-14, when Hortex was also involved for the supply chain development, as mentioned above. The Project supports GoB's strategic priorities in agriculture, i.e., increasing production, achieving food security, supporting adaptation to climate change, and enhancing nutrition through safer and more diversified food. Drawing on a key lesson learned from the first phase of NATP that there is a need to look beyond productivity increases and to focus on facilitating market linkages, the development objective has been set for NATP-2 'to increase agricultural productivity of smallholder farms and improve smallholder farmers' access to markets in selected districts'.

To increase agricultural productivity of smallholder farms, NATP-2 has a two-pronged strategy of technology generation and technology dissemination. For technology generation, NATP-2 engages with different research institutes of the National Agricultural Research System (NARS), and in technology dissemination with the Department of Agricultural Extension (DAE), the Department of Livestock Services (DLS), and the Department of Fisheries (DOF).

To improve smallholder farmers' access to markets in selected districts, NATP-2 is funding the Hortex Foundation for providing technical services in value chain development for selected high value crops (HVCs) as a 'Strategic Partner' to the DAE. The method emphasizes on adoption of improved post harvest management (PHM) practices for the HVCs along the value chain, and showcasing these activities through better marketing solutions like the CCMCs (Commodity Collection and Marketing Centres) and extending such linkages.

1.2 The objective

The objective of the strategic partnership is to improve smallholder farmers' market access and value chain improvement in NATP-2. The smallholder farmers in is upozila are organized in 20 production clusters as common interest groups (CIGs) of 20 or 30 members, who are further federated into a 60-member Producer Organization (PO). Keeping in view the mandate of the respective organizations (i.e., DAE and Hortex) to perform the assigned tasks collaboratively, the partnership entrusts Hortex to

- organize farmers (CIG and non-CIG) to develop the value chain network of high value crops for horizontal and vertical expansion in selected 30 upazila clusters i.e. 15000 CIG farmers (300 new CIGs in new 15 upazilas and 300 old CIGs in old 15 upazilas); and
- provide technical support and training for capacity building of DAE officials/staff, CIGs, POs and private entrepreneurs on value chain management and market linkage activities in order to improve farm income.

Thus the activities are piloted in 30 upazilas of 22 districts for vertical expansion of the PHM practices with six selected HVCs (Table 1) and for horizontal expansion with other identified vegetables and fruits (Annexure Table A1).

Table 1: Selected HVCs for vertical expansion shown against Value Chain Cluster upazilas in NATP-2

Brinjal-6 clusters	Bitter Gourd 5 clusters	Tomato-6 clusters		Sweet Gourd-5 clusters	Banana – 5 clusters	Aromatic Rice-3 clusters
		Winter	Summer			
1. Raipura, Narshingdi	1. Kaliganj, Jhenaidah	1. Chandina, Comilla	5. Bagharpara, Jessore	1. Sadar, Bogra	1. Shibganj, Bogra	1. Birganj, Dinajpur
2. Shibpur, Narshingdi	2. Madhupur, Tangail	2. Dakkhin Surma, Sylhet	6. Jhikorgachha, Jessore	2. Baraigram, Natore	2. Polashbari, Gaibandha	2. Chirirbandar, Dinajpur
3. Sadar, Jessore	3. Belabo, Narshingdi	3. Mirersorai, Chittagong		3. Delduar, Tangail	3. Kapasia, Gazipur	3. Nakla, Sherpur
4. Islampur, Jamalpur	4. Sadar, Naogaon	4. Godagari, Rajshahi		4. Sadar, Kishoreganj	4. Sadar, Khagrachhari	
5. Sreemangal, Moulvibazar	5. Mithapukur, Rangpur			5. Savar, Dhaka	5. Muktagachha, Mymensingh	
6. Parbatipur, Dinajpur						

1.3 Role of Hortex Foundation in NATP-2

Hortex Foundation is providing the technical services by carrying out capacity building activities through:

- (a) customized training courses for DAE officials, target farmers in the CIGs, POs, the identified traders and related professionals in the value chains;
- (b) organizing the CIGs and POs and acquainting them with better governance mechanisms including financial management;
- (c) establishing CCMCs and CPs through minor repairs or lease, refurbishing with basic furnitures and operationalizing with support of simple items like sorting mats, grading table, plastic crates, rickshaw-vans, washing bay, etc.;
- (d) providing hands-on training to the CIG/PO farmers and other value-chain actors on post harvest practices of their produces in handling, sorting, grading, washing, packaging, carrying, etc. for value addition;
- (e) linking the CIGs /POs with markets and traders in order to gain better prices; and
- (f) mentoring the CIGs/ POs to apply for the Agricultural Innovation Fund (AIF) support in improving their investment ability and sustainability.

These activities are further strengthened by

- (g) undertaking surveys and studies to characterize value chain performances for feedback and validation of the project activities;
- (h) organizing communication campaigns, and popularising appropriate post harvest management (PHM) practices through demonstrations, posters, leaflets, fairs, etc.;
- (i) carrying out public relations through workshops and seminars on contemporary issues for food safety, sensitizing the facts about the huge post-harvest losses to emphasize the need for proper PHM.

In order to share experiences from similar efforts in other countries, related project persons will join such international seminars or workshops to share and exchange results and / or ideas.

The Annual Progress Report for 2016-17 has been presented in part two, followed by that for 2017-18 in part three.



Part Two
ANNUAL PROGRESS REPORT
2016-17

2.1 Inception of NATP-2 and DAE-Hortex Strategic Partnership

The Government of Bangladesh and the World Bank signed the Financing Agreement (FA) for NATP-2 on May 24, 2016 to initiate the project as procedural formalities delayed the scheduled launch of 2015. In accordance with the FA, the strategic partnership agreement between the DAE and Hortex Foundation for providing technical assistance to DAE on value chain development was prepared, which also took quite some time. The strategic partnership agreement was finally signed on 10th January 2017 between the DAE and the Hortex Foundation (Photo 1).



Photo 1: The strategic partnership agreement between the DAE and the Hortex Foundation for value chain development was signed on 10th January 2017. Mr. Md. Hamidur Rahman, Director General, DAE is seen signing the agreement (on left), after when he shakes hands with Dr M. A. Jalil Bhiyan, the Managing Director of Hortex Foundation, as Dr. Ratan C. Dey, Director, PIU-DAE, NATP-2 looks on.

2.2 Project initiation activities

All the activities for value chain development at Hortex Foundation for the year 2016-17 were preparatory in nature, as launch of the project got delayed. Consequently the funding was first received at Hortex on 22 May 2017, after when the initiation activities started.

Although the scheduled launching of NATP-2 could not take place in 2015, the GoB functionaries from the Project Coordination and Management Unit (PCMU) organized two workshops on awareness on NATP-2. The first one was on 9th September 2015 participated by public sector representatives and the second one was held on 13th September 2015 with private sector entrepreneurs. The Assistant General Manager (AGM), Marketing, from Hortex Foundation joined the workshops to present the proposed activities on value chain development and market linkage.

Immediately after receiving funds, the Annual Work Plan for the period was drawn and was approved for implementation.

The Agricultural Innovation Fund (AIF) Operational Guidelines for AIF-2 & AIF-3 were drafted, edited and finalized in collaboration with DAE & PCMU officials.

The Terms of References (ToRs) along with Scope of Services for the four experts, Core Contractual Officer and all other staff were finalized following the provisions made in the Development Project Proposal (DPP) of the GoB. Similarly, the documents concerning various 'Request for Expression of Interest (REOI)' were prepared. The first of the newspaper advertisements on the REOIs for core contractual officer, the Local Business Facilitators (LBFs) and other staff were published on 18 May 2017. The documents for all recruitments and nominations for different procurement committees were processed for necessary approval from the Governing Body of Hortex Foundation and the Director General (DG) of DAE, the latter being the Head of the Procurement Entity (HOPE).

2.2.1 Orientation meetings on NATP-2 and DAE-Hortex partnership

Six orientation meetings were held with the UAOs, AEOs, SAAOs and CIG farmers in Kapasia and Kaliganj upazilas of Gazipur district, Belabo, Raipura and Shibpur of Narshingdi district and in Madhupur upazila of Tangali district. On behalf of Hortex Foundation, AGM (Marketing), attended all these meetings. The orientation meetings were to inform primarily about the objective, scope and activities of NATP-2 and the technical support of Hortex Foundation in the project. The nature of the technical assistance by Hortex was further explained by elaborating on the DAE-Hortex partnership under NATP-2 for value chain development activities of HVCs in order to improve farmers' market access.

These orientation meetings were initiated by the Director, PIU-DAE Dr. Ratan Chandra Dey on the 17th March 2017 when the AGM (Marketing) from Hortex accompanied him to Kaliganj and Kapasia upazilas of Gazipur district (Photo 2 & 3).



Photo 2: The Director, PIU-DAE Dr. Ratan Chandra Dey visited Kaliganj upazila on 17 March 2017 taking Mr Mitul Saha, AGM (Marketing) of Hortex to brief DAE officers and farmers on NATP-2 and the work of Hortex.



Photo 3: The orientation meeting at Kapasia on 17 March 2017 being addressed by the Director, PIU-DAE Dr. Ratan Chandra Dey.

A similar meeting was held with DAE officers and farmers in Kapasia later on the day.

Among others, the discussion ensued approach and methods applied in NATP-2 project. Mobilizing farmers into CIGs and working through a group approach was highlighted. Technical support of Hortex Foundation through establishment of the Commodity Collection and Marketing Centre (CCMC) and Collections Point (CP) in each pilot upazila for facilitating farmers' market access was also discussed.

Similar orientation meetings were held in Belabo, Raipura and Shibpur upazilas of Narshingdi district on 8 June 2017, conveying similar message about the DAE-Hortex partnership for NATP-2 by the AGM (Marketing). UAOs and related officers and farmers were present in the meetings (Photo 4).

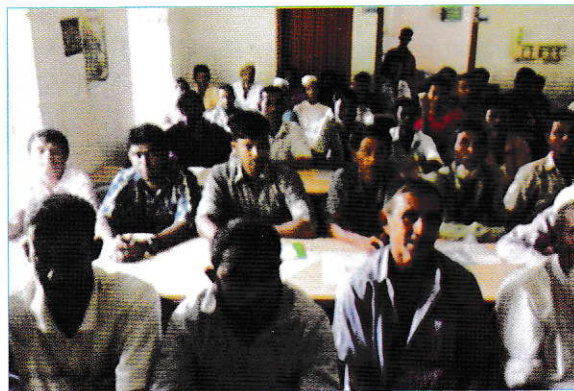
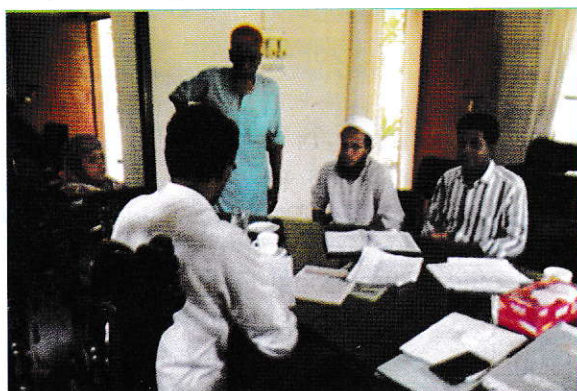


Photo 4: The orientation meeting at Belabo was held on 8 June 2017 and was briefed by the AGM (Marketing) Mr Mitul Saha, Hortex.

On the 10th June 2017 the AGM (Marketing) visited Madhupur upazila in Tangail district to meet with the UAO and his staff including members of the agro-business community having discussion on the above mentioned points (Photo 5). He also met with Mr. Abu Taher, Project Manager of Greenmount Food & Vegetables Processing Industries Ltd., Dakkhin Mohishmara College Road, Garo Bazar, Modhupur and Mr. Bappy Singh, Managing Director, Farmers Den, Kakraid, Modhupur. The Greenmount project was also visited, who had been receiving technical advice from Hortex and were on the verge of exporting processed pineapple to Dubai.

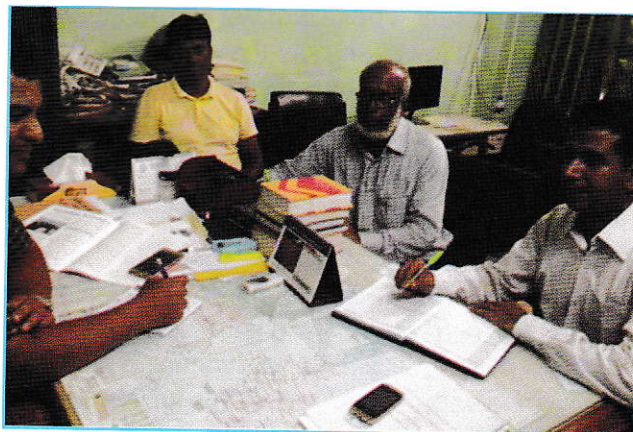


Photo 5: The orientation meeting at Madhupur on DAE-Hortex partnership for NATP-2 was held on 10 June 2017 and was briefed by the AGM (Marketing) Mr Mitul Saha, Hortex.

2.2.2 Participation in National Fruit Fair

During June 16-18, 2017 Hortex Foundation participated in the “National Fruit Exhibition & Fair 2017” organized by DAE at AKM Giasuddin Milky Auditorium premises funded by NATP-2 (Photo 6).

Hortex Foundation displayed a good number of exportable fresh and processed fruits and postharvest technologies which received immense interest from the visitors. From the Hortex stall, different technical bulletins, booklets, leaflets and market related information and documents were disseminated to the visitors free of cost for export promotion.

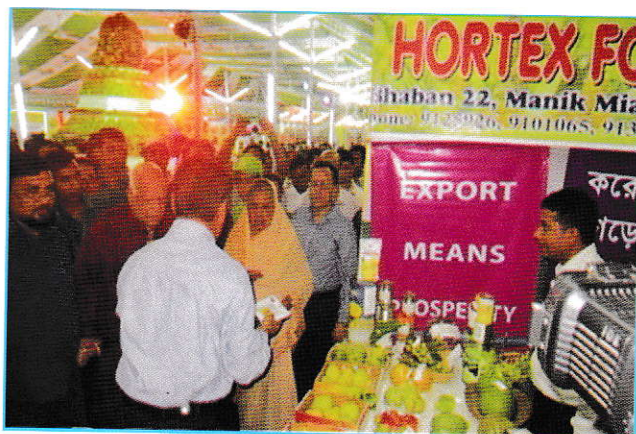


Photo 6: Hortex Foundation participated in the National Fruit Fair 2017 organized by DAE. The Agriculture Minister Begum Matia Chowdhury and the Finance Minister Mr. A.M.A. Muhit are seen visiting the stall.

2.2.3 Finalization of Procurement Plan 2016-17

The annual procurement plan for 2016-17 was prepared and it was finally approved by the Governing Body of Hortex Foundation, HOPE and the WB. The completed procurement of 03 packages of goods is presented in Annexure Table A8.

2.3 Marketing of High Value Crops (HVCs)

It may be noted here that two CCMCs were constructed during the first phase of NATP, when Hortex Foundation participated in the project. These were at Parbatipur upazila of Dinajpur district and Kapasia upazila of Gazipur district. However, only the CCMC at Parbatipur operated during 2016-17. A total of 100 MT of different HVCs, especially vegetables, were marketed through the CCMC at Parbatipur. Annexure Table A 3.1 presents the product-wise quantities marketed through the CCMC during 2016-17, while Table A3.2 presents the mont-wise quantities.

2.4 Financial Progress

During 2016-17 the total expenditures incurred was Tk. 19.70 lakh against the received fund of Tk. 22.40 lakh. Expenditures were incurred, for example, in advertising for recruitments, some CIG related works, office supplies, travel, fuel, etc. Capital expenses were incurred in purchasing digital cameras, laptop computers, office equipment and furniture. The financial achievement thus stood at 88%. Table 2.1 below shows the financial status of NATP-2 activities at Hortex for 2016-17. The details of the financial progress are presented in Annexure Table A 7.

Table 2.1 Financial status of NATP-2 activities at Hortex Foundation for 2016-17

Financial year	RADP Budget	Expenditure	Achievement
2016-17	22.40.	19.70	88%

2.5 Procurement Progress

Procurement during 2016-17 was limited to goods only as no service procurement could be made. The three packages of procurement were for laptop computers, digital camers and some furniture. The details of the procurement packages are presented in Annexure Table A9.A



Part Three
ANNUAL PROGRESS REPORT
2017-18

3.1 Mobilization of NATP-2 at Hortex

The initiation phase continued well into 2017-18 from the previous financial year. Recruitment activities took a comparatively longer period as shortage of officers at Hortex Foundation affected the work progress. The recruitment process continued with advertising the positions of the consultants on 5 September 2019.

Three of the four consultants joined their duties from early December 2017. Having them on board, the real mobilization of project activities began. The consultants immediately engaged in intensive discussions and workshop sessions to prepare the work plan. They also drafted a training manual for the foundational training of the incoming recruits who would perform as Local Business Facilitator (LBF) in the upazilas. A second training manual was also developed in similar fashion to serve the requirements of the Training of Trainer (ToT) courses for the DAE officers from the 30 pilot upazilas and respective 22 districts.

The consultants also oversaw and assisted in recruitment process of all the LBFs, core contractual officers and other staff. Thus all the officers and staff including the 30 LBFs joined by 07 January 2018. The fourth consultant joined his position on 11 January 2018.

3.2 Implementation of Value Chain Development activities of NATP-2

Actual implementation of the NATP-2 project activities at Hortex could thus be started from January 2018 after all personnel joined their duties. The foundation training for the LBFs started on 8th January 2018. Thereafter one by one the activities rolled on with other training programmes. The value chain development work essentially involved establishing and opening up of CCMCs gradually in the pilot upazilas to facilitate the marketing capacity of the farmers, and equipping those with necessary tools and material. In doing so, related activities also ensued, which were: facilitation of linkage meetings with organized groups of farmers (in CIG and POs) and the related market actors; market survey; participation in fairs; campaign on PHM and food safety; and furnishing publications.

3.2.1 Training programme implementation

It goes without saying that the principal mandate of DAE is to transfer production technology to farmers to improve crop yield and performance of the sector. However, the improved productive capacity of the farmers is not always matched by either the price support or the market mechanism. The situation is more critical in case of marketing fresh fruits and vegetables. Value chain development work has therefore been undertaken in NATP-2, and being piloted in 30 upazilas with selected fruits and vegetables, and aromatic rice. The nature of activities in value chain development requires significantly more extensive work than usual production technology transfer activities. These additional activities involve addressing postharvest practices which requires sorting, grading, washing, and properly packaging, storing and transporting of fresh produces and addressing the issues along the value chain. Therefore relevant training curriculum and topics were designed to impart appropriate training to DAE officers, farmers and market actors, which remain a hallmark activity of NATP-2 in value chain development.

Training courses for the Value Chain Development component of NATP-2 at Hortex Foundation during 2017-18 were provided to the following four categories of clients:

- a) Training of Trainers (ToTs) for the DAE officers,
- b) Training for the AAEOs/SAAOs,
- c) Training for the LBFs and
- d) Training for the CIG farmers.

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The consultants also oversaw and assisted in recruitment process of all the LBFs, core contractual officers and other staff. Thus all the officers and staff including the 30 LBFs joined by 07 January 2018. The fourth consultant joined his position on 11 January 2018.

3.2 Implementation of Value Chain Development activities of NATP-2

Actual implementation of the NATP-2 project activities at Hortex could thus be started from January 2018 after all personnel joined their duties. The foundation training for the LBFs started on 8th January 2018. Thereafter one by one the activities rolled on with other training programmes. The value chain development work essentially involved establishing and opening up of CCMCs gradually in the pilot upazilas to facilitate the marketing capacity of the farmers, and equipping those with necessary tools and material. In doing so, related activities also ensued, which were: facilitation of linkage meetings with organized groups of farmers (in CIG and POs) and the related market actors; market survey; participation in fairs; campaign on PHM and food safety; and furnishing publications.

3.2.1 Training programme implementation

It goes without saying that the principal mandate of DAE is to transfer production technology to farmers to improve crop yield and performance of the sector. However, the improved productive capacity of the farmers is not always matched by either the price support or the market mechanism. The situation is more critical in case of marketing fresh fruits and vegetables. Value chain development work has therefore been undertaken in NATP-2, and being piloted in 30 upazilas with selected fruits and vegetables, and aromatic rice. The nature of activities in value chain development requires significantly more extensive work than usual production technology transfer activities. These additional activities involve addressing postharvest practices which requires sorting, grading, washing, and properly packaging, storing and transporting of fresh produces and addressing the issues along the value chain. Therefore relevant training curriculum and topics were designed to impart appropriate training to DAE officers, farmers and market actors, which remain a hallmark activity of NATP-2 in value chain development.

Training courses for the Value Chain Development component of NATP-2 at Hortex Foundation during 2017-18 were provided to the following four categories of clients:

- a) Training of Trainers (ToTs) for the DAE officers,
- b) Training for the AAEOs/SAAOs,
- c) Training for the LBFs and
- d) Training for the CIG farmers.

A summary of the completed training events are presented below in Table 3.1.

Table 3.1: Training for Value Chain Development completed during 2017-18

Sl. No.	Training categories	No. of participants and batches				Remarks
		Project total	No. trained	No. of batches/ Events covered	No. of client - days achieved	
1.	ToT of DAE Officers	150	93 (12)	4	186	To be completed in 2018
2.	Training of AAEOs/ SAAOs	300	300 (32)	10	600	Target completed
3.	Training of LBFs	30	30	2	120	Will train on other topics
4.	Training of CIG Farmers	1500 0	1913 (300)	64	19 13	Will be completed by 2019
Total			2336 (344)	80	2819	

Figures in parentheses indicates number of women trainees

Detailed information on these training events are presented in Annexure Table A 2. with the name of the training including target participants, number of participants with number of batches, duration and venue, sources of resource speakers, brief description of training contents and output/outcome of the training events.

The common topics for all training events were on proper maturity and harvest indices for the selected HVCs and their improved postharvest management (PHM) practices for value addition. Other common topics were on contract farming, food safety and quality aspects, marketing and value chain issues.

- a) The four ToT courses for DAE Officers (UAO, AAO, AEO, ADD, DTO, DD) were held on:
- 23-24 Jan 2018
 - 29-30 Jan 2018
 - 12-13 Feb 2018
 - 18-19 Feb 2018

A total of 93 DAE Officers including 12 lady officers attended these training events.

The ToTs were designed to provide the DAE officers from the selected 30 upazilas and respective districts a concrete understanding on the required activities for value chain development, with emphasis on PHM and market linkage as already mentioned. Additional topics included production planning according to market demand; handling fresh fruits & vegetables for packaging, carrying/transporting, & storing; business plan development for HVCs, and CCMC operations. The purpose of the ToT was to ensure that the trained DAE officers become well-versed in the required value chain development aspects so that they can act as resource persons for the training of CIG farmers, traders, processors and other market actors.



Photo 7: Mr. Anwar Faruque, former Secretary of the Govt of Bangladesh, is speaking as Chief Guest in the inaugural session of the ToT for Capacity Building of DAE and Hortex Staff, Jan 23, 2018.

Experts chosen as resource Speakers for the different topics in the ToTs were considered to be authoritative in their respective fields. Some of such names are provided below in Table 3.2.

Table 3.2 Experts chosen as resource speakers for the different topics in the ToTs

Name and affiliation	Area of expertise
Dr. Kamrul Hasan Professor of Horticulture, BAU	Food safety and quality, Vegetable production, Postharvest Management
Dr. Latiful Bari Director & Assoc Professor, Food Analysis and Research Lab., Centre for Advanced Research in Science, DU	Food safety and quality, Hygiene
Dr. Shankar Raha Professor of Marketing, BAU	Marketing
Dr. Sajib Saha Assoc. Professor of Agribusiness, SAU	Marketing
Dr. Miaruddin CSO, Postharvest Tech Division, BARI	Postharvest Management
Dr. Nazrul Islam PSO, Postharvest Tech Division, BARI	Postharvest Management
Dr. Sultan Ahmed PSO, Toxicology Lab, Entomology Division, BARI	Food safety and removal/cleaning mechanisms of pesticide residues from fruits and vegetables
Dr. Md. Azhar Ali Addl. Director, Plant Quarantine Wing, DAE	Food safety and Quarantine compliance
Mr. Anwar Faruque, Ex-Secretary, Ministry of Agriculture,	Agribusiness and Seeds
M. Mahtabuddin PRAN Agro	Contract farming

b) 10 training courses for AAEOs/SAAOs were conducted between 14 Mar and 10 Apr 2018, completing targeted 300 AAEOs/SAAOs, which included 32 ladies. The two day training of the AAEO/SAAOs included similar topics on PHM, marketing, food safety to orient them for making them able to interact with CIG farmers, traders and market actors at CCMCs for supporting the value chain development activities.

c) Two training courses for LBFs were held on

- 08-09 Jan 2018

- 24-25 Apr 2018

All 30 LBFs were trained. The first course was a foundation training while the second served both as a refresher as well as for introducing them to further activities on data collection and for interacting with farmers at CIG and PO level, assisting formation of MMCs, etc.

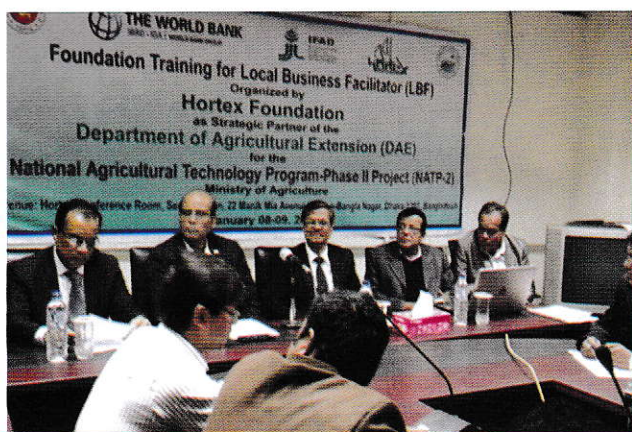


Photo 8: Mr. S.M. Nasim, Project Director-PMU, NATP-2 & Adtl. Secretary of the Govt of Bangladesh, and Dr. Ratan C. Dey, Director-PIU, DAE, NATP-2 joined as Chief Guest and Special Guest respectively in the inaugural session of the Foundation Training of the LBFs, Jan 08, 2018.

d) A total of 64 training courses for the CIG farmers were completed between 21 May and 26 June 2018. These mostly involved hands-on practices on improved PHM practices highlighting the food safety issues and value addition opportunities, dealing with contract farming, scope and advantage of having the CCMC as a packhouse and related marketing aspects.

A total of 1913 CIG farmers (including 300 women) were trained in these events. This covered CIG farmers partially in 21 out of the 30 upazilas selected for the value chain development activities. All the training events were conducted in the upazilas, and sometimes in venues near the CIG farmers' villages. These details are given in Annexure Table A 2.1.

It is important to note here that in Savar, Dhaka four (04) batches of CIG farmers numbering 115 were trained. But in each of the remaining 20 upazilas three (03) batches of CIG farmers were imparted this hands-on training.

The CIG farmers training topics included in addition to the PHM, reminder on proper IPM practices – putting emphasis on use of pheromone traps (costs 30 – 50% less than pesticides), observance of proper pesticide use guidelines with strict adherence to pre-harvest interval rules, maturity and harvest index, etc.

The training programmes have had very good outputs and will positively influence the outcomes and impacts in the intermediate and long run. These outputs having certain immediate effects are mentioned below,

As already mentioned the ToT of DAE officers were intended for building their capacity to further train other relevant DAE staff (viz., AAEOs/SAAOs) and thereafter the CIG farmers. Accordingly, these trained officers acted as resource speakers/trainers for training the said staff and CIG farmers on improved PHM and marketing in order for value chain development of the HVCs.



Photo 9: Dr. Md. Abdul Mueyed, Additional Director, DAE, Dhaka Region was the Chief Guest in the inaugural session of the Training of the AAEOs/SAAOs at Narshingdi, Apr 04, 2018.

Similarly, the AAEOs/SAAOs are using their newly learnt knowledge and skills on PHM while mobilizing or meeting with the CIG farmers. The momentum is building and after a certain period significant mobilization in improved PHM will become obvious.

The hands-on training of the CIG farmers on improved PHM has impacted already as farmers are demanding the water purifying compounds for washing fresh vegetables and trying to acquire plastic crates and other proper mats for sorting and grading.

Last, but not the least, the LBFs are functioning as because they were trained in the first place and are accordingly discharging their duties. They are also growing in their capacities with increasing involvement as activities for them are also expanding as the tasks are gradually being completed. They have actively played their role successfully in forming the MMCs, wherever the CCMCs are functioning. The selection of structures for CCMCs has been going on, and some were finalized as per plan. In doing so, the LBFs had to primarily select a prospective market and a promising structure, after when the selected structures were inspected by the Consultants and CCMCs were finalized. In addition they are helping in mobilizing the CIGs for project sponsored events and processes (such as of PHM, combined efforts in marketing, etc.).

The training of CIG farmers with hands-on practices on PHM is illustrated in the photos 10 to 13 below.



Photo 10: Participant farmers sorting bitter gourd



Photo 11: Practice of grading brinjal

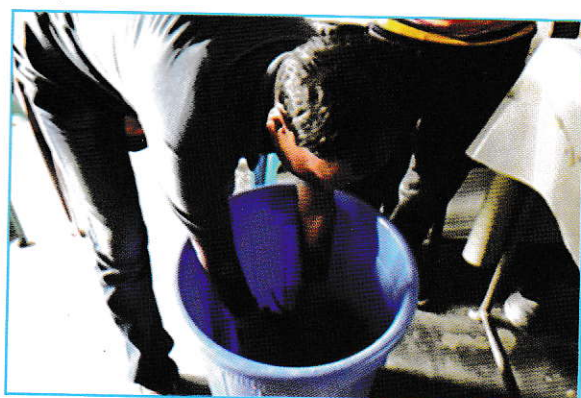


Photo 12: Practice of washing brinjal



Photo 13: Using hand-gloves for washing and handling, drying and packing vegetables in crates

Also all the FOUR Training Manuals for (1) DAE Officers, (2) AAEOs/SAAOs, (3) LBFs & (4) CIG farmers were drafted and supplied, except to the farmers. Those for the farmers will be printed as small booklet with proper illustrations and therefore will be supplied at a later date. In this regard, it is important to note here that over 500 batches of CIG farmers numbering around 15000 will be trained in a similar way during the next two years.

3.2.2 Establishing and initiating the CCMCs

A CCMC (Commodity Collection and Marketing Centre) is established with the primary objective of improving market linkage for the farmers, where they are required to follow proper PHM practices to add value to their products and thereby earn a better price. A CCMC is thus equipped usually with sorting mats, grading table, wash bay, weighing scale, plastic crates, etc. to facilitate the vegetable farmers with the said PHM practices (sorting, grading, washing and packing). Therefore, food safety and quality assurance remain at the heart of the value chain development activities while the said PHM practices for vegetables and fruits are carried out in the CCMC. A CCMC therefore, working as a packhouse, serves the purpose of enhancing food safety and quality.

Equipments to facilitate the PHM practices are gradually being supplied. The facilities are also extended to non-CIG farmers who grow and bring vegetables to the CCMC. Support with rickshaw-vans to transport farmers' products from the farms to the CCMC is being arranged. The 29-member executive committee of the PO is called the Market Management Committee (MMC), which is expected to gradually take-up, operate and lead the affairs and functions of the CCMC. The MMC has to rotate and allocate the crates and rickshaw vans for equitable and proper use among its constituent CIGs.

The CCMCs at Kapasia in Gazipur and at Parbatipur in Dinajpur were constructed in 2014 during NATP phase 1. The latter had been used to channel fresh produce in the market from Parbatipur, albeit using traditional methods. But the CCMC building in Kapasia was never connected with electricity and remained unused. Whilst efforts were taken to initiate activities in the CCMC in Kapasia, searches to rent a suitable structure to establish CCMCs in the rest of the 28 upazilas were initiated.

During the reporting period, structures were selected on rental basis in eight (08) upazilas for establishing CCMCs. Negotiations about rent and certain required modifications in the selected CCMC structures delayed initiation of the marketing activities. As a result, only three (03) CCMCs were operating by May and by 30th June 2018, six CCMCs were able to channel fresh vegetables in to the markets. These are mentioned below in Table 3.3. Photos 14 & 15 show two different representative CCMCs. The progress during the years is shown in Fig 1 below.

Table 3.3: Names of upazilas where CCMCs have been initiated

Name of Upazila with district	
1. Parbatipur, Dinajpur	6. Delduar, Tangail
2. Kapasia, Gazipur	7. Madhupur, Tangail
3. Belabo, Narshingdi	8. Savar, Dhaka
4. Shibpur, Narshingdi	9. Nakla, Sherpur
5. Raipura, Narshingdi	10. Palashbari, Gaibandha

The respective LBFs aided by the officers and staff of DAE in the upazilas were responsible in the process of finding and selecting such a structure. Finalization of a selected structure for CCMC was made in most of the cases by an expert of NATP-2 at Hortex. Finding a suitable structure for a CCMC and to hire one faced with lots of difficulties, which are described later in section 3.6 under key challenges.

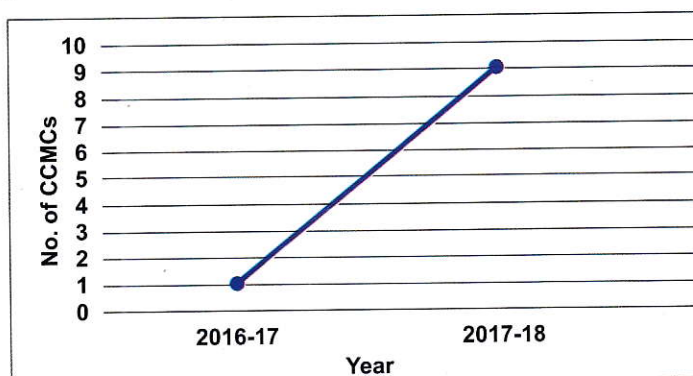


Fig 1: Progress of CCMC establishment between 2016-17 and 2017-18.

The benefits of the CCMC to the farmers and traders

The CIG farmers' adoption of the PHM practices as part of the safety requirements and quality assurance through the CCMC facilities rewards them with certain clear benefits.

The farmers benefit from a better margin because

- (i) larger amounts assembled by CIGs at the CCMC attract bulk buyers;
- (ii) better product quality is ensured (a) through sorting out diseased or rotten pieces, (b) washed to cleanse off harmful microorganisms or other unwanted adherents, and (c) by grading; and
- (iii) shelf-life is increased because of the above mentioned PHM practices.

Traders also benefit as

- (i) they can save the costs of appointing a number of farias (collectors) to collect produces from farmers scattered across the areas,
- (ii) get better product quality and
- (iii) possible loss minimized due to sorting out unhealthy pieces.

The traders are thus willing to pay a higher price for the value addition.

Use of plastic crates in vegetable shipping reduces transport losses by more than 90% compared to traditional big packaging with gunnies and bamboo-baskets.



Photo 14: The CCMC at Chandpur bazaar, Kapasia, Gazipur v



Photo 15: The rented CCMC at Baroicha bazaar, Belabo, Narshingdi- just after its selection

3.2.2.1 Marketing of HVCs through the CCMCs

High value crops (HVCs) marketed during 2017-18 through the newly functioning CCMCs amounted to a total of 965.31 tons. From initiation of the project, the total marketed amount of products therefore stands at 1065.31 tons as 100 tons agro-commodities during 2016-17 (mentioned earlier in Part Two). The various agro-commodities were, e.g., brinjal, bitter gourd, sweet gourd, tomato, bottle gourd, pointed gourd, teasel gourd, okra, potato, chilli, lemon, cucumber, guava, etc. The details on the quantities by product name, month and CCMC are provided in Annex Tables 3.1 to 4.2. The marketing data were recorded diligently in a register kept at the CCMC for every market day. The data format of the register (Annexure 6) included farmer's name, the produce, its graded quantities, and the buying traders name.



Photo 16: The Hortex team meeting with UNO, Kapasia Mr Maksudul Islam (extreme left) along with UAO Mr Ashish Kar (3rd from left) to discuss promotion of improved agri-marketing through CCMC



Photo 17: Mr. M. Hannan, MD- Hortex , Mr Maksudul Islam UNO, Kapasia and Mr. Shahidullah, ex-MP of Kapasia addressed farmers to promote agri-marketing through the adjacent CCMC

In this regard, a big meeting with vegetable exporters was held in Kharakmara bazaar in Shibpur upazila of Narshingdi. Similar meetings were held in Raipura of Narshingdi, Kapasia of Gazipur, and Parbatipur of Dinajpur district, The better handling methods for loading unloading, packaging and transport were discussed and emphasized.



Photo-18: Meeting with pineapple & banana exporter to Middle East, at UAO's office, Modhupur, June 10, 2017.



Photo-19: Meeting with fresh vegetables exporters at Kharakmara Bazar, Shibpur, Aug 22, 2017. Director, PIU-NATP-2 at DAE also spoke on the occasion.



Photo-20: PO & MMC formation in Bogra Sadar by the UAO Mr Anamul Huque on May 07, 2018

3.2.4 Social Mobilization activities

The CIGs were initially mobilized by the DAE personnel (SAAOs), while the LBFs have taken up the next stage of value chain development work involving them. At the same time, the POs representing the 20 CIGs around the CCMCs are also being formed with support from the UAO. The 60-member PO is being formed having three (03) executive members from each of the 20 CIGs (of 400 to 600 farmers) surrounding a CCMC. These executive members are the President, the Secretary and the Treasurer from the CIGs, as the PO becomes a federated body with the principal mandate of enhancing market access of the constituent CIG farmers using the CCMC. The process of forming the POs is going on as Photo 20 shows such a process in Bogra sadar. The LBFs are encouraging them to use the platform of CCMC for PHM practices, and in SIX CCMCs the activities to certain extent has been taking place. It is reflected in the marketing volumes reported earlier under sub-section 3.2.2.1 for the recently hired CCMCs (Annex Tables 3.1 to 4.2).

3.2.5 Demonstration of Improved Postharvest Management (PHM) technology

The improved PHM practices (sorting, grading, washing, packing) has been taught through hands-on training for the 64 batches of CIG farmers. Already the trained farmers have started adopting, by collecting plastic crates and using the facilities of the CCMC for the said processing works.

3.2.6 Market Survey

A Terms of Reference (ToR) was finalized for carrying out the market survey and accordingly, M/s Meem Tara Associates was awarded the study. The scope and quality of the study was monitored and some preliminary findings were discussed before submission of the final report. However, instead of conducting the survey in all 30 pilot upazilas, it was decided to confine the survey to only 12 upazilas to obtain quick results. The final report endorsed the locations chosen for the CCMCs in the 12 upazilas and also shed light on the HYVs, marketing practices of farmers and suggested some locations for collection points. It is important to note that most of the locations for the CCMCs chosen by the LBFs along with the Consultants, the UAO, and other DAE officers were the same as the survey.

3.2.7 Campaign on Postharvest Management (PHM) needs and Food Safety

The essence of proper HVC marketing lies with PHM and it has been made amply clear in the foregoing narrative and as reported. Quality assurance and food safety are the prime needs that are also served by adopting proper PHM practices. Hortex Foundation has accordingly embarked on this campaign and has published a poster with comprehensive message on improved PHM practices (Photo 26).

3.2.7.1 Participation in Fairs

As a part of this PHM and food safety campaign, Hortex Foundation participated in three national fairs, setting up own stalls and demonstrating basic but improved packaging for fresh products, processed products and messages highlighting food safety for proper handling and marketing. Hortex participated in National Food Fair during 16 to 18 October 2017, in National Vegetable Fair from 14 to 16 January 2018 and during 22 - 24 June in National Fruit Fair (Photos 21 to 23).

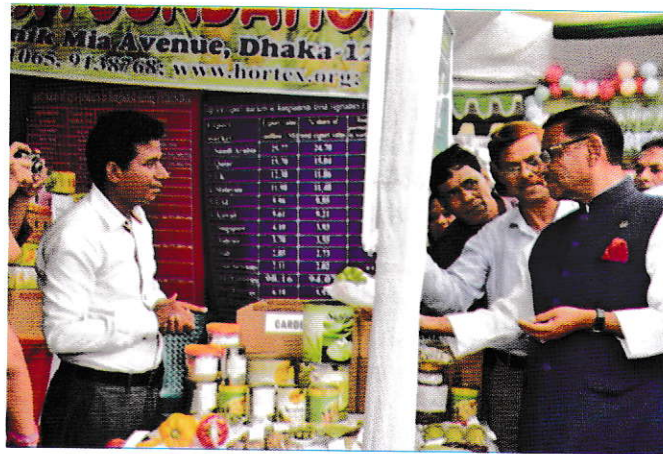


Photo 21: Mr Obaidul Quader, Minister of Road Transport & Bridges was the Chief Guest at the inauguration of National Food Fair 2017 Oct 16-18, 2017. He visited the Hortex stall when MD, Hortex Mr M. Hannan briefed him.

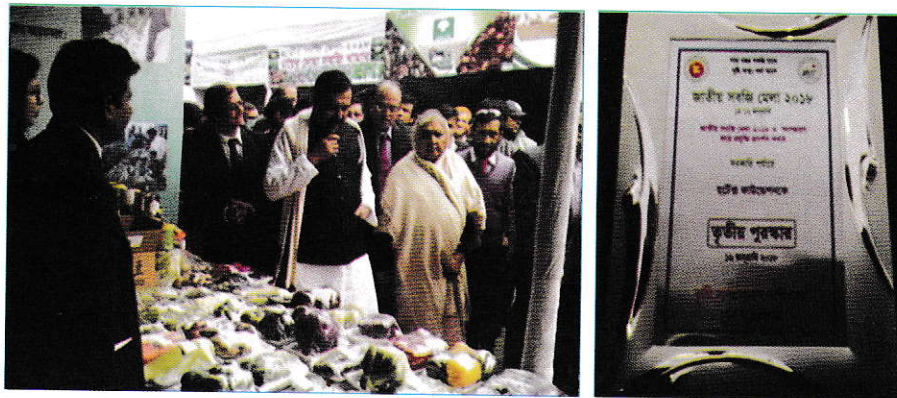


Photo 22: Hortex Foundation participated in National Vegetable Fair from 14 to 16 January 2018. Mrs. Matia Chowdhury, Minister for Agriculture is seen visiting the stall flanked by Mr Shahjahan Khan, Minister for Inland Water Transport as MD, Hortex is briefing them. In this Fair, Hortex Foundation was awarded the 3rd Prize for its quality display, 16 January 2018 (on left).



Photo 23: Participation in National Fruit Fair, June 22-24, 2018, when Agriculture Minister Mrs. Matia Chowdhury along with Mr Moinuddin Abdullah, Secretary of the Ministry visited the Hortex stall. Mr. Manzurul Hannan, MD, Hortex received them.

3.2.8 Documentation and Publications

Hortex Foundation published the overall topics of the training programmes of NATP-2 through a comprehensive Training Manual in Bengali (Photo 24), which was distributed to all the participants (except to the farmers, as already mentioned in the last para under 3.2.1).

Two brochures, in Bengali and English, highlighting the activities of NATP-2 were published (Photo 25) during this period. A poster was also published with a central message on the importance of PHM detailing proper practices (Photo 26).

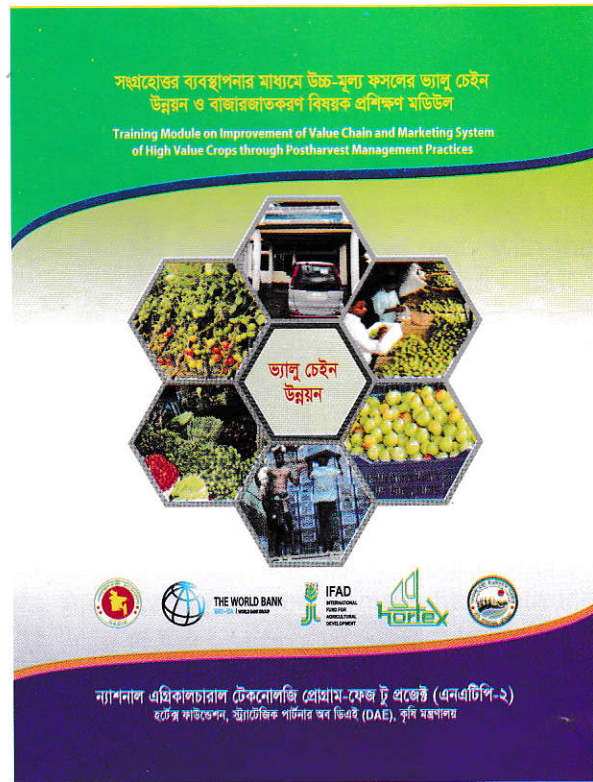


Photo 24: Cover page of the Training Module on Value Chain Development and Marketing through PHM of HVCs

Documentation of the salient information of the project, especially on the CIGs, POs, relevant DAE personnel, market actors and service providers in the 30 pilot upazilas, information on the CCMCs, CPs, LBFs – all being part of the database - has been undertaken. Much of the CIG farmers' information is also in the need of updating due to drop-out of members and new inclusions or replacement for deceased ones. The final list will be provided in the website of Hortex Foundation and stored in electronic form with back-up provisions.



Photo 25 : Cover flaps of the brochures in Bengali and English

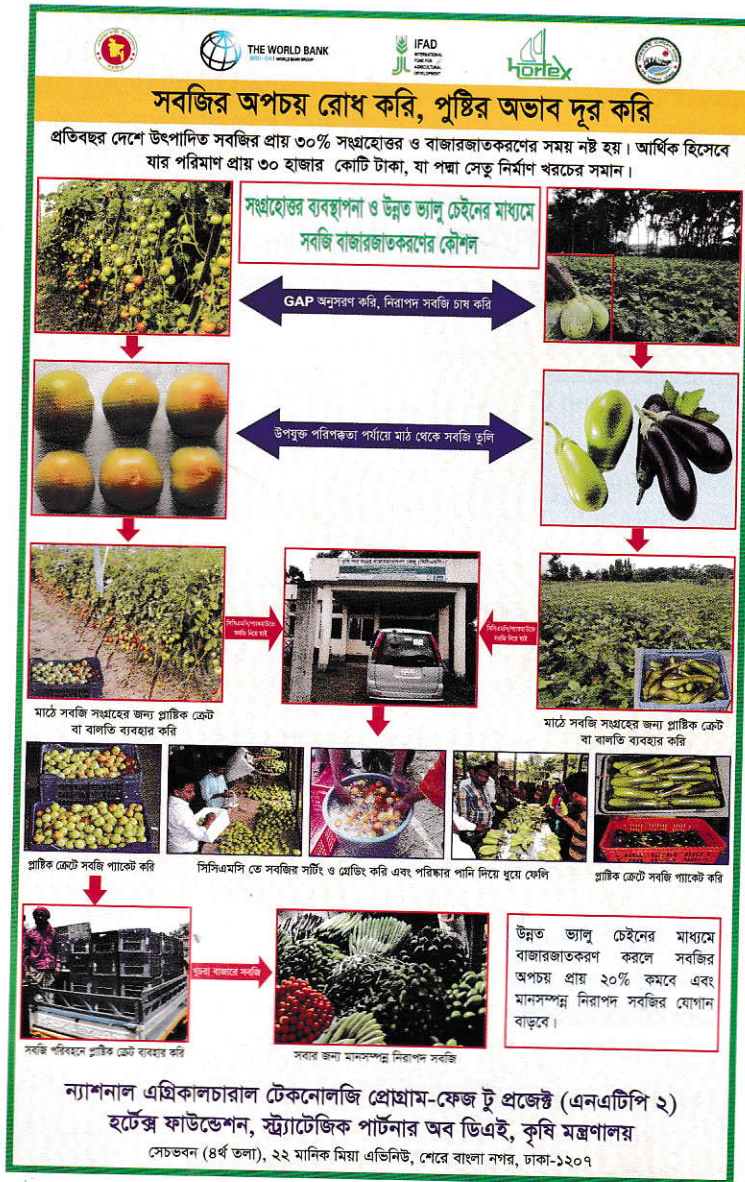


Photo 26: The poster for publicity on proper PHM and food safety

3.2.9 Environmental and Social Safeguards:

Hortex is consciously pursuing its activities so that environmental and social safeguards are in place. An example of its application of environmental concern is regarding the use of sodium hypochlorite for washing vegetables as a part of improved PHM practice. Cautionary instruction is given that the used 20/30 or 40 litres of water solution having the chemical should be properly disposed off in an open sunny place instead of in the drains or water streams or ponds. This way of disposal allows very rapid escape of the chlorine into the air and the environment remains safe. The explanation is given that because the diluted chemical water solution cleanses harmful microorganisms (bacteria, etc.) from the vegetable surfaces, it may harm beneficial ones in water bodies. However, the chances of any harmful effect in the environment are very negligible, as the chemical is extremely diluted and the concentration and strength of the water solution is just right for washing the vegetables and remains useful for only a very short time.

The social safeguards were maintained to prevent any discrimination with regard to gender, class or ethnicity. Representation of women, indigenous people or marginal and small farmers in the formation of PO or accessing facilities in the CCMC remained unhindered and smooth. There are women CIGs who have representation in the POs as also lots of women are working in DAE at all tiers. However, participation of women in marketing is almost non-existent due to prevailing social values.

It is already reported that a number of women CIG farmers and lady officers of DAE participated in the training programmes. A total of 344 women were thus trained as shown in table 3.4 below.

Table 3.4: Women participation in NATP activities.

Sl. No.	Training Category	Number of women participants
1.	ToT (Upazila & District officers of DAE)	12
2.	AAEO/SAAOs (DAE)	32
3.	CIG farmers	300
Total number of women trained:		344

3.3 Project Coordination :

There were two meetings of the PIC at DAE that was attended by the Managing Director, Hortex Foundation. The meetings on both occasions reviewed progress hitherto achieved and discussed implementation plan of the activities for the ensuing period.

Regular internal coordination meetings were held at Hortex Foundation with the Managing Director in chair to implement NATP-2 project activities and were participated by the four consultants and the AGM (Marketing). The meetings were held with various different agenda, the principal ones with their purposes are listed below.

- Internal planning workshops and a series of planning meetings on NATP-2 activities and finalization of project activities on the five-year time-scale
- Series of meetings on organizing different training events (ToT of DAE officers, Training of SAAOs, and of LBFs)
- Series of meetings on preparing the Training Manuals
- Meetings to finalize dates with venues for implementing training events for AAEO/SAAOs at the districts and/or upazilas and assigning of events and upazilas among the consultants
- Series of meetings on selection and approval for structures for establishing the CCMCs
- Series of meetings on drafting and finalization of poster, brochure, booklet and training manual for printing
- Series of follow-up meetings on decided activities and events as mentioned above

3.4 Monitoring and Evaluation:

M&E activities at Hortex Foundation for the NATP-2 project are an ongoing phenomenon and a robust one. The mandatory monitoring tasks are on (i) data on agri-commodities marketed through the marketing structures, such as CCMC, etc., (ii) the marketing solutions provided (CCMCs, Collection Points), and (iii) client-days of training provided by Hortex Foundation for value chain development work and better marketing.

The three principal items for complying with the Results Framework and Monitoring as enumerated above are provided in the Table 3.5 below following the format from the PAD of the World Bank for NATP-2 and the figures are adjusted for the portions allocated to Hortex Foundation. The collected data are also reported earlier while describing the respective activities.

Table 3.5: Progress along the Results Framework and Monitoring (relevant extract from the PAD of the World Bank)

Baseline value (2014)		Cumulative or Annual values (targets and actuals)						Frequency of data collection	Data source	Comments
		Year 1 (2016-17)	Year 2 (2017-18)	Year 3 Mid term (2018-19)	Year 4 (2019-20)	Year 5 (2020-21)	Project end			
2. Market Access: Volume (in tons) of agricultural commodities sold annually through new marketing structures/arrangements promoted by the project										
Total volume: 0 t	Target	100	1,000	3,000	5,000	5,835	15,000	Semi-annually	Hortex Foundation	
	Actual	100	965							
8. Market access: Marketing solutions implemented by the project (cumulative)										
Marketing solutions: 0	Target	02	10	31	55	60	60	Annual	Hortex	
	Actual	02	10							
10. Client-days of training provided [CORE INDICATOR] (percentage female) in '000'										
0 (0%)	Target	00 (0%)	3,000 (35%)	14,027 (35%)	3,614 (35%)	Nil	Nil	Semi-annual	Hortex	
	Actual	---	2,819 (14%)							

To this end monitoring data are being collected in well-designed formats.

However, the more significant aspect of M&E lies with proper build-up of information in a regular interval that leads to the assessment of income margins gained and postharvest loss reduction due to improved PHM practices by the farmers. Already a sample survey to establish the baseline in this regard is being carried out, and subsequent data collection to assess the said margins will continue. But such gains by other actors in the value chain who adopt better practices in packaging, transport, storage and sale may not be possible to determine as scope and capacity at NATP-2 in Hortex in terms of fund and personnel is not provided.

The hugely delayed start of the project at Hortex created an urgency and haste to prioritize and fast-track the foundation-laying activities like ToTs and other training events which consumed total time and efforts of all consultants, and prevented the work towards completing the M&E plan. In addition, the long-due appointment of the third-party for organizing the bulk of the implementation of the Results Monitoring and Impact Evaluation (M&IE) system for NATP-2 never really happened and a lack of this crucial support also affected completion of the M&E plan at Hortex. Despite all these obstacles, work on the M&E Plan was undertaken and will be finalized as a guiding document until the said third-party M&IE firm finalizes the overall NATP-2 project M&E document. Until then the monitoring plan here remains as a draft.

3.5 Success Story:

Exporting vegetables abroad through the CCMCs have started

Hortex Foundation has achieved significant success already as vegetables are being exported from the CCMCs in Kharakmara Bazaar of Shibpur upazila and Baroicha Bazaar of Belabo upazila. Brinjal, Bitter gourd and Teasel gourd amounting to 52 tons have been exported through these two CCMCs to Saudi Arabia, Malaysia, Dubai and Kuwait. Exports from Shibpur CCMC began in May 2018 and from Belabo CCMC the process started in June 2018. Maha Enterprise

as the exporter engaged suppliers Mr. Siddique and Mr. Abdur Rob in these two CCMCs, from where they were observed packing Teasel Gourd in paper cartons for export (Photo 27). They further reported that other vegetables, namely, Brinjal, Pointed gourd, taro stolons (Kachur loti) are also being exported. They are able to use the CCMCs since middle of May 2018 for assembling, grading, and packaging activities. They informed that they are using the CCMCs 2 to 3 days per week for grading and packaging, and try to package about 1000 kg vegetables in a day.

It was also found that a local trader Mr. Harunur Rashid is using the CCMC located at Lochonpur Bazaar of Raipura Upazila for assembling, grading and packing of vegetable for supplying to other districts where there is market demand. The exporters/traders commented that CCMC provides them with good post-harvest handling facilities that helps increase the efficiency of the supply chain through integrating market actors.

The CIG farmers commented that they supply vegetables to traders attached with CCMCs because of the advantages of accessibility, correct weighing, fair price, instant payment, etc.



Photo 27: Exporter Mr. Siddique with packaged teasel gourd at the CCMC in Kharakmara bazaar, Shibpur. Teasel gourd packaged in plastic crates for domestic marketing at the CCMC in Lochonpur bazaar, Raipura

3.6 Key Challenges:

The key challenges to implementing the project activities are formidable, only the main points are mentioned:

1. **Farmers' Training:** The initiation and organization of the CIG farmers training for all the pilot upazilas has been a big challenge. Usually, for one upazila, a Consultant would organize four events with the help of UAO and his/her staff, and would therefore need to carry ca. Tk.45,000 in cash and at least 40 bank cheques for covering the costs and paying out the honoraria. In doing so, Hortex faced a massive workload of preparing especially the vast number of cheques, for which the lone Accounts Officer had to work extremely long hours and even on the weekends. A solution may be worked out by sending the training fund to the respective UAO, so that the remaining nearly 600 farmer training events could be smoothly carried out. Hortex could take responsibility of preparing muster rolls and other documents necessary for implementing the training events.
2. **Input of Training Management Expert** has been allocated only for 24 months, but significant training events are planned for 3rd and 4th year. Therefore more man-months of the Training Expert is required to complete the training and related other activities

3. LBFs' salary at Tk. 12,000/month (lower than that of the dispatcher here and also lower than NATP phase I) has resulted in low morale and a poor performance by them. A possible salary enhancement may improve their motivation towards a better performance.
4. VAT is being deducted from the remunerations of the Consultants as no VAT fund is allocated although the DPP notes: "VAT on the national consultants' remuneration and consultancy services will be paid by the project" (p-48). Therefore, this anomaly needs to be corrected in the interest of the Project.
5. Finding the required size and proper location for the CCMCs on rent has been a big challenge. In most markets of the pilot upazilas, proper size for establishing a CCMC was difficult to find as the existing structures are constructed to suit small shops, whereas a CCMC requires at least 2000 sq ft of covered space. The work of sorting, grading and other handling of bulk assembly becomes difficult in such small spaces, where the project had to hire for a CCMC.
6. M&E Studies that are required to determine Farmers' income increase due to improved PHM practices cannot be conducted as the required fund & skilled enumerators are not provided. This study is crucial for a proper assessment of the progress in value chain development work and therefore appropriate procedural and financial support needs to be provided.
7. No Procurement Consultant is provided and as a result the document processing and e-GP of renovation/repair of markets/CCMCs will be very difficult.
8. Last, but not the least, the main constraint lies with the existing traditional marketing system, as price gap is still not so distinct and farmers only gain marginally for the quality effort. A higher premium deserved by the farmers for the quality products is the real challenge. Increasing the value chain efficiency by involving every actor in the value chain may improve the situation.

3.7 Lessons Learnt:

Important Lessons were learnt during the project implementation These are pointed out below.

(i) Need to organize a PO before CCMC selection: (ii) The CCMC selection process revealed that in each case a preparatory period is needed to organize the PO first, because they have to have a say in its selection. They represent the 20 CIGs and ultimately takes over its day-to-day functions for its sustainability. But a late start of the project activities necessitated quick selection of the CCMC on hire, and in most cases the LBF along with the SAAOs with support from the upazila agriculture office finalized such selection. The 29-member Market Management Committee (MMC), elected by the 60-member PO, is finally responsible to run this CCMC. More often the selection of CCMC and formation of PO ran simultaneously. Such a move, therefore affects the sense of belongingness on the part of the MMC and so the institution building is affected and has been slow.

(ii) HVC selected for value chain development in Delduar, Kishoreganj sadar, Sreemangal, Savar are not widely grown:

The HVC selected for vertical expansion in Delduar, Kishoreganj sadar and Savar upazilas is sweet gourd and for Sreemangal is bitter gourd that does not grow widely in these places and acreages have shrunk drastically. Efforts for the selected HVCs mobilization is fraught with opposition from farmers and extension personnel. The suggestion is to change the crops, such as lemon for Delduar and Sreemangal, cabbage/cauliflower for Savar, and Tomato for

Kishoreganj Sadar. This learning is actually to be recognized for all HVCs and their identified clusters, because farmers change to different crop after a while for many reasons. Monocropping in the same plots/areas year after year in Bangladesh having hot, humid tropical climate compounds the disease, and pest problems. In addition shifts in market demands, and competition are some of the drivers that force farmers to shift their choice of crop.

(iii) Training duration for DAE officers and events for LBFs are not sufficient to cover the needed skill build-up:

During the ToT of the DAE officers and the training events for the AAEOs/SAAOs a common complaint from the participants was that the allocated time for the topics were too short, and the deliberations were paced quicker than they could capture or comprehend. It was obvious because discussions/explanations could not be completed to the satisfaction of the participants in the allocated periods.

The LBFs will receive in total four rounds of training in the entire project period. They have already received two training events from which deficiencies are evident and further training is very much necessary. Also the list of their duties and responsibilities being an exhaustive one, the time spent in training was not sufficient to fully raise their knowledge and skills accordingly. The mistakes committed by their work also needs correction, which are such that there should be a mechanism for all the 30 LBFs to come for a workshop involving refresher-cum-remedy discussions in regular intervals. This can be a cheaper method to put everybody on the same footing, than individually correcting them on spot visits.

3.8 Financial Progress

Financial progress was achieved at a restrained pace as only 85% progress in expenditure was incurred against the budget (Table 3.6). The costs involved salaries of all consultants, training, travels, CIG related costs, etc. Annexure Table A 8 provides a break-up for revenue and capital expenditures.

Table 3.6: Financial status of NATP-2 activities at Hortex Foundation for 2017-18.

Financial Year	RADP Budget	Expenditure	Achievement
2016-17	22.40	19.70	88%
2017-18	233.00	198.71	85%
Cumulative progress	255.40	218.41	85.51%

3.9 Procurement Progress

Procurement during 2017-18 was carried out for goods and services .Goods procurement involved six packages and included digital camera, small equipment, office supplies and equipment, plastic crates, printing and documentation. The services procurement involved all recruitments and a market study. The details of the procurement packages are presented in Annexure Table A 10.

ANNEXURES



Table A 1: NATP-2 Project upazilas covered by Hortex Foundation for value chain improvement with selected crops.

Sl. No.	District	Upazila	Selected crop/(s)	
			Vertical production	Horizontal expansion
1.	Dhaka	1. Savar	Sweet gourd	Brinjal, Broccoli, Sweet gourd, other vegs
2.	Narshingdi	1. Belabo	Bitter gourd	Bitter gourd, Brinjal, Country bean, Teasel gourd
		2. Shibpur	Brinjal	Brinjal, Country bean, Cauliflower, other vegs
		3. Raipura	Brinjal	Brinjal, Bitter gourd, Country bean, Teasel gourd
3.	Tangail	1. Madhupur	Bitter gourd	Banana, Lemon, Pineapple, Tomato, Other vegs
		2. Delduar	Sweet gourd	Lemon, Tomato, Sweet gourd
4.	Mymensingh	1. Muktagachha	Banana	Banana, Lemon, Tomato, Cauliflower,
5.	Jamalpur	1. Islampur	Brinjal	Brinjal, Cucumber, other vegs
6.	Sherpur	1. Nokla	Aromatic rice	Brinjal, Tomato, Cabbage, Cauliflower, Aromatic r
7.	Gazipur	1. Kapasia	Banana	Banana, Guava, Ber (Kul), Other vegs
8.	Kishoreganj	1. K Sadar	Sweet gourd	Sweet gourd, Ash gourd, Other vegs
9.	Comilla	1. Chandina	Tomato (winter)	Tomato, Bitter gourd, Brinjal, Sponge gourd, Ash gr
10.	Sylhet	1. Dakkhinsurma	Tomato (winter)	Brinjal, Tomato, Country bean, other vegs
11.	Moulvibazar	1. Sreemangal	Brinjal	Brinjal, Lemon, other vegs
12.	Chittagong	1. Mirsharai	Tomato (winter)	Tomato, Bitter gourd, Country bean, Yardlong bean
13.	Khagrachhari	1. KhSadar	Banana	Banana, Pineapple, Papaya
14.	Bogra	1. Shibganj	Banana	Banana, Cabbage, Cauliflower, Bottle gourd, Sweet gourd, other vegs
		2. Bograsadar	Sweet gourd	Sweet gourd, Banana, Cabbage, Cauliflower, Bottle gourd
15.	Rangpur	1. Mithapukur	Bitter gourd	Bitter gourd, Pointed gourd, Teasel gourd
16.	Dinajpur	1. Birganj	Aromatic rice	Aromatic rice, Early cauliflower, other vegs
		2. Chirirbandar	Aromatic rice	Aromatic rice, Banana, Brinjal, other vegs
		3. Parbatipur	Brinjal	Brinjal, Pointed gourd, Tomato, Cabbage, Cauliflower
17.	Gaibandha	1. Palashbari	Banana	Banana, Brinjal, Tomato, Other vegs
18.	Natore	1. Baraigram	Sweet gourd	Sweet gourd, Banana (plantain), Brinjal, Country bean, Guava, Ber (Kul), Papaya
19.	Naogaon	1. Naogasadar	Bitter gourd	Bitter gourd, Aromatic rice, Early cauliflower, Cabbage, Aroids
20.	Rajshahi	1. Godagari	Tomato (winter)	Tomato, Brinjal, other vegs
21.	Jessore	1. Sadar	Brinjal	Banana, Brinjal, Tomato/Summer Tomato, Cabbage, Cauliflower, Bitter gourd, Sweet gourd
		2. Bagherpara	Tomato (summer)	Tomato/Summer Tomato, Brinjal, other vegs
		3. Jhikorgachha	Tomato (summer)	Flower, Tomato/Summer Tomato, Aromatic rice, Sweet gourd, Papaya
22.	Jhenaidah	1. Kaliganj	Bitter gourd	Bitter gourd, Banana, Tomato, Brinjal, Cabbage, Cauliflower

Table A 2: Detailed information on training activities of NATP-2 carried out by Hortex Foundation during 2017-18.

Sl. No.	Name of the Training (includes target participants)	No. of participants	Duration and Venue	Sources of Resource Speakers	Brief Description of training contents	Output/ Outcome of the training ¹
1.	ToT for DAE officers	93 in 4 batches	2 days each at Conference Room of Hortex	BARI, BAU, DU, SAU, PRAN Agro and DAE	Production planning, business plan, marketing, contract farming, post-harvest management, value addition, & food safety,	Trained DAE officers took training classes of AAEO/SAOs and CIG farmers as Resource Speakers and getting involved in proper PHM promotion
2.	Training of DAE personnel (AAEO/SAO)	300 participants in 10 batches	2 days each at: a) DDAE's offices at i) Dinajpur ii) Jessore iii) Narshingdi b) Horticulture centres at: i) Natore ii) Kewatkhali iii) Jamalpur iv) Feni c) Mushroom Instt., Savar d) ATI, Sylhet e) RDA, Bogra	DAE officers supported by Experts of NATP-2 at Hortex	Post-harvest management, food safety, Marketing, Quality assurance	The SAAOs are realizing that PHM practices as instructed adds value and interacting with CIGs accordingly
3.	Training for LBFs	2 batches of 30 participants each	2 days each at Conference Room of Hortex	DAE officers and Experts of NATP-2 & other staff at Hortex	Post-harvest management, food safety, Marketing, & Quality assurance	The LBFs have been working for PO formation, CCMC selection and organizing CIG & other farmers for training, other meetings with traders
4.	Capacity building of CIGs (old and new)	68 batches of 30 participants each; total of 1913 participants ²	One-day training at the upazilas; exact venues are listed in the addendum table below	DAE officers supported by Experts of NATP-2 at Hortex	Post-harvest management-hands-on training, food safety, & Marketing,	The trained farmers are trying to acquire plastic crates & asking for Clorox to properly wash their vegetables before selling

It is important to note here that using 'Outcomes/Impacts' here do not necessarily carry the proper meaning and implication of the terms, because 'outcomes' and 'impacts' take relatively longer period for a proper assessment. The statements rather represent an 'Immediate Effect' as the reported activities were carried out only very recently.

The information on training of CIG farmers is already provided above in Table 5.1 under serial number 4. As a requirement to that, the information on the venues is given below as addendum to that Table (addendum).

Table A 2.1 : CIG farmers' Training Venues (Addendum to Table A 2).

Sl. No.	Upazila, District	Training venues
1.	Savar, Dhaka	Horticulture Centre, Rajalakh, Savar
2.	Kapasias, Gazipur	CCMC, Chandpur bazaar & Chandpur High School, Kapasia
3.	Belabo, Narshingdi	Narayanpur UP Hallroom, and Bhater Char Govt Primary School, Narayanpur, Belabo
4.	Shibpur, Narshingdi	UAO's office & Palli Jibika Unnayan Project Hallroom, Shibpur
5.	Raipura, Narshingdi	Marjal High School, Marjal UP Hallroom, Uttar Bakharnagar UP
6.	Delduar, Tangail	Morning Sun Kindergarten, Putiajani and Atia UP hallroom, Delduar
7.	Madhupur, Tangail	Agriculture Training Centre, & Upazila Auditorium, Madhupur
8.	Muktagachha, Mymensingh	Gabtali High School, Bat-tala Pre-Cadet Kindergarten at Bat-tala bazaar, Muktagachha
9.	Islampur, Jamalpur	Decree Char High School, Islampur
10.	Chandina, Comilla	Agriculture Training Centre, & Upazila Auditorium, Chandina
11.	Mirsarai, Chittagong	Farmers' Training Hall, and Upazila Auditorium, Mirsari
12.	Sadar, Bogra	Pallimangal High School, & Shakharia UP Hallroom, Bogra Sadar
13.	Shibganj, Bogra	Upazila Auditorium and BRDB Hallroom, Shibganj
14.	Mithapukur, Rangpur	Farmers' Training Centre-UAOs office, Mithapukur and BRDB Hallroom, Mithapukur Upazila Parishad
15.	Palashbari, Gaibandha	Training Centre of DAE, & BRDB Hallroom, Palashbari
16.	Godagari, Rajshahi	Farmers' Training Hall, & BRDB Hallroom, Godagari
17.	Sadar, Naogaon	Agriculture Training Centre, & Upazila Auditorium, Naogaon Sadar
18.	Sadar, Jessore	OFFSI, Abdulpur, Churamankathi High School, & OFFSI at Hoibatpur
19.	Bagharpara, Jessore	Training Hall - DAE, & Upazila Auditorium, Bagharpara
20.	Jhikorgachha, Jessore	Training Centre of DAE, & BRDB Hallroom, Jhikorgachha
21.	Kaliganj, Jhainaidah	UAO's Office room and Farmers' Training Hall, Kaliganj

Five² CIG farmers from two batches in Savar and two from one batch in Muktagachha could not attend their respective training events.

Table A 3.1: Product-wise agro-commodities marketed through the CCMC at Parbatipur, Dinajpur during 2016-17.

Name of the CCMC	Name of the agro commodities	Quantity in MT	Remarks
Parbotipur	Bottle gourd	5.0	Permanent structure constructed under SCDC of NATP Phase -I, Hortex Foundation
	Beans	3.5	
	Brinjal	28.0	
	Cauliflower	4.5	
	Cabbage	4.5	
	Bitter gourd	11.0	
	Wax gourd	10.0	
	Okra	4.5	
	Radish	12.0	
	Tomato	3.0	
	Carrot	3.0	
	Sweet gourd	11.0	
	Total	100.00 MT	

Table A 3.2 : Month-wise quantities of agro-commodities marketed through Parbatipur CCMC during 2016-17

Name of the CCMC	Jul16	Aug16	Sept16	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17	Apr17	May17	Jun17	Total	Remarks
1. Parbatipur	Bottle gourd 1.0 Beans 0.5 Brinjal 1.0 Cauliflower 0.5 Cabbage 0.5 Bitter gourd 0.5 Wax gourd 1.0	Bottle gourd 2.0 Beans 1.0 Brinjal 2.0 Cauliflower 1.0 Cabbage 1.0 Bitter gourd 1.0 Wax gourd 2.0 Okra 1.0	Bottle gourd 2.0 Beans 1.0 Brinjal 4.0 Cauliflower 2.0 Cabbage 2.0 Bitter gourd 1.0 Okra 1.0	Beans 1.0 Brinjal 1.0 Cauliflower 1.0 Cabbage 1.0 Bitter gourd 1.0	Radish 2.0 Brinjal 1.0 Tomato 0.5 Carrot 0.5	Radish 3.0 Brinjal 2.0 Tomato 1.0 Carrot 1.0 Bitter gourd 1.0	Radish 5.0 Brinjal 4.0 Tomato 1.0 Carrot 1.0 Bitter gourd 1.0	Radish 2.0 Brinjal 2.0 Tomato 0.5 Carrot 0.5 Bitter gourd 1.0	Brinjal 1.0 Bitter gourd 0.5 Sweet gourd 2.0 Wax gourd 1.0 Okra 0.5	Brinjal 4.0 Bitter gourd 1.0 Sweet gourd 3.0 Wax gourd 2.0 Okra 1.0	Brinjal 5.0 Bitter gourd 2.0 Sweet gourd 4.0 Wax gourd 3.0 Okra 1.0	Brinjal 1.0 Bitter gourd 1.0 Sweet gourd 2.0 Wax gourd 1.0	100.0	
Sub-total	5.0	11.0	13.0	5.0	4.0	8.0	12.0	6.0	5.0	11.0	15.0	5.0		
2. Kapasia	x	x	x	x	x	x	x	x	x	x	x	x	x	
Total													100 MT	

Table A 4.1: Quantities of Agro-commodities marketed through CCMCs during 2016 to 2018 under NATP2.

2016 -17	2017 -18	Total quantity of agro - commodities marketed through CCMCs up tp June 2018	Name of upazilas where CCMCs are functioning
100 MT (only the CCMC at Parbatipur functioned during this period)	965.31 MT	1065.31 MT	1. Parbatipur 2. Belabo 3. Shibpur 4. Raipura 5. Delduar 6. Modhupur 7. Savar 8. Nakla 9. Palashbari

Table A 4.2 : Volumes (tons) of agro-commodities marketed per month through the CCMCs during 2017-18.

Name of the CCMC	FY2017-18					Remarks
	July 2017 to March 2018	April 2018	May 2018	June 2018	Total	
1. Parbatipur	Brinjal 46.12 Pointed gourd 32.63 Tomato 7.21 Cabbage 9.20 Cauliflower 13.39 Banana 38.20 Chilli 17.23 Radish 37.21 Bitter gourd 23.70 Sub-total 225.0	Sweet gourd 14.0 Potato 20.0 Brinjal 4.0 Chilli 3.0 Sub-total 41.0	Potato 11.0 Teasel gourd 7.0 Brinjal 13.0 Chilli 6.0 Ridge gourd 3.0 Sub-total 40.0	Cucumber 7.0 Potato 14.0 Pointed gourd 9.5 Teasel gourd 5.5 Ridge gourd 3.0 Chilli 21.0 Wax gourd 6.0 Sub-total 66.0	472.0	Permanent structure constructed under SCDC of NATP Phase-I, Hortex Foundation
2. Kapasia	x	X	x	x	x	CCMC at Kapasia will start functioning in July 2018
3. Belabo	x	X	Brinjal 107.0 Teasel gourd 13.0 Bitter gourd 9.0 Leafy vegetables 3.0 Coriander leaves 5.0 Sub-total 137.0	Brinjal 41 Teasel gourd 9 Bitter gourd 25 Leafy vegetables 6 Sub-total 81.0	218.0	CCMC hired on May 10, 2018 under NATP2 (32 tons Exported)
4. Deiduar	x	X	Seedless Lemon 141.3 MT	Seedless Lemon 101.25 MT	242.55	CCMC hired on May 03, 2018 under NATP2
5. Shibpur	x	X	x	Brinjal 8.5 Teasel gourd 13.2 Cucumber 10.8 Bitter gourd 6.8 Sub-total 39.3	39.3	CCMC hired on May 23, 2018 under NATP2 (20 tons Exported)
6. Raipura	x	X	x	Teasel gourd 9.0 Bitter gourd 7.0 Brinjal 4.0 Yard long bean 2.0 Okra 1.0 Guava 1.0 Sub-total 24	24.0	CCMC hired on May 23, 2018 under NATP2
7. Modhupur	x	X	x	x	x	CCMC hired on June 06, 2018 under NATP2
8. Savar	x	X	x	Amaranth 12.24 Chilli 0.8 Jute leaves 9.32 Red amaranth 6.94 Coriander leaves 3.08 Indian spinach 9.76 Stem amaranth 2.68 Bottle gourd leaves 2.18 Bitter gourd 1.8 Wax gourd 11.56 Spinach 1.34 Okra 1.08 Snake gourd 4.28 Sweet gourd 2.4 Sub-total 69.46	69.46	CCMC hired on May 31, 2018 under NATP2
9. Nakla	x	X	x	x	x	CCMC hired on June 25, 2018 under NATP2
10. Palashbari		X	x	x	x	CCMC hired on June 25, 2018 under NATP2
Total	225.0	41.0	318.3	381.01	1065.31	

Table A 5: Volumes of export by month and vegetables through CCMCs of Belabo and Shibpur upazilas, Narsingdi district 2018.

Month	Name of Vegetables exported	Volumes Export ed through CCMC		Remarks
		Baroicha Bazaar, BELABO	Kharakmara Bazaar, SHIBPUR	
May 2018	Teasel gourd	6	--	Vegetable export market: Malaysia, Saudi Arabia, Kuwait, Dubai
	Brinjal	8	--	
	Bitter gourd	1	--	
June 2018	Teasel gourd	8	12	
	Brinjal	7	5	
	Bitter gourd	2	3	
Total		32 tons	20 tons	Total vegetable export through CCMCs of Shibpur and Belabo stood at 52 tons .

Anexure 6 : M & E Format -2: Market access by farmers with volumes of their produce sold (for use in the register at CCMC)

(Cover of the register should identify the CCMC by location, upazila and district, project title, DAE & Hortex)

Crop: _____ Variety _____ Date: / / _____ Page no. _____

Sl. No.	Name of the Farmer	CIG (✓)	Quantity (kg)				Buyer's name
			Grade 1* (tk/kg)	Grade 2 (tk/kg)	Grade 3 (tk/kg)	Grade 4 (tk/kg)	

*Top grade

Market price of the HVC today outside of the CCMC:

National Agricultural Technology Program Phase-II Project (NATP-2), Hortex Foundation as Strategic Partner of DAE, Ministry of Agriculture
Signature of the LBF

Table A 7: RADP allocation and financial progress : 2016-17.

(in lakh taka)

Code	A. Revenue Component	RADP Allocation	Expenditure
4500	Salary of Officers	-	-
4600	Pay of establishment	-	-
4800	Supply & Services	10.65	9.70 (91%)
4900	Repair and maintenance	2.60	0.86 (33)
Sub Total A:		13.25	10.56 (80)
	B. Capital Component		
6800	Asset acquisition	9.15	9.14 ((99.9)
7000	Construction & civil work	----	----
	Sub -Total B:	9.15	9.14 (99.9)
	Grant Total: (A+B)	22.40	19.70 (88)

* Figures in parenthesis are percentage of expenditure over RADP

Table A 8: RADP allocation and financial progress : 2017-18.

(in lakh taka)

Code	A. Revenue Component	RADP Allocation	Expenditure
4500	Salary of Officers	2.42	2.32 (96)
4600	Pay of establishment	31.32	29.90 (95)
4800	Supply & Services	170.01	152.76 (90)
4900	Repair and maintenance	11.25	9.33 (83)
Sub Total A:			215.00
	B. Capital Component		
6800	Asset acquisition	18.00	4.40 (24)
7000	Construction & civil work	----	----
	Sub -Total B:	18.00	4.40 (24)
	Grant Total: (A+B)	233.00	198.71 (85)

* Figures in parenthesis are percentage of expenditure over RADP

Table A 9: Procurement of Goods, NATP-2, Hortex Foundation, 2016-17.

SI No	Package Name	Package No.	Qty	Allocation (Taka)	Expenditure (Taka)
01	Laptops	GD/Hortex/NAT P-2/04/2016 - 2017	5 Nos.	3,95,000.00	3,95,000.00
02	Digital Camera	GD/Hortex/NAT P-2/05/2016 - 2017	28 Nos.	4,20,000.00	4,20,000.00
03	Furniture (File Cabinet -1, Bookshelf -2, Computer table -2 and Wooden chair -3 Nos.)	GD/Hortex/NAT P-2/06(a)/2016 - 2017	8 Nos.	1,00,000.00	99,490.00
	Total	03 packages		9,15,000.00	9,14,490.00

Table A 10: Completed Goods Procurement of Hortex Foundation, NATP-2 during FY2017-18

SI. No	Package Name	Package No.	Qty	Allocation (Taka)	Expenditure (Taka)
01	Digital camera	GD/Hortex - NATP2/05	2 Nos.	40,000.00	40,000.00
02	Processing, transport or small equipment for POs	GD/Hortex - NATP2/08	LS	2,00,000.00	1,99,854.00
03	Office supply	GD/Hortex - NATP2/15	LS	2,25,000.00	2,24,740.00
04	Office equipment and furniture (Executive Chair - 2, Steel Almeria -1 & Honored board -1)	GD/Hortex - NATP2/06 (2017 - 2018)	04 Nos.	1,00,000.00	99,895.00
05	Replacement of crates	GD/Hortex - NATP2/17 (2017 - 2018)	150 Nos.	1,00,000.00	99,000.00
06	Printing and Documentation	GD/Hortex - NATP2/09 (2017 - 2018)	LS	5,00,000.00	4,97,000.00
	Total	06 packages		11,65,000.00	11,60,489.00

Annexure 11: List of Personnel

Md. Manzurul Hannan
Managing Director
Hortex Foundation
&
Coordinator
NATP-2 Project

Project Personnel (NATP-2)

Dr. Md. Atiqur Rahman Post-Harvest Management Expert
Md. Bazlur Rahman Supply Chain & Marketing Expert
Md. Quadrat-E-Ghani Training Management Expert
Dr. Mofarahun Sattar Monitoring & Evaluation Expert
Biplab Das Account Officer
Md. Mizanur Rahman Data Analyst
Md. Masud Haque LBF, Birganj, Dinajpur
Md. Ashraful Islam LBF, Chirirbandar, Dinajpur
SDM Monjurul Hasan LBF, Parbatipur, Dinajpur
Md. Abu Helal LBF, Palashbari, Gaibandha
Md. Mazharul Islam LBF, Mithapukur, Rangpur
Md. Jahanur Islam LBF, Shibganj, Bogura
Md. Abu Rayhan LBF, Sadar upazila, Bogura
Sreekanto Kumer Sarker LBF, Sadar upazila, Naogaon
Md. Nizam Uddin LBF, Baraigram, Natore
Ahmed Tarique Mannan LBF, Godagari, Rajshahi
Md. Hafijur Rahman LBF, Kaliganj, Jhinaidah
Md. Torikul Islam LBF, Sadar upazila, Jashore
Md. Mahamudul Hasan LBF, Jhikorgachha, Jashore
Md. Raihan Hosen LBF, Baghapara, Jashore
Ahsanuzzaman Zebu LBF, Nakla, Sherpur
Anath Chandra Paul LBF, Islampur, Jamalpur
Md. Jafar Ali Khan LBF, Delduar, Tangail
Md. Abdullah Al Rakib LBF, Madhupur, Tangail
Imran Hosan LBF, Muktagachha, Mymensingh
Md. Limon Talukdar LBF, Sadar upazila, Kishoregonj
Md. Eaktir Sarker LBF, Kapasia, Gazipur
Md. Robel Molla LBF, Shibpur, Narshingdi
Md. Saifuddin Bhuiyan LBF, Belabo, Narshingdi
Md. Alamgir Hossain LBF, Raipura, Narshingdi
Chandan Kumar Ghosh LBF, Savar, Dhaka
Sajib Kumar Das LBF, Dakkhin Surma, Sylhet
Md. Uzzal Khan LBF, Sreemangal, Moulvibazar
Sahajahan LBF, Chandina, Cumilla
Shibu Chandra Roy LBF, Mirsarai, Chattogram
Debashis Tripura LBF, Sadar Upazila, Khagrachhari
Md. Nurul Islam Driver
Md. Monirul Islam Driver
Abu Saied Chowdury Driver
Md. Sumon Mia Driver
Shafiqur Rahman Driver
Md. Rasel Ali Dispatcher/Office Support
Md. Rasel Mia (Abdullah) Office Support staff

Hortex Foundation Staff

Mitul Kumar Saha Assistant General Manager
Joynal Abedin Manager
Syed Miraz Mahmud Deputy Manager
Mohiuddin Md. Nurul Absar Assistant Manager
Md. Nawab Ali Driver
Mojibur Talukder Driver
Md. Forkan Ahmed Driver
Md. Safiqul Islam Driver
Md. Maklesur Rahman Driver
Abdul Matin Mollah Support Staff
Md. Billal Hossain Support Staff
Zitu Mia Night Guard
Hosneara Begum Aid Staff

