

Development of Value chains in High Value Crops
National Agricultural Technology Program – Phase II Project
(NATP - 2)

Annual Progress Report

2020 - 2021



THE WORLD BANK
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IFAD
INTERNATIONAL
FUND FOR
AGRICULTURAL
DEVELOPMENT



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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Executive Summary

Hortex Foundation has been working as a 'Strategic Partner' of the DAE for the NATP-2 project, providing technical services in value chain development for selected high value crops (HVCs) with emphasis on improved post harvest management (PHM) practices to work for a better marketing system. NATP-2 project activities at Hortex could only be started from January 2018 whence all staff could be mobilized. This annual report covers activities for the fiscal year 2020-21 and includes data, in applicable cases, from project inception, i.e., from 2016-17.

During 2020-21, all the CCMCs and Collection Points (CPs) functioned, while the capacities of the CCMCs were greatly enhanced as each was supplied with more equipment and enhanced facilities. The CCMCs continued to provide improved PHM practices, demonstrations, organizing linkage meetings between traders and farmers, etc.

During the year 2020-21, a total of 10,589.40 tons of agricultural commodities were marketed through the CCMCs and CPs. Since project inception to June 2020, a total of nearly 24,631.95 metric tons of agricultural commodities were sold through all the CCMCs and CPs. Different agricultural commodities were traded which included the six selected HVCs (brinjal, bitter melon, sweet melon, tomato, banana and aromatic rice). The sale volumes are elaborated through Annex Tables 3.1 and 3.4 by months, agri-commodities, upazilas and by years respectively. Export of vegetables continued to countries like, Malaysia, Dubai, Qatar and Saudi Arabia. Mostly brinjal, bitter melon, bitter melon, bottle melon, lemon, etc. amounting to 1,938 metric tons from 2017-18 up to 2020-21 to these countries during this period.

Training of CIG farmers and POs continued this year also for a total of 3,420 persons. This amounted to 16,965 persons, who ranged from DAE officers to farmers and traders, taking a total of 17,592 client days of training from project initiation to June 2021. Topics included PHM practices, marketing, production planning, governance, contract farming, food safety and quality, CCMC & CP operations, record keeping, etc.

Mobilization of CIG farmers from production clusters to the CCMCs and the formation of PO-MMCs are mentioned as reported last year. Nine PO-MMCs were able to get registered under the Dept of Cooperatives of GOB. Savings including investments of the PO-MMCs showed that all of them had more or less six lakhs taka. AIF-3 matching grant was availed by 21 PO-MMCs, as 12 PO-MMCs already acquired their mini-trucks, while the rest nine PO-MMCs are awaiting their truck delivery. The remaining nine PO-MMCs have applied. All of them have sub-projects on acquiring mini-truck for enhancing their transport of fresh produces.

Hortex Foundation started online marketing on its own with the portal 'hortexbazarbd.com' from June 2020 and has been able to cater to online orders during the early days of covid pandemic quite significantly. Up to June 2021, a total of 44 tons of agri-commodities were sold through this online portal at a value over Tk 25 lakh. However, the effort needs to be a separate commercial entity with a substantial capital, delivery van and needs to be manned by proper business professionals.

The sustainability assessment of the CCMCs/CPs was carried out during this period and the report was submitted on time. In the analysis, 15 CCMCs/CPs were adjudged having 'very good' prospects, while six had 'good', another six were 'moderate', two were rated 'average' and one was rated having 'low' prospect.

The success stories of PO-MMCs from Belabo and Dakkhin Surma depicts their achievements in vegetable and related business drawing increasing margins and empowering them to secure their place in the market.

Covid-19 pandemic continued to ravage Bangladesh throughout the year with ups and downs in infections and fatalities, but, the CCMCs & CPs were kept functional. The challenges forced postponing exposure visits, Business Planning Workshops, etc. The good learning was coping with the pandemic disruption: one farmer from a group bringing all their produces for marketing; LBFs, experts and officials using mobile phones to keep line of contacts and data exchange alive under travel restrictions. Institutional capacity building of the PO-MMCs is a focused area & intensifying PHM practices is a priority. Getting traders and market actors to adopt new and improved PHM practices is a formidable challenge. The good success was the functioning of all the CCMCs and CPs despite disruptions of lockdowns due to the pandemic. High amounts of savings by all the PO-MMCs in a short time and being able to obtain (21 PO-MMCs got the award already) or the ability to apply for the AIF-3 matching grant fund was seen as a success. Also the institutional capacity building process at the CCMCs with PO-MMCs changing their leadership for better management can be judged a good success.

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Abbreviations

AAO	Additional Agriculture Officer
AAEO	Assistant Agriculture Extension Officer
AEO	Agriculture Extension Officer
AIF	Agricultural Innovation Fund
BARI	Bangladesh Agricultural Research Institute
CCMC	Commodity Collection & Marketing Centre
CIG	Common Interest Groups
CP	Collection point
DAE	Department of Agricultural Extension
DPP	Development Project Proposal
GAP	Good Agricultural Practices
Hortex	Hortex Foundation
HVC	high value crop
IFAD	International Fund for Agricultural Development
ISM	Implementation Support Mission (of the WB and IFAD)
LBF	Local Business Facilitator
MMC	Market Management Committee (of the PO to run CCMC affairs)
NATP-2	National Agricultural Technology Program- Phase II Project
PD	Project Director
PHI	Pre-harvest Interval
PHM	post harvest management
PMU	Project Management Unit, NATP-2
PO	Producer Organization
SAAO	Sub-Assistant Agriculture Officer
ToT	Training of Trainers
UAO	Upazila Agriculture Officer
WB	The World Bank



1.0 Introduction

Hortex Foundation is working as a ‘Strategic Partner’ of the DAE for the NATP-2 project, providing technical services in value chain development for selected high value crops (HVCs) with emphasis on improved post harvest management (PHM) practices and to work for a better marketing system. NATP-2 project activities at Hortex could only be started from January 2018 whence all staff could be mobilized. This Annual Progress Report covers activities for the year 2019 - 20 and includes data from 2016-17 up to June 2020.

The activities are piloted in 30 upazilas of 22 districts for vertical expansion of six selected HVCs, namely, brinjal, bitter gourd, sweet gourd, tomato, banana and aromatic rice (Table 1.1). Figure 1 shows the 30 upazila locations on the map of Bangladesh. Also there are other identified vegetables and fruits for horizontal expansion of the practices.

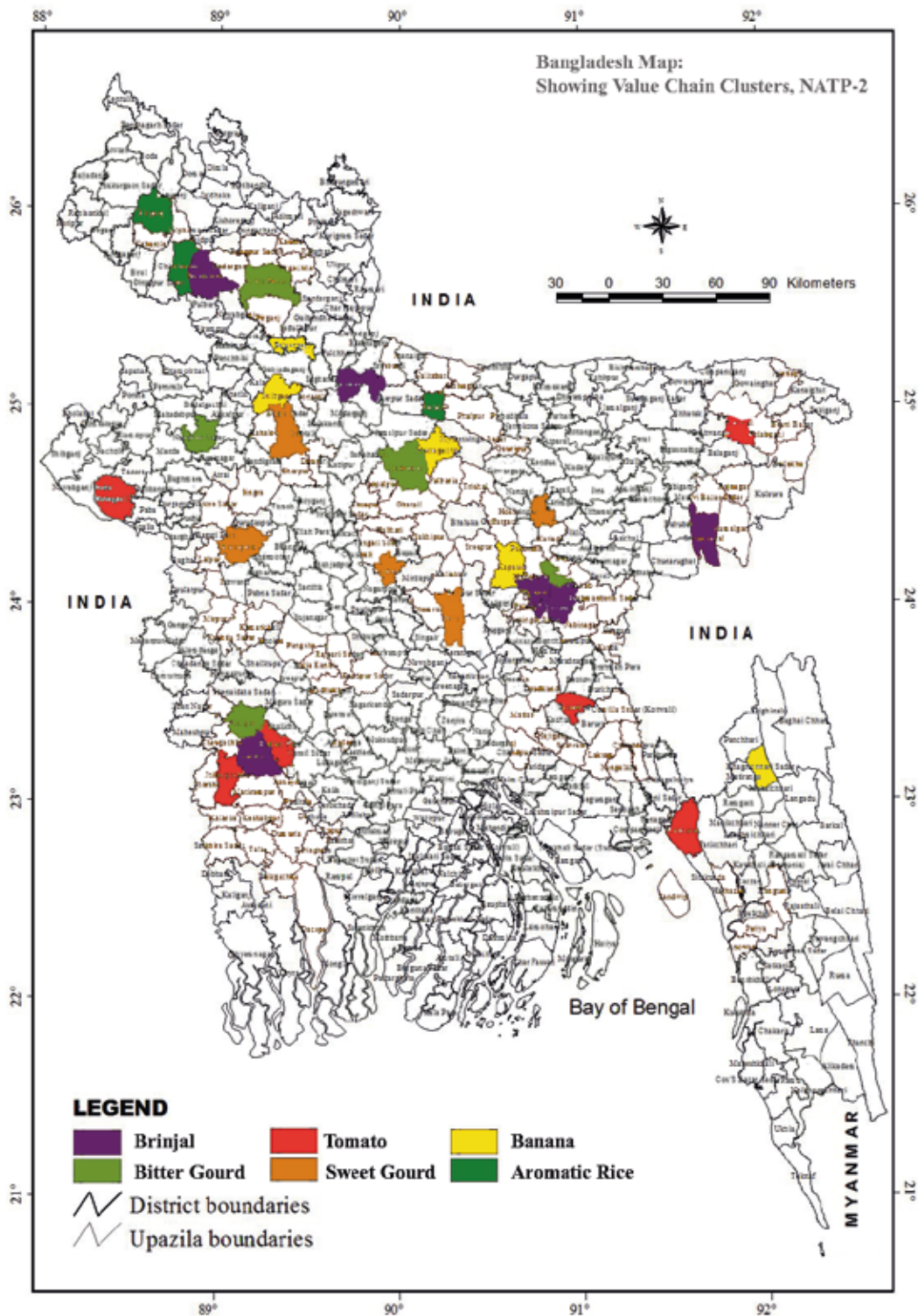
1.1 Objective

The **objective** of this strategic partnership is to provide technical support to DAE in value chain development in the selected upazilas having small farmers organized in production clusters as common interest groups (CIGs) and producer organizations (POs) through improved PHM practices and better market linkages involving the selected HVCs.

Table 1.1: 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.Palashbari, Gaibandha	2.Chirirbandar, Dinajpur
3.Sadar, Jessore	3.Belabo, Narshingdi	3.Mirsarai, 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						

Fig 1: Locations of the 30 pilot upazilas having the value chain clusters.



1.2 Implementation Strategy, activities and work modalities

Hortex Foundation is providing “technical services on value chain development” by carrying out various capacity building and market linkage activities. These activities are highlighted below.

- (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 Commodity Collection & Marketing Centres (CCMCs) and Collection Points (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 &/or ideas.

The execution of the project activities in value chain development at the upazila and block levels is MOSTLY contingent upon implementation by the DAE personnel. They are: Upazila Agriculture Officer (UAO), Additional Agriculture Officer (AAO), Agriculture Extension Officer (AEO), Assistant Agriculture Extension Officer (AAEO), from the office of the UAO, and the Sub-Assistant Agriculture Officers (SAAOs) at block level.

Technical support from Hortex for imparting relevant knowledge, skills, roles and activities in value chain development has been provided through six 'Training of Trainers' (ToT) courses for the upazila level and selected district level officers of DAE. They in turn have been training the CIG farmers, traders and others in addition to training the AAEO/SAAOs. Hortex is arranging the whole work through expertise support in (i) Post Harvest Management, (ii) Supply Chain Integration and Marketing Development, (iii) Training Management, and (iv) Monitoring and Evaluation, including backstopping from time to time to the DAE personnel in the field. In each of these 30 upazilas, Hortex has deployed LBFs (Local Business Facilitators), mainly to help operationalize the CCMCs, assist the POs and Market Management Committees (MMCs) to gradually take command of the CCMC functions, monitor the local markets for HVC landing and export, keep contacts with CIGs, organize CPs, maintain linkages with traders and other market actors while remaining in constant contact with the SAAOs and UAO.

Hortex is keeping regular liaison with other project counterparts and participants, carrying out concurrent monitoring for activities and outputs, and reviewing progress of the Project periodically using appropriate tools and data gathering system, in order to maintain project activities on course to ensure that the designed outcomes are achieved.

2.0 Supply Chain Development and Market Linkage Activities

The year started in the pale of the corona pandemic that was detected in Bangladesh on 8th March 2020. Though the official country-wide lockdown ended in the previous financial year and offices resumed from 31st May of 2020, infections in real terms did not subside appreciably. Because of deterioration of the economy and hardship faced by tens of millions of the people, the lockdowns had to end. On 1st July 2020, the official count of new infections was detected with 3775 persons while 41 people died. By early October 2020 daily new infections in the country went down to little over 1000 persons, but peaked again to above 2500 by the end of November. This gradually went down to below 300 by Feb 07 2021. Thereafter the wave of infections rose to peak in April to over 7500, subsided again by mid-May and again ravaged the country peaking up 8822 infections on June 30 2021. Government efforts to curb the infections also increased in intensity and took control measures trying to balance between peoples' income opportunities and spread of infections. Under this backdrop, activities in supply chain development for the NATP-2 project at Hortex Foundation continued albeit with certain restraint.

2.1 Completion of all the Marketing Solutions- CCMCs and CPs

Establishment of all the 30 Commodity Collection and Marketing Centres (CCMCs) were completed in 2019. Efforts to establish Collection Points (CPs) started also from 2019-19 and by 2019-20, just four CPs could be established. The remaining 26 CPs were established during 2020-21 (Annex Table 1).

All the CCMCs continued to function during the reported year and the assets provide in the previous years were detailed out in the Annual Report 2019-20 and again reported in Annex Table 2. Similarly the CPs were being provided with a weighing scale, some plastic crates, few chairs to initiate the marketing activities. Gradually further support in logistics will be provided as the fluctuating corona pandemic caused lockdowns in different parts of the country at different dates and disrupted delivery of the items. At the outset, a CP is established in a crop growing area where the farmers have problems of aggregation, finding a market close to their fields or to get to a trader for selling. As may be seen in the case of the CP in Belabo and Dakkhin Surma (Photo1 & 2), aggregation and bulking of farmers' produce remains the first priority for a CP to attract buyer and to fetch a good price. Therefore, a CP is established adjacent to crop fields.



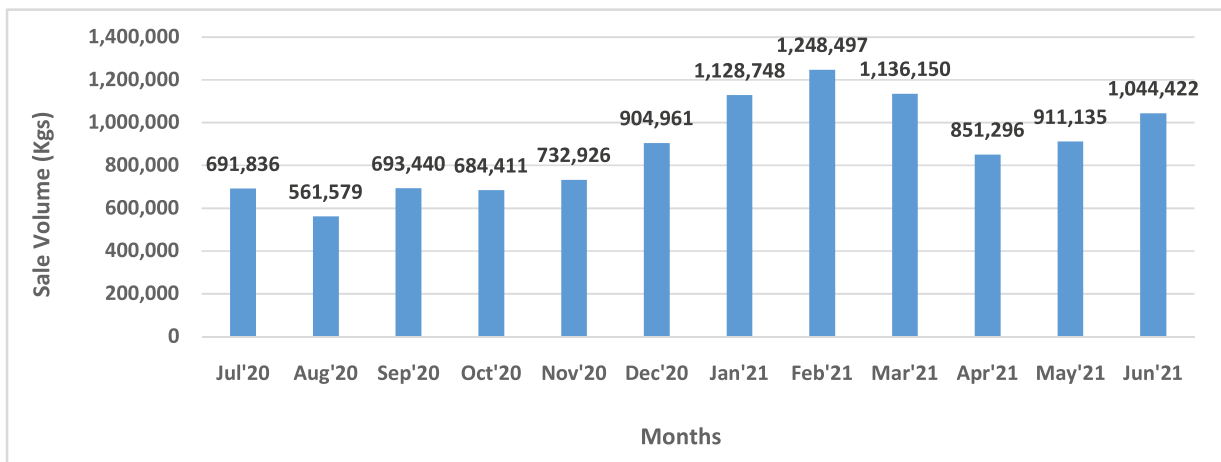
Photos 1 & 2: Collection Points (CPs): Belabo (left) and Dakkhin Surma – established near production fields.

As already mentioned, Annex Table 2 lists all the support equipment and items provided to the CCMCs. Basic furniture like office tables and chairs were supplied. The operational items for PHM activities, such as, weighing machine, sorting mat, grading table, washing facility, ceiling fans for drying were provided and are being used. However, Khagrachhari sadar still has issue with running water as tubewell installation is hampered due to too deep boring requirement.

2.2 Agri-commodity marketing

During the year 2020-21, a total of **10589.401** tons of agricultural commodities were sold through the CCMCs and CPs as depicted below in Fig 2 in a month-wise manner. For the better part of the year, the volumes of marketed HVCs gradually increased over the months as Fig 2 shows, but change in crop growing seasons caused a lean period in between, otherwise the market assembly by the CIG and non-CIG farmers had been growing. Unlike last year, the effect of Covid-19 pandemic did not affect vegetable marketing as learnings from the past helped mitigate disruptions.

Fig 2: Volumes of agricultural commodities sold through CCMCs and CPs during Jul 2020 – Jun 2021.



Note: Number of CCMCs at bar tops indicates the number of those reporting. Often one or the other CCMC experienced off-season, as participating farmers planted the next crop.)

This brings the total marketing volume to **24631.95** metric tons of HVCs from inception of the project activities in 2016-17 to June 2021 (Table 2.1).

Table 2.1 Volumes of agri-commodities marketed over the years thru the CCMCs and CPs between 2016-17 and 2020-21.

Sl No.	Year	Volume of agri-commodities marketed (ton)	Number of CCMCs + CPs functioning	Major HVCs marketed (in order of most volumes)
1.	2016 – 17	100.00	01	Brinjal, Radish, Bitter gourd, Sweet gourd, Ash gourd, etc.
2.	2017 – 18	965.31	05	Lemon, Brinjal, Bitter gourd, Teasel gourd, chili, etc.
3.	2018 – 19	5,125.706	28	Brinjal, Lemon, Aromatic rice, Potato, Country bean, etc.
4.	2019 – 20	7,851.533	30+04	Banana, Country bean, A. Rice, Brinjal, Tomato, etc.
5.	2020 – 21	10,589.401	30+30	A. rice, Brinjal, Country bean, Banana, Potato, Lemon, etc.
Total		24,631.95 tons	60	

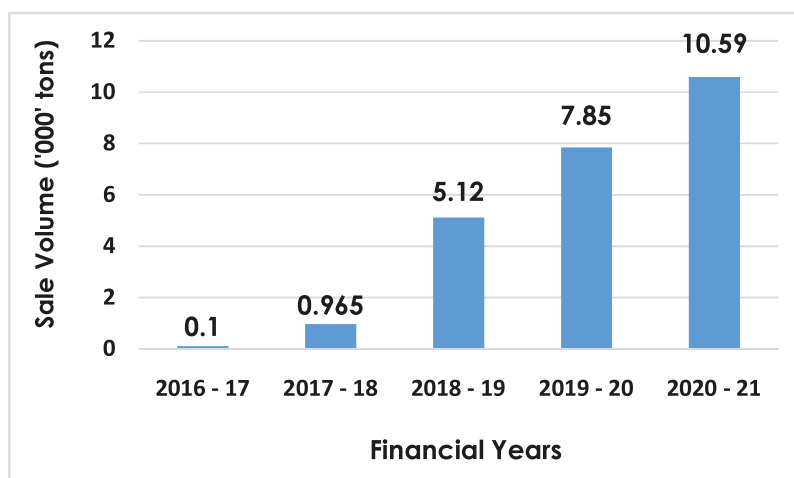
Annex Table 3.1 provides the details of different agri-commodities marketed during the reporting year 2020-21 in a month-wise manner, followed by volumes of marketing by upazilas (Annex Table 3.2). Among the upazilas, Nakla followed by Birganj marketed the the most amount of HVCs at 1057 and 901 tons through their CCMCs+CPs. Both benefited from larger volumes of rice production and marketing. The third-highest upazila marketing HVCs was Godagari at 835 tons, followed by Dakkhin Surma (687 tons) and Parbatipur (568 tons) at 4th and 5th places respectively. The CCMC at Palashbari shows a very low figure for marketing as it was unable to function at different times due to the adjacent highway widening work and delay in finding a new structure for the CCMC.

Annex Table 3.3 shows the crop wise marketing for the reporting year. Rice was the highest marketed HVC at 1507 tons, while the second-most marketed crop was brinjal at 1157 tons. The third-most marketed crop was country bean at 912 tons, followed by banana at 826 tons, then potato was the fifth highest at 810 tons and at sixth highest volume was lemon, marketing 565 tons. During the year, a total of 58 crop items were marketed through the CCMCs & CPs as shown in Annex Table 3.3.

In total over 24,631 metric tons of agricultural commodities have been sold through the CCMCs and CPs from inception of the project activities in 2016-17 to June 2021, which is shown above by the years in Table 2.1. Along the years, the most marketed HVCs are also mentioned. It may be observed that the rankings for most traded HVCs vary over the years. This is due to the gradual establishment of CCMCs and CPs over the years in different parts of the country and also because more items and volumes came for aggregation and for PHM at the CCMCs.

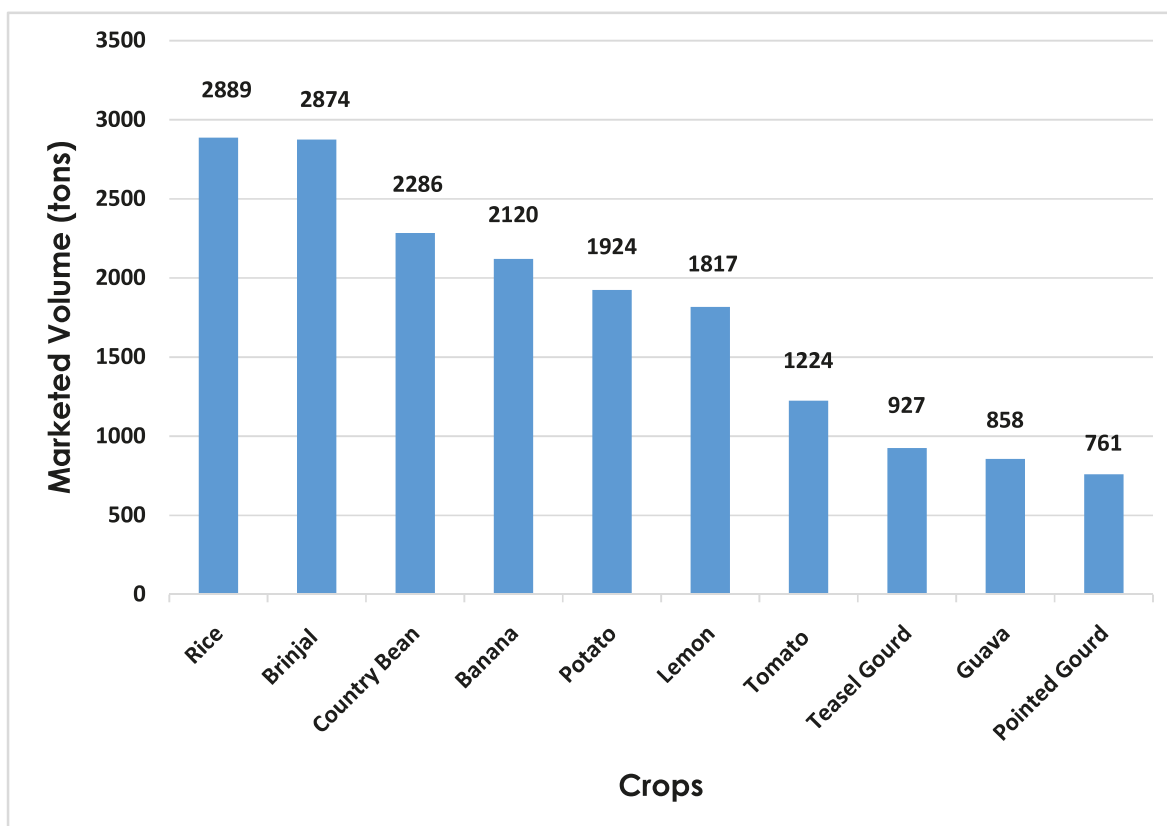
The rise in marketing volume therefore appears much more remarkable as shown in Fig 3 for the years.

Fig 3: Progress in agri-commodity marketing thru CCMCs and CPs over the years 2016-17 to 2020-21.



As may also be seen from Annex Table 3.4 a total of 65 different HVCs were traded during the whole project period so far. Among the agri-commodities, the top ten marketed HVCs during the period between 2016-17 and 2019-20 has been depicted below in Fig 4 and the top five were rice (2889 tons), followed by brinjal (2874 tons), then country bean (2286 tons), banana (2120 tons) and potato (1924 tons).

Fig 4: The ten most-sold agri-commodities thru the CCMCs & CPs during the years 2016-17 to 2020-21.



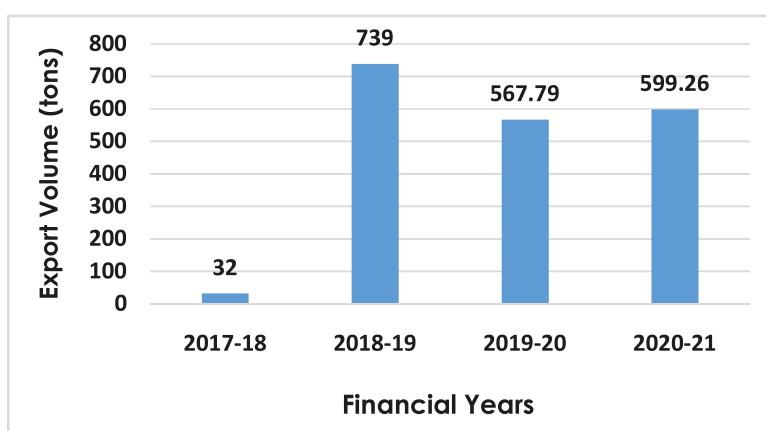
2.3 Extent of farmers and traders accessing the CCMCs and CPs

Number of farmers accessing the CCMCs has been fluctuating over the years for various reasons, eg., seasonal changes, transport availability, etc. It was estimated last year that that over 3300 farmers, both CIG and non-CIG, accessed the 30 CCMCs and four CPs every month. The records for this year were affected due to lack of proper records as group marketing during covid spreading time and transporting by rickshaw van sometimes could not properly account for the number of farmers. Proper calculations will emerge in 2021-22.

2.4 Export of vegetables through CCMCs

A significant volume of vegetables has been exported over the years to countries like, Malaysia, Dubai, Qatar, Kuwait Saudi Arabia, etc. using the facilities of some of the CCMCs (Fig 5).

Fig 5: Progress in agri-commodity export thru the CCMCs over the years 2017-18 to 2020-21.

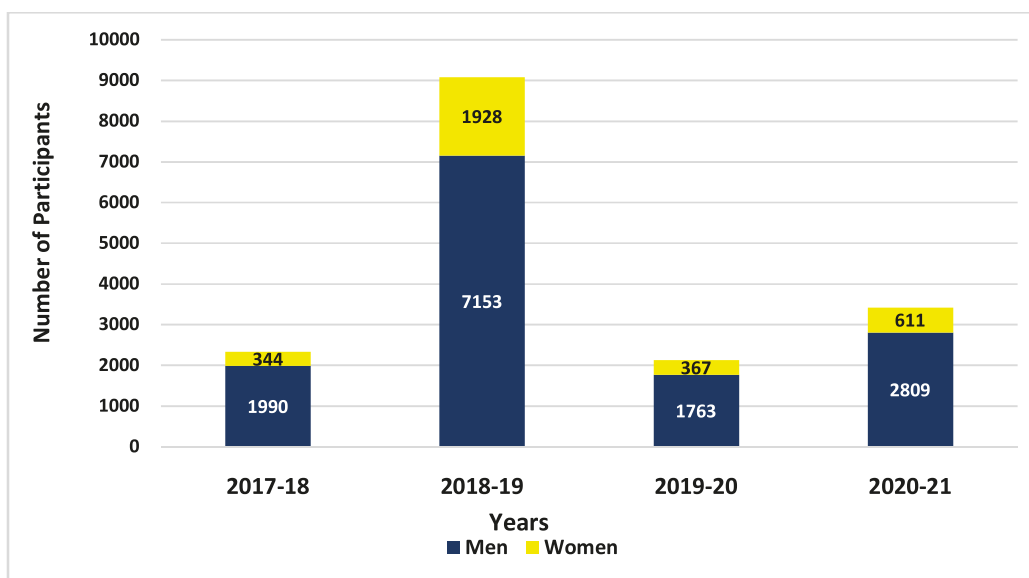


Over 1938 metric tons of vegetables have been exported so far (Annex Table 5). Mostly brinjal, teasel gourd, bottle gourd, bitter gourd, lemon and potato have been exported to these countries. These have been exported using the CCMCs at Shibpur & Belabo of Narshingdi, Mithapukur of Rangpur and Chandina of Cumilla districts during July 2018 to June 2021.

2.5 Training programme implementation

During 2020-21 a total of 3420 persons received training on PHM, marketing, good governance, etc. They included 2220 CIG farmers and 1200 PO members that totalled same number of client-days of training. From 2017-18 to 2020-21, a total of 16,965 persons have received training over 576 events (batches) for a total of 17,592 client-days of training. Fig 6 below depicts the year-wise attendance of the participants in a gender disaggregated way. A total of 3250 women attended different value chain development training programme events that constituted close to 20% of the total participants. Annex Table 6 summarises all the training events completed so far between 2017-18 and 2020-21.

Fig 6: Number of participants attending different training events on value chain development topics between 2017-18 and 2020-21.



The CIG farmers have received training on maturity and harvest indices, contract farming, PHM practices, marketing, CCMC functionalities, food safety and quality, and especially, hands-on training on sorting, grading, washing, drying and packaging. The PO members received also similar training, but with more emphasis on good governance, market management, business planning, etc. for especially running the CCMCs.



Photo 3: A training session of the CIG in Raipura upazila, 14 December 2020. The UAO Raipura Dr Boni Amin Khan taking the session.



Photo 4: The participant CIG members attending the training session in Raipura upazila, Narshingdi, 14 December 2020.

It has to be noted that a range of clients received training under the value chain development component from the inception of the project. The trainees included the DAE officials in the upazilas, districts, and in block levels who are engaged in providing extension services to the CIG farmers. A total of 147 DAE officials (UAO, AAO, AEO, ADD, DTO, DD) received the ToTs in 2018, who in turn are now acting as trainers to train the CIG farmers, POs, traders, etc. ToT courses included production planning, maturity and harvest indices, PHM practices, marketing, CCMC function, food safety and quality, etc. Similar course were provided the block level DAE officers who are SAAOs, and all 300 of them were trained. A total of 11750 CIG farmers have received the PHM-related training so far. Training of CIG farmers was given special emphasis during 2018-19 and as a result during the period a very high number of CIG farmers (6600) were trained. The LBFs

received one foundation and three refreshers training, also with some additional topics, even an additional day of training.

The PO members have at different times received training and each are designed to receive more than a couple of training events. Training for AIF-3 matching grant application and to follow the procedure was however designed for only selected few. So far a total of 3808 number of client-days of training was provided to PO members.

Further training are being planned for processors and other market actors to orient them with food safety requirements, PHM practices relevant for packaging, loading, transporting, storing, etc., so that they are aware of post-harvest loss and its control.

2.6 Mobilization of CIG farmers from production clusters to the CCMCs

The first act of an LBF after arriving in the upazila to start his job was to contact with the 20 CIGs designated to participate with market linkage activities. The related SAAOs also assisted and the first round of training for the CIG farmers started rolling. In all the 30 pilot upazilas, first few CIG training programmes were directly supervised by the consultants. Initiation of the CCMCs and connection with the traders enhanced the process further. Gradually the POs were formed and meetings of the MMCs were organized. These regular meetings with farmers at CIG (yard meetings) and PO levels have further cemented their mobilization.

The farmers in the production clusters were organized by the SAAOs from the DAE. They receive production technology training from DAE and related extension support. Hortex provided the CIG farmers training on PHM and relevant maturity & harvest index. Through a series of meetings and with the help of the training courses the operations in the CCMCs were initiated. At the CCMCs, the PHM practices were demonstrated and applied with aggregated produces of farmers for value addition (Photos 5 & 6).



Photo 5 & 6: Proper PHM practices (sorting, grading, washing, drying, packaging) were demonstrated and applied in the CCMCs.

Both the CIG and non-CIG farmers have access to the CCMC and can use the sorting, grading, washing and packaging facilities there. Local traders mostly procure the assembled commodities in the CCMCs, as also traders from outside the area purchase. Opening of the CCMCs has helped mobilize the CIG farmers and it has become easier for them to come to the CCMCs and sell their produces. The practice of selling from farmgate to the *farias* (collectors) by the CIG farmers is thus decreasing in the areas where the

CCMCs operate. Neighbouring non-CIG farmers also have access, which has a positive impact in society, reflecting the way CCMCs are viewed.

The LBF along with the PO members and especially its executive body - the MMC, organize and manage the activities in the CCMC. The MMC is meeting regularly each month. Gradually these meetings are also being participated by local traders, who are buying from the CCMCs.

The facilities of assembly, sorting mats, washing facility, plastic crates, etc attracted the traders. The mobilization of the CIGs by the constant efforts of the LBF and SAAOs laid the groundwork that convinced the farmers to come to the CCMCs. Also the establishment of a CCMC in a marketplace allowed the exposure to both farmers and traders.

2.7 Postharvest loss and price gap minimisation

In the Annual Report 2019-20 last year some results from the collected data on postharvest loss and price gap minimisation was reported. It was found that for tomato the PH losses were between 13-18%, for brinjal 6-32%, bitter gourd had 11-13% and banana samples afflicted 9-12% PH loss. By any standards, this sample study pointed to a very high level of PH loss. Similarly data on price differences was collected during November 2018 to December 2019. The analysis reported at that time that price gain for tomato was the highest at 23%, followed by bitter gourd at ca. 16%, for brinjal about 11%, for sweet gourd 9%, and only around 3% higher price was recorded for bananas. But due to movement restrictions and abnormal marketing conditions during the pandemic times, no such data collection or analysis could be carried out. A comprehensive study to analyze PH loss and price appreciation from PHM practices at the CCMCs and contribution to farmers income will be undertaken in 2021-22.

2.8 Status of the POs and their Savings

Just after starting the project activities, Hortex Foundation with support from field officials of DAE formed all the 30 POs. along with the executive committees, the MMCs. However, a number of PO-MMCs underwent reshuffle – some even three times.

The MMCs were regularly meeting in the CCMCs, and getting engaged in discussions regarding market linkage, savings, plans for other business initiatives and for the AIF-3 project, etc.

All the POs have bank accounts, obtained trade licenses, and have regular savings. Table 2.2 below shows the savings status of the POs. All the POs were able to raise their savings/investment near or over Tk 6 lakhs and either already availed or are awaiting on AIF-3 matching grant. Eighteen POs could save Tk 6 lakhs or more while another 12 POs had little below Tk.6 lakhs.

Table 2.2: Savings of the POs in Bank account (as of 30 June 2021 including investments for AIF-3)

Sl. No.	POs at the CCMC (Upazila, District)	Savings (as of 30 Jun 2021)	Sl. No.	POs at the CCMC (Upazila, District)	Savings (as of 30 Jun 2021)
1.	Birganj, Dinajpur	600,453	16.	Islampur, Jamalpur	606,800
2.	Chirirbandar, Dinajpur	846,000	17.	Delduar, Tangail	610,000
3.	Parbatipur, Dinajpur	732,800	18.	Madhupur, Tangail	585,000
4.	Mithapukur, Rangpur	587,700	19.	Muktagachha, Mymensingh	603,000
5.	Palashbari, Gaibanda	576,668	20.	Kishoreganj Sadar	658,000
6.	Shibganj, Bogra	1,208,000	21.	Kapasias, Gazipur	600,200
7.	Bogura Sadar	600,000	22.	Shibpur, Narsingdi	590,000
8.	Naogaon Sadar	641,000	23.	Belabo, Narsingdi	860,000
9.	Baraigram, Nator	625,000	24.	Raipura, Narsingdi	583,000
10.	Godagari, Rajshahi	844,000	25.	Savar, Dhaka	529,155
11.	Kaliganj, Jenaidah	583,000	26.	Dakkhin Surma, Sylhet	740,000
12.	Jhikorgachha, Jashore	590,000	27.	Sreemangal, Moulvibazar	627,000
13.	Jashore Sadar	859,000	28.	Chandina, Cumilla	620,000
14.	Bagharpara, Jashore	590,665	29.	Mirsarai, Chattogram	590,000
15.	Nakla, Sherpur	598,435	30.	Khagrachhari Sadar	681,000

The POs were also taking business initiatives to have more income and to develop their capacity for improving the CCMC functions. One such example is the initiative of the PO-MMC of Chirirbandar in Dinajpur to trade for aromatic rice seed, particularly BR 34, and so they secured registration as seed dealer from the BADC.

2.9 Status of AIF-3 awards

During the reporting year 2020-21, a total of 21 POs obtained the AIF-3 matching grant award (Table 2.3).

Table 2.3: Status of AIF-3 awards to CCMC-centred PO-MMCs (as of June 2021).

AWARDED AIF-3		Applied for AIF-3
Already bought mini-truck	Processing documents to buy minitruck	
Chirirbandar	Mithapukur	Birganj
Parbatipur	Bogra Sadar	Baraigram
Palashbari	Kaliganj	Naogaon Sadar
Shibganj	Jhikorgachha	Nakla
Godagari	Bagharpara	Muktagachha
Jashore Sadar	Islampur	Kapasias
Delduar	Madhupur	Savar
Belabo	Kishoreganj Sadar	Shibpur
Dakkhin Surma	Mirsarai	Raipura
Sreemangal		
Chandina		
Khagrachhari Sadar		
Total 12 PO-MMCs have already bought the mini-truck	Total 09 PO-MMCs were processing documents after their sub-projects were awarded AIF-3	Total 09 PO-MMCs have applied for the matching grant

All of them had either already purchased or were going to purchase a mini-truck for their own member farmers' transport needs of the produces. They were also planning to earn from renting out their transport and increase their financial capability. The rest nine POs have also applied for such grant from AIF-3 (Table 2.3), and all of them wanted to get a mini-truck through the sub-projects. It was expected that the remaining nine POs' applications would be approved and so all 30 POs would be able to avail the AIF-3 funds and thus would be able to raise their income.

A study was undertaken in the meanwhile to assess about the costs and income from the Mini-truck purchased by the PO-MMCs utilizing the AIF-3 grant. Up to June 2021, six PO-MMCs of the CCMCs in Shibganj, Jashore sadar, Delduar, Belabo, Dakkhin Surma and Chandina could demonstrate their costs and incomes from their mini-truck/ Pick up van operations. A total income of Tk 217,263 was reported from these six PO-MMCs as shown below in Table 2.4.

Table 2.4 Costs and income from AIF – 3 from CCMC based PO-MMCs up to June 2021.

PO-MMC of the CCMC in Upazila	Total income (Tk.)	Operational expenses (Tk.)	Net income (Tk.)	Remarks
1 Shibganj	193,300/	144,460/	48,840/	
2 Jashore sadar	157,100/	111,677/	45,423/	
3 Delduar	30,000/	14,000/	16,000/	Operated only 20 days out of 124 days due to Covid 19 closures
4 Belabo	2,16,000/	1,44,000/	72,000/	
5 Dakkhin Surma	9000/	5000/	4000/	Experienced lean vegetables production period, so lower amounts of vegetables transported.
6 Chandina	49,000/	18,000/	31,000/	
	6,54,400/	4,37,137/	2,17,263/	

The rest of the six PO-MMCs with mini-trucks were yet to process licenses as they purchased only at the fag end of June 2021 and could not operate on a regular run.



Photo 7: This mini-truck was purchased by PO-MMC of Delduar with support of AIF-3 matching grant.

2.10 Status of registration of the POs

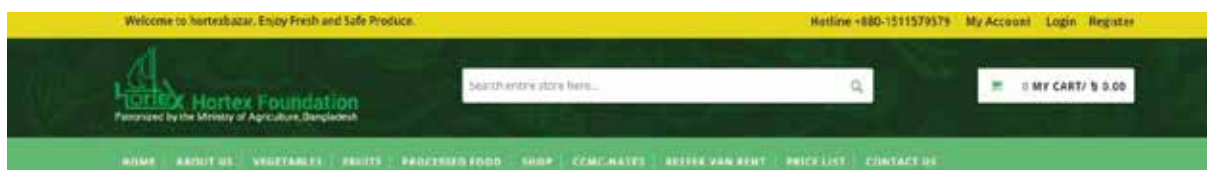
So far only nine (09) POs have obtained registration from the Department of Cooperatives. These are the POs with the CCMCs in the following upazilas:

Parbatipur	Naogaon sadar	Kishoreganj sadar
Mithapukur	Kaliganj	Belabo
Palashbari	Delduar	Khagrachhari sadar

All the others either applied with the authorities or were ready with their applications. But the officials responsible in the Departments in rest of the upazilas are mired in bureaucratic inquiry whether a PO like the ones from the CCMCs can receive a registration. PMU had been trying to resolve the impasse, which would hopefully clear the process.

2.11 hortexbazar: Online marketing by Hortex Foundation

Online marketing of fresh vegetables, fruits and other agricultural commodities was started by Hortex Foundation from June 2020. The portal <https://hortexbazarbd.com> was developed as a full-phased e-commerce site having all the user-friendly features. After a couple of weeks' test run, the hortexbazarbd.com was officially inaugurated by the Agriculture Minister Dr. Muhammad Abdur Razzaque MP on 24th June 2020.



The masthead of hortexbazar

Within a month of its operation, over 15 tons of fresh fruits, vegetables and other agri-commodities were sold online through the portal valued at about Tk. 12 lakh. Fruits remained the mainstay of sale during this time and being the most popular, mangoes alone were sold for over seven tons. Different fruits sold were:

Mango	Pineapple	Dragon fruit
Jackfruit	Papaya	Green coconut
Banana	Guava	Zara Lemon
Litchi	Burmese grape	. . . and more

The different vegetables sold were:

Pumpkin	Wax gourd	Arum/Eddo
Pointed gourd	Bitter gourd	Stolon of taro
Teasel gourd	Sponge gourd	Broccoli
Cucumber	Snake gourd	Radish
Brinjal	Bottle gourd	Red amaranth
Yard long bean	Green papaya and more
Okra	Jackfruits seed	

Up to June 2021 a total of 44 tons of different agri-commodities were sold at a value over Tk. 25 lakh.

The agri-commodities were sourced from farmers organized in CIGs (Common Interest Groups) comprising 20 or 30 farmers around the CCMCs in the production clusters.

Table 2.5 below summarises the agri-commodities marketed through the online portal Annex tables 6.1 to 6.3 shows the list of agri-commodities marketed along with their sources for fruits, vegetables and processed products.

Table 2.5: Agri-commodities marketed through hortexbazarbd.com & supplied by the CCMCs.

Period	Vegetables (Kg)	Fruits (Kg)	Agro processed products (Kg)	Total quantity (Kg)	Total sale value (Taka)
From inception to 30 June 2021	10778	31473	2232	44483	25,12,336.00

The team handling online marketing at Hortex felt that **customers preferred hortexbazar produces** for its high quality. **Customers also trusted the fresh produces to be safe** as they found it to be a government initiative and that these were sorted, graded and processed at the CCMCs in the production clusters. The team also felt that **online marketing of agri-commodities was having a very high potential** and could be hugely expanded in Dhaka city.

The market potential or the trust of the customer in hortexbazar however, was neither going to secure the Hortex online marketing, nor its expansion unless the challenges it faced could be addressed. Hortex Foundation functioned like a public office and therefore, the team that started the online business was far from being any commercial actor. It had no capital, no professionals to run a delivery system, no transports, nor a warehouse. Therefore, Hortex Foundation should have been authorised to make hortexbazar a separate lawful commercial entity to continue this online marketing. It must therefore, have

- ✓ A legal sanction for the hortexbazar as a commercial entity under Hortex Foundation having a standard operating procedure (SOP)
- ✓ A team of market-professionals to run the venture commercially
- ✓ A substantial capital
- ✓ A full delivery system complete with transports
- ✓ A warehouse with proper facilities for storing fresh produces
- ✓ Other supports or facilities, as may be deemed necessary.

Forming hortexbazar into a separate commercial entity might take a while, but the online marketing must continue. **It is important to note here that Hortex Foundation had not been allocated any fund for this online venture, nor had it used any fund from the budgeted amount of NATP-2 for Hortex.** Therefore, a capital fund and a mini-truck for delivery services needs to be arranged without delay by NATP-2 to let this marketing endeavour thrive and grow.

The market-linkage for the CCMCs and NATP-2 can thus be established in a wider realm to create a robust value chain and enhance the prospects of sustainability.

2.12 Campaign on Safe Food

Hortex Foundation has long been involved in campaigning for safe food and these principles are embedded in most of the work related to PHM as part of NATP-2 activities. During the year additional efforts were undertaken to publish fact sheets on the following urgent issues:

- Observing preharvest interval for pesticide application
- toxic residue removal methods from fresh fruits and vegetables (Photo-8)
- microbial contaminant removal methods



**ঘরে বসে সতেজ ফল ও সবজি
বিষমুক্ত করার সহজ উপায়**

নিরাপদ খাদ্য প্রচারণা কর্মসূচী সারসংক্ষেপ প্রদূতি # ১

মুক্তি (Introduction): ফলমূল ও শাকসবজি উপভোগ্য করতে গিয়ে রোগ ও পোকাবাড়ের ঝুঁকি থেকে ফসলের রক্ষা করার জন্য আমাদের ফসল সুরক্ষার জন্য বিভিন্ন ধরনের কাস্টমারি বাসাইনশপের (Chemical Pesticides) যেকোনো কীটনাশক, ছত্রাকনাশক, অখাদ্যনশক ইত্যাদি ব্যবহার করে থাকেন। যথাযথ জ্ঞানের অভাবে অনেক ক্ষুদ্রই বাসাইনশপ ব্যবহারের অসুবিধিত মারা, শ্রেণি বিকৃত এবং প্রয়োজনীয় শ্রেণি সংখ্যা না জেনে ফসলে মারাত্মক রাসায়নিক পদার্থ ব্যবহার করে থাকেন। উপর্য উপর বাসাইনশপ ব্যবহারের পর অপেক্ষমাণ সময় পর না করেই সেগুলি বিক্রয়ের উদ্দেশ্যে মার্কেট থেকে সরিয়ে দেওয়া হয়। যার ফলে ফসলে মারাত্মক বিকৃত বাসাইনশপের অবশিষ্টাংশ থেকে যেতে পারে, যা ফসলকে স্বাস্থ্যের জন্য ঝুঁকিপূর্ণ ও অনিরাপদ করে তোলে। ফল ও সবজিতে বাসাইনশপের উপস্থিতির একটি সর্বাধিক সীমিত মাত্রা আছে, যাকে Maximum Residue Limit (MRL) বলে। কিন্তু ফসলে বাসাইনশপের পরিমাণ যদি মারাত্মক পর্যায়ে অবশিষ্ট MRL-এর উপরে থাকে, তখন তা স্বাস্থ্যের জন্য ঝুঁকিপূর্ণ বলে বিবেচিত হয়। তবে উচ্চ কৃষি চর্চা (GAP) অনুসরণ ও উন্নত সরঞ্জামের ব্যবহারের মাধ্যমে ফল ও সবজি থেকে রাসায়নিক বাসাইনশপের মাত্রা কমাতে খাদ্যের জন্য তা নিরাপদ করে তোলা যায়।

ঝুঁকিপূর্ণ রাসায়নিক উপাদান (Hazardous Chemicals): রাসায়নিক বাসাইনশপ ছাড়াও ঝুঁকিপূর্ণ অ্যান্টিবায়োটিক প্রদানের উপাদানগুলো হলো ফল ও সবজি প্রতিরোধককরণের কাজে ব্যবহৃত জিঙ্করকটিক ও এন্টিবায়োটিক, ফল পোকামের জন্য প্রয়োজনীয় রাসায়নিক পদার্থ (যেমন: ক্যালসিয়াম ক্যার্বাইড), বিভিন্ন ধরনের ভারী ধাতু যেমন: অর্সেনিক, সীসা, প্যার, ক্যাডমিয়াম, ব্রোমিনাম ইত্যাদি।

ঝুঁকিপূর্ণ রাসায়নিক উপাদানের উৎস (Source of chemical hazards): সাধারণত দূষিত (Contaminated) মটি, অপরিষ্কার পানি, অশেপিত খেঁসার বিশেষ করে মুরগির বিচ্ছিন্নতা সার, কলখানার বর্জ্য ইত্যাদি উৎস থেকে ভারী ধাতু পদার্থ দূষিতভাবে ঝুঁকিপূর্ণ করে তোলে। তবে বাংলাদেশে ফলমূল ও শাকসবজি উপভোগ্য করার সময় বিভিন্ন ধরনের রাসায়নিক বাসাইনশপের মারাত্মক ব্যবহার মানব মনুষ্য ঝুঁকিপূর্ণ মতো সবচেয়ে মারাত্মক রাসায়নিক ঝুঁকি মনে বিবেচিত।

মানবদেহে ঝুঁকিপূর্ণ রাসায়নিক পদার্থের ক্ষতিকর প্রভাব (Risk of chemical hazards in human health): ফল কিংবা সবজি থেকে বাসাইনশপের অবশিষ্টাংশের উপস্থিতির কারণে বমি, মাথাব্যথা, শক্তিশালী ইত্যাদি সমস্যা দেখা দেয়। অনেক ক্ষেত্রে খাদ্যে দূষিত রাসায়নিক পদার্থের প্রতিরোধক কাস্টমারি বাসাইনশপের মাত্রা না পূরণের মাধ্যমেই হার্মিটিক্যাল অ্যান্টিবায়োটিক এবং ক্যান্সার, দাঁতের ক্ষয় ও ফুসফুসের বিভিন্ন রোগ দেখা দিতে পারে।

ফল ও সবজি থেকে রাসায়নিক বাসাইনশপের অবশিষ্টাংশ কমানোর উপায় (Measures in reducing pesticide residues of fruits & vegetables): শুধুমাত্র প্রস্তুত রন্ধন প্রক্রিয়ায় ফল বা সবজিতে বিদ্যমান বাসাইনশপের অবশিষ্টাংশ কমাতে মাত্রা সীমিত হওয়া। এই সমস্যা সমাধানের জন্য বাংলাদেশ কৃষি গবেষণা ইনস্টিটিউটের কীটনাশক বিজ্ঞান বিভাগের বিজ্ঞানীরা গবেষণা করে বিভিন্ন পদ্ধতি উদ্ভাবন করেছেন, যার মাধ্যমে ঘরে বসে খুব সহজেই ফলমূল ও শাকসবজি থেকে বাসাইনশপের অবশিষ্টাংশ মাত্রা কমাতে সেসবগুলো ব্যবহার করা অনেকটা নিরাপদ করা যায়। পদ্ধতিগুলো পরের পৃষ্ঠায় বর্ণনা করা হলো:

রাসায়নিক বাসাইনশপের অবশিষ্টাংশ কমানোর ঘরোয়া পদ্ধতিসমূহ





পদ্ধতি-১: এক লিটার পানিতে ২০ গ্রাম (২ চা চামচ) খাদ্য লবণ মিশিয়ে তাতে ফল ও সবজিকে ১৫ মিনিট ডুবিয়ে রেখে পরিষ্কার পানিতে দুই নিম্নে বাসাইনশপের প্রভূত উপর নির্ভর করে শতকরা ৫০-৬০ ভাগ পর্যন্ত বিঘাতকরা মূল হয়ে যায়।





পদ্ধতি-২: এক লিটার পানিতে ১০ মিলিগ্রামের হিসোল মিশিয়ে তাতে ফল ও সবজিকে ১৫ মিনিট ডুবিয়ে রেখে পরিষ্কার পানিতে দুই নিম্নে বাসাইনশপের প্রভূত উপর নির্ভর করে শতকরা ৭০-৯০ ভাগ পর্যন্ত বিঘাতকরা মূল হয়ে যায়। এতে ফল ও সবজি খাওয়ার জন্য বড়োমাত্রা নিরাপদ হয়ে যায়।





পদ্ধতি-৩: ফলমূল ও শাকসবজিতে জীবাণু মুক্ত পরিষ্কার পানিতে কিছু সময় ধরে হাত ঘাটা করলেই জীবাণু মুক্ত করে বাসাইনশপের অবশিষ্টাংশের একটি উৎসযোগ্য অংশ মূল হয়ে যায়।

এ ছাড়াও ফল বা সবজির বাহিরের আবরণ বা খোসা সেসে দিয়ে পরিষ্কার অ্যান্টিবায়োটিক রক্তা করার ফলে বাসাইনশপের শতকরা ৫০ ভাগের বেশী মূল হয়ে যায় এবং যাওয়ার জন্য সেগুলো অনেকটাই নিরাপদ হয়ে যায়। কাজেই আসুন আমরা সবাই মিলে বিষমুক্ত নিরাপদ ফল ও সবজি খাই এবং একসাথে সুস্থতাতে বিবেচিত হই।

তথ্যসূত্র: পেমিসাইড এনালিসিসের ল্যাব, কীটনাশক বিজ্ঞান, বাংলাদেশ কৃষি গবেষণা ইনস্টিটিউট, গাজীপুর

ব্যবসায়: এনালিসিস ফেল-২ রোগ, **হর্টেক্স মার্কেটিং** স্ট্র্যাটেজিক পোর্টাল অব ডিএই (DAE), কৃষি মন্ত্রণালয় বাংলাদেশের প্রিন্সিপাল অফিস, ঢাকা, ১২ মাসিক বিজ্ঞান এডভান্স, পোস্তালা নম্বর, ঢাকা-১২০৭।
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Photo 8 a and b: Factsheet on toxic residue removal methods from fresh fruits and vegetables (front and back sides).

2.13 Sustainability Assessment of the CCMCs and CPs

Earlier ISM of the WB-IFAD had recommended carrying out a study as ‘Agreed Actions’ wherein the action statement said that an “Analysis is needed to understand if the CCMC and CP model is sustainable, what changes (if any) are needed and what is the exit/sustainability strategy to ensure that by the end of NATP2 these value chain structures will continue.” A study was therefore carried out during March to May 2021 to determine the prospects of sustainability of the CCMCs and CPs established under NATP-2.

The study was based on a questionnaire and the information were supplemented through telephone interviews, conducted with PO-MMC members, farmers, DAE officials and LBFs. The sustainability prospects were examined from a number of aspects of the PO-MMC capacities, which were: institutional capacity, financial management, improved postharvest management practices, achievements through income generating activities and marketing progress. The analysed results were adjudged using a prospect scale of very good, good, moderate, average and low. The final draft report was submitted improving upon an earlier draft.

The study determined 15 CCMCs as having ‘very good’ prospects of sustainability, while six were adjudged having ‘good’, another six having ‘moderate’, two having ‘average’ and one had ‘low’ prospects. Annex 7 reproduces the Executive Summary of the report and mentions the graded CCMCs/CPs. The way to improve the performance and standings of the PO-MMCs in the remaining two years of the NATP-2 project to make all the CCMCs/CPs sustainable were mentioned. These included: engaging more with the PO-MMCs for their organizational improvement through visits and meetings; organizing

exposure visits to better performers; facilitating business planning workshops; assisting in income generation and expenditure management; help in asset development, help them handle financial matters and account keeping and other records. PO-MMCs adjudged as moderate, average and low will get special attention and stronger support.

2.14 Documentation and Publication

Like previous years Hortex Foundation continued publishing and reprinted earlier publications, such as the booklet for the farmers on improved PHM practices at a packhouse (CCMC), the manual for the PO members and the manual on PHM practices for the major HVCs. As usual, Hortex also published the Annual Report for documenting its activities and records after completing each financial year (Photo 9).

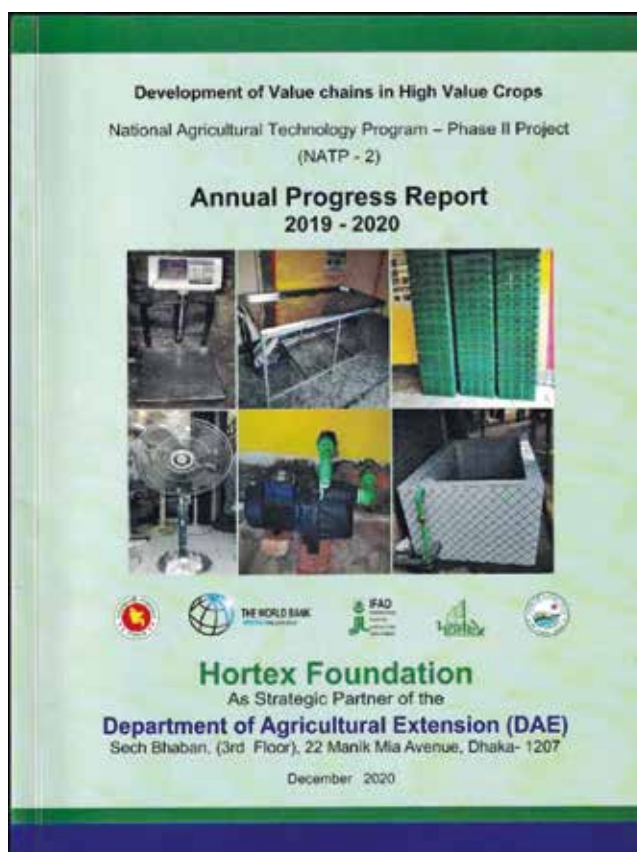


Photo 9: Cover of the Annual Progress Report 2019-20

3. Monitoring & Evaluation for Value Chain Development

The M&E process adopted for the value chain development activities carried out by Hortex Foundation for the NATP-2 project is well planned and a continuing phenomenon. Both the R-DPP and PAD of the World Bank listed the monitoring tasks mainly to be on (i) data on agri-commodities marketed through the marketing structures, such as CCMC and CPs, (ii) the marketing solutions provided (CCMCs, CPs, renovated markets, etc.), and (iii) client-days of training provided by Hortex Foundation for value chain development work and

better marketing. To this end monitoring data were regularly collected in well-designed formats.

The three principal items for complying with the Results Framework and Monitoring as enumerated below in Table 3.1 follows the format from the PAD for NATP-2 and the figures are adjusted for the value chain development part implemented by Hortex Foundation.

Table 3.1: Progress achieved against the results framework in value chain development, NATP-2, Hortex Foundation.

Baseline value	Cumulative or Annual values (targets and actuals)								Achieved up to Jun 2021	Comments	
	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 Mid term (2018-19)	Year 4 (2019-20)	Year 5 (2020-21)	Year 6 (2021-22)	Year 7 (2022-23)	Project end			
1. Market Access: Volume (in tons) of agricultural commodities sold annually through new marketing structures/arrangements promoted by Hortex Foundation											
Total volume: 0 t	Ta	100	965.31	5,072.3	7222.8	3,000	5,000	6,000	27,360	24,631.95	As per R-DPP 90% achieved
	Ac	100	965.31	5125.7	7822.8	10,589	--	--			
2. Market access: Marketing solutions implemented by the project (cumulative)											
Marketing solutions: 0	Ta	02	10	31	55	60	--	--	60	All marketing solutions were completed	
	Ac	02	09	31	34	60	--	--			
3. Client-days of training provided [CORE INDICATOR]											
0 (0%)	Ta	00 (0%)	3,000 (35%)	14,027 (35%)	3,614 (35%)	3,420	2078	--	19,670	17,592 (89%)	All training completes by year 6
	Ac	----	2,818 (14%)	9,224 (65%)	2,130 (59%)	3,420 (100%)	--	--			

Accordingly, Table 3.1 depicts the progress made in agri-commodity marketing, the structures (CCMCs and CPs) for marketing solutions and client-days of training for the implementing years covering the period until June 2021. Agri-commodity marketing has already been described under section 2.2 as 24,631 tons of agri-commodities were marketed achieving 90% of the revised project target using the mentioned market structures as marketing solutions. The Annex Tables 3.1 to 3.4 provide the details the progress made in agri-commodity marketing during this period in terms of months, upazilas, crop items, and by years. A total of 65 different agricultural commodities were traded which included the six selected HVCs mentioned earlier.

Needless to mention again that all the 30 CCMCs and 30 CPs were full functional (detailed in Annex Table 1). A total of 17,592 client days of training have been completed which included topics on PHM practices, marketing, production and business planning, contract farming, food safety and quality, among others.

However, the more significant aspect of M&E for the assessment of income margins gained due to improved PHM practices by the farmers will be carried out through a comprehensive study in 2021-22. A baseline survey was carried out in 2018-19 to find out mainly the nature and extent of PHM practices for fruits and vegetables. Some very basic data on their income was also collected at that time. The planned study may utilize this baseline data to assess the said income margins.

3.1 Monitoring by Senior Officers

Despite the ravaging pandemic and government directives restricting duty travel, senior officials from PMU including the Project Director (PD) Mr Md. Motiur Rahman and officials from PIU-DAE undertook monitoring visits (Photos 9 & 10).



Photos 9 & 10: Mr Md. Motiur Rahman, Project Director (Addl. Secretary-MoA) NATP-2, visited the Dakkhin Surma CCMC (pictured) and others in Sylhet district on 21 Oct 2020. President & Secretary of the PO-MMC welcomed him and his entourage (a) and he exchanged views with the PO-MMC(b).

The PD was accompanied by a host of experts from the PMU-NATP-2. They included the Deputy PD Dr Ranjit Sarkar, Dr M A Razzaque, Mr M H Rashid, Dr G P Das, Dr Mahbub Alam, Mr S Zaman, the DDAE Mr Md Salahuddin, etc. The President & Secretary of the PO-MMC Messers A Latif and Gokul Dutta (Shekhor) along with the UAO Ms Shamima Akter and Dr M Sattar (M&E Expert-Hortex) welcomed him and his entourage. A good discussion meeting was held after the Secretary PO-MMC Mr G Dutta presented a description of their activities with well recorded data and facts. The PD expressed his admiration for the efforts.

In addition, the Director PIU-DAE, Mr Azharul Islam Siddique and other officers from PIU-DAE also visited the CCMCs in several upazilas. There were also other visitors to the CCMCs at different times from the PMU-NATP-2 to see the activities related to PHM and marketing.



Photo 12: Ms Aynur Akter Panna, Director, IMED, GoB visited the CCMC in Belabo upazila, Dec 09, 2020.

Ms. Aynur Akter Panna, Director, IMED (Implementation, Monitoring & Evaluation Division) of the Ministry of Planning, Government of Bangladesh visited the CCMC at Baroicha bazaar of Belabo upazila, Narshingdi on 9th December 2020 (Photo 12). She was accompanied by experts from the PMU, NATP-2. It was her mission to verify the reported activity of NATP-2. Accordingly, the President of the PO-MMC, Belabo Mr Shahabuddin elaborated on the activity of the CCMC and the support they have received from the project, their achievements, and successes. Ms Panna asked them about their gains from PHM practices. She was informed that the participating farmers gain at least Tk. 5 higher for each kilogram for the HVCs for their efforts in PHM. She appreciated the ongoing PHM practices and the opportunity of continuing HVC export abroad due to this endeavour.

4. Empowering Smallholder Farmers in Vegetable Marketing: The Success Stories

The activities of Hortex Foundation in NATP-2 project for value chain development of the HVCs of smallholder farmers has been a long and laborious journey. The efforts essentially translated into empowering the smallholder farmers in vegetable marketing. The **stories from Belabo and Dakkhin Surma PO-MMCs** tell us the successful journey of their empowerment in vegetable marketing.

Success story of PO-MMC Belabo

The PO-MMC in Belabo was formed in 2018 when the CCMC was established. The PO represented by the 20 constituting CIGs received various skills training support and advice from Hortex Foundation through NATP-2. The training courses included improved PHM of HVCs, CCMC operations, marketing, sub-project preparation for AIF-3 matching grant, data management and record keeping, and agri-business, etc. Hortex Foundation linked the PO-MMC with potential traders and exporters to get better prices by supplying quality vegetables regularly through the CCMC. They held meetings every month, kept contributory savings from members in a Bank account to raise capital and with passage of time gradually bonded into a well-knit organization. The PO-MMC obtained the necessary trade licence and also got registration from the Department of Cooperatives of Bangladesh Government.

The PO-MMC of Belabo successfully marketed a total of 866 tons of fresh vegetables, such as brinjal, cucumber, yard long bean, country bean, bitter gourd, bottle gourd, pumpkin, zara lemon, etc. from the beginning of the CCMC operations to June 2021. Out of this, 513 tons were exported to Qatar, Kuwait, Dubai, Saudi Arabia, Malaysia and Singapore. The PO-MMC coordinated the contracts between the CIG farmers around the CCMC and the exporters for supplying required quality vegetables and obtained 10-15% higher price compared to the usual local market. Besides that, the PO-MMC also linked with the online vegetable marketing portal hortexbazarbd.com of Hortex Foundation and continued supplying farm-fresh vegetables for online selling.

By June 2021, the PO-MMC had a savings of about Tk. 860,000 that includes different investments. They availed the AIF-3 matching grant and bought a 2.5 ton-capacity JAC

mini-truck valued at Tk. 15 lakh. They received Tk. 5.70 lakh from AIF-3 and the rest amount of Tk. 9.30 lakh was contributed by them. They decided for a bigger truck because they were able to foresee the HVC marketing potential. Their income includes service charge between Tk 2000 & 2200 monthly from the users of the CCMC; Tk 600 as rent from the two manual rickshaw vans, and nearly Tk 25,000 from the mini-truck.



Photo 13: The mini-truck bought by PO-MMC of Belabo.



Photo 14: The UNO, Belabo Ms. Shamima Sharmin visited the CCMC, 10 Feb 2021.

Hearing about their success, the UNO of Belabo upazila Ms. Shamima Sharmin visited the PO-MMC on 10 February 2021 to observe the process followed in the CCMC for fresh vegetables marketing. She was so impressed that she promised to provide the PO-MMC a piece of government *khas*-land nearby to build a proper and permanent packhouse.

Having experienced such remarkable success, the PO-MMC are highly confident and has been planning to buy more mini-trucks, a cooling van and are dreaming to build a proper cold storage for vegetables to further expand the business from the CCMC.

Success story of PO-MMC Dakkhin Surma

Compared to the PO-MMC Belabo, that of Dakkhin Surma took business initiatives much later in August 2019 as an organization. Hortex Foundation provided the PO-MMC similar training courses as in Belabo. The late start was due to change in the location of the CCMC to Rakhalganj bazaar, as the earlier location was not suitable for CIG farmers to market their produces and also because the PO-MMC had to be re-organized. The new committee motivated a land owner in the bazaar to build a suitable structure for CCMC. Before it came to full operation the PO-MMC started its activities and raised a capital of Tk 20,000 and started the vegetable marketing from November 2019. They bought vegetables from their own CIG farmers, processed those in the CCMC by sorting, washing, drying, grading and transported those using the plastic crates. They sold to wholesalers after negotiations in Sobhani Ghat Bazar in Sylhet town, Dhaka Dakkhin Bazar, Golapganj upazila bazar and Mongla Bazar. Gradually, the PO-MMC increased their investment in vegetables marketing business to Tk 135,000. Up to June 2021, they marketed 1494 tons of vegetables, mostly country bean, sweet gourd, tomato, brinjal, cucumber, sponge gourd, etc. Within first three months, their net profit from vegetable marketing business rose to Tk 194,184, which they shared among the contributing members. They obtained 8 to 15% higher price than traditional marketing channel. MMC continued their savings and raised their capital further.

During the vegetable lean season from August to November, MMC invested their saving money and bought two pregnant cows at the cost of Tk 603,000, took lease of 220 decimal

land at Tk 20, 000 for vegetables cultivation and bought an irrigation equipment for Tk 20,000 for supplying irrigation water in vegetable field. MMC earned net profit Tk 36,000 from sale of cows and milk.



Photo 15: The PO-MMC of Dakkhin Surma leased land for producing their own vegetable for business



Photo 16: PO-MMC members are sorting and packaging country bean at the CCMC in Rakhalganj bazaar.

The Project Director (PD) Mr Md. Motiur Rahman, as already mentioned in page 19, visited the CCMC on 21 Oct 2020 and appreciated highly the PO-MMC's efforts (Photo 9 & 10).

The PO-MMC in Dakkhin Surma also availed the AIF-3 matching grant and brought a mini-truck as well to enhance their vegetable marketing. They preferred buying a 3-ton capacity truck. However, they received the truck only recently and started running from the second week of June 2021. Still to complete a month's business, it has so far made an income margin of Tk. 4,000. Including the current investments, the PO-MMC of Dakkhin Surma has a total savings fund of Tk 740,000. Having gained experience from their vegetable and other businesses, the PO-MMC Dakkhin Surma is now contacting exporters and also taking measures for contract farming with CIG farmers to supply according to export needs.

5. Financial progress

Financial progress was initially slow due to a late start. As activities started rolling, expenses increased over the years. These are summarised below in Table 5.1. The table shows that over time expenditure has grown with increasing activities. So far Taka **1220.97** lakh has been spent. The details are provided in Annex Table 7.

Table 5.1: Summary of the financial progress of Value Chain Development, NATP-2, Hortex Foundation during 2016-17 to 2020-21.

(in lakh taka)

Financial year	RADP Budget	Expenditure	Achievement
2016-17	22.40	19.70	88%
2017-18	233.00	198.71	86%
2018-19	450.00	431.00	95%
2019-20	300.00	287.14	96%
2020-21	306.00	284.42	93%
Total	1311.40	1220.97	93%

6. Procurement progress

Table 6.1 below provides the progress of procurement by Hortex for NATP-2. A total of five packages on goods were procured during the year 2020-21. This brings to a total of 30 packages of goods and 15 service packages procurement from inception to 2020-21.

Annex Table 8 provides the details of the procurement for the year 2020-21.

Table 6.1: Summary of procurement packages completed for Value Chain Development, NATP-2, Hortex Foundation during 2016-17 to 2020-21.

(no. of packages)

Procurement Package (completed)	Years				
	2016-17	2017-18	2018-19	2019-20	2020-21
Goods	3	6	11	5	5
Services	-	11	3	1	-

6. The Challenges

The ups and downs of the continuing Covid-19 pandemic over the reporting year as depicted already at the start of the section 2 affected every walks of life posing as the overwhelming challenge. Serious operational challenges were faced that affected the activities. These are summarised below:

- Exposure visits for the selected PO-MMCs were long overdue and again this year these had to be postponed
- Training schedules were affected
- Planned BP workshops could not be carried out
- Visits for physical monitoring of the CCMC activities could not be carried out
- Finding a structure for establishing Collection Points (CPs)
- Getting traders & Market actors to adopt improved PHM
- Increased savings of PO-MMC members needed to start fresh produce's business and other IGAs using the CCMC facilities
- Ensuring the presence of maximum number of PO-MMC members in monthly meeting to take decision on new and innovative business idea

Getting traders and market actors to adopt new and improved PHM practices remain as one of the most arduous undertaking. Significant improvements at the CCMCs are visible in terms of sorting, grading and washing, but the bulk of the products from the remaining markets are not processed that way which distort the overall quality in the supply chain. Therefore, the products from the CCMCs are having little appreciable effect.

7. Lessons Learnt

During the reporting year, the recurrence of Covid-19 pandemic affected all walks of life and hindered usual way of project work and processes. So adaptation and innovation was the order of the day. The following measures were the good lessons learnt:

- The farmers were encouraged to send one farmer from the whole group (CIG or other) with all their fresh produces to CCMC for marketing.
- In face of restricted movements, PO-MMC meetings were hampered. So the LBFs kept communications viable by contacting CIGs over mobile phones. This way information for marketing needs for prices, supply arrangements, scheduling, transport, etc. could be shared and a level of activity remained viable around the CCMCs/CPs.
- Experts from Dhaka, unable to undertake monitoring and other support visits, also kept contacting over mobile phones, tended to their needs or concerns and collected information in a regular and systematic way using appropriate data formats.

8. The way forward

Hortex Foundation did achieve remarkable successes in value chain development of the 30 pilot upazila clusters. All the CCMCs and CPs were functioning as participating farmers and traders were gradually coming forward and interacting for marketing safe and high quality fruits and vegetables.

With most of the training for CIGs and PO-MMCs on the required skills were over, the crucial need to sustain the CCMCs beyond the project period was now on the cards. A sustainability assessment (described below in section 8.1) found only half of the CCMCs having very good prospects of sustaining. It was however already understood that the ability of the PO-MMCs to plan their business was seriously lacking. Despite conducting a training class on business planning, nothing happened in this aspect. Hortex Foundation, with the initiative of the M&E Expert Dr. M. Sattar, therefore proposed since long to organize Business Planning Workshops (BPWs) for the PO-MMCs around the CCMCs/CPs. Later it was proposed and included in the R-DPP that finally got approved very late by the end of this reporting year and was made effective on May 27, 2021.

During 2021-22, Hortex will therefore, organize Business Planning Workshops (BPWs) for the PO-MMCs in each CCMC to further guide them and prepare a business plan for operating their CCMC+CP. It would thus allow them to chalk-out a work-plan to run the business and operations of the CCMC+CP. A second BPW would also be held after a certain period of their operating the CCMC to straighten further their involvement in the business and in taking full control of the CCMC+CP operations.

Accordingly, the focus will be:

- Consolidation of the gains in the CCMCs/CPs;
- Capacity building of the PO-MMCs, with BPWs and follow-up; and
- Scaling up of improved PHM practices.

8.1 The Exit Strategy to leave the CCMCs viable

As has been mentioned in the sustainability assessment study, with the expected improvements in PO-MMC capabilities, the rent and other cash supports to the CCMCs/CPs will be gradually withdrawn as the exit strategy of the Project. The exit strategy envisages a gradual withdrawal of financial assistance to the CCMCs when significant build up of funds and assets by the PO-MMCs at the CCMCs would be evident. The POs were already informed that the N ATP-2 Project/Hortex would gradually withdraw support from the CCMCs as they would grow with savings and income. Before that, efforts would be underway to help them consolidate their income from given items and/or AIF-3 support. Gradually the rent support, electric bills payment would be withdrawn and cease finally, while the MMC-PO would be required to bear these costs. However, the advisory support and guidance from Hortex would continue throughout the project period. The withdrawal of rent and other financial support would be gradual, like 10% withdrawal in the first month, 15% next month, 20% withdrawal thereafter, and so on. Once these costs would no longer be borne by the Project, the exit will initiate their financial independence, though they will continue to receive guidance and advice.

Annex Table 1: Location of the CCMCs and the POs.

Sl. No.	Upazila	District	Location of CCMC	Location of CPs
1.	Birganj	Dinajpur	Birganj hat	Bot toli bazaar
2.	Chirirbandar	Dinajpur	Hatkhola bazaar	Krishnapur
3.	Parbatipur	Dinajpur	Khayerpukur haat	Uttara
4.	Mithapukur	Rangpur	Baldipukur bazaar	Abhirampur
5.	Palashbari	Gaibandha	BRAC Sobji Bazaar	Purbo Noyanpur
6.	Shibganj	Bogura	Chandihara Bazaar	Sanyasi Dhondakola
7.	Bogura Sadar	Bogura	Pollimangal Haat	Nuruil, Bhandar paikar
8.	Naogaon Sadar	Naogaon	Tetulia Bazar	Gobindopur
9.	Baraigram	Natore	Bonpara Bazaar	Bagdoub bazar
10.	Godagari	Rajshahi	Rajabari haat	Damkura haat
11.	Kaliganj	Jhenidah	Kaliganj bazaar	Baliadanga
12.	Jhikorgachha	Jashore	BarbakpurBazaar	Mohinikathi
13.	Jashore Sadar	Jashore	Churamonkati	Baro Hoibatpur
14.	Bagharpara	Jashore	Dadpur Bazaar	Habulya
15.	Nakla	Sherpur	Tarakanda bazaar	Joy Bangla bazaar, Dhanakusha
16.	Islampur	Jamalpur	Islampur Bazaar	Porar char
17.	Delduar	Tangail	Putiajani Bazaar	Bhawanipur
18.	Madhupur	Tangail	Kuragachha Bazaar	Shalikha
19.	Muktagachha	Mymensingh	Gabtali bazaar	Rasulpur bazaar
20.	Kishoreganj Sadar	Kishoreganj	Mulshotal	Member market, Bilborulla
21.	Kapasia	Gazipur	Chandpur bazaar	Tilsunia bazaar
22.	Shibpur	Narshingdi	Kharakmara Bazaar	Palpara
23.	Belabo	Narshingdi	Baroicha Bazaar	Rahimer kandi
24.	Raipura	Narshingdi	Lochonpur Bazaar	Uttar Bakhornagar
25.	Savar	Dhaka	Horindhara Bazaar	Dakkhin Meitka
26.	Dakkhin Surma	Sylhet	Rakhalganj bazaar	Turukkhola
27.	Sreemangal	Moulvibazaar	Notun bazaar	Tikoria
28.	Chandina	Cumilla	Nimsar bazaar	Purbo Ramchandrapur
29.	Mirsarai	Chattogram	Bhangadokan	Mahanagar, Fakir Astana bazar
30.	KhagrachhariSadar	Khagrachhari	Chhotonala bazaar	Bhai-bon bazaar

Annex Table 2: Logistics and other support provided to the CCMCs.

Sl. No.	Name of the Upazila	Office Table	Grading Table	Office Chairs	Plastic chairs	Ceiling fan	Rickshaw van	Plastic crates	Sorting mats	Weighing machine	Washing facility		Display board
											Bucket	Full set	
1.	Birganj	1	1	1	25	2	1	100	10	1	1	1	1
2.	Chiribandar	1	1	1	25	4	1	105	10	1	1	1	1
3.	Parbatipur	1	1	1	25	5	1	195	10	1	1	1	1
4.	Mithapukur	1	1	1	25	3	2	135	10	1	1	1	1
5.	Palashbari	1	1	1	25	3	2	135	10	1	1	1	1
6.	Shibganj	1	1	1	25	4	2	135	25	1	1	1	1
7.	Bogra Sadar	1	1	1	25	3	1	135	20	1	1	1	1
8.	Naogaon Sadar	1	1	1	25	3	1	135	10	1	1	1	1
9.	Baraigram	1	1	1	25	3	1	135	10	1	1	1	1
10.	Godagari	1	1	1	25	4	1	135	10	1	1	1	1
11.	Kaliganj	1	1	1	25	4	2	135	10	1	1	1	1
12.	Jhikorgachha	1	1	1	25	2	2	135	10	1	1	1	1
13.	Jessore Sadar	1	1	1	25	3	1	135	10	1	1	1	1
14.	Bagharpara	1	1	1	25	3	2	135	10	1	1	1	1
15.	Nakla	1	1	1	25	3	1	125	5	1	1	1	1
16.	Islampur	1	1	1	25	4	2	130	20	1	1	1	1
17.	Delduar	1	1	1	25	2	2	130	15	1	1	1	1
18.	Madhupur	1	1	1	25	2	2	135	20	1	1	1	1
19.	Muktagachha	1	1	1	25	3	1	135	20	1	1	1	1
20.	Kishoreganj Sadar	1	1	1	25	4	1	130	20	1	1	1	1
21.	Kapasia	1	1	1	25	5	1	150	20	1	1	1	1
22.	Shibpur	1	1	1	25	2	2	189	10	1	1	1	1
23.	Belabo	1	1	1	25	2	2	189	10	1	1	1	1
24.	Raipura	1	1	1	25	2	2	169	10	1	1	1	1
25.	Savar	1	1	1	25	2	1	143	20	1	1	1	1
26.	Dakshin Surma	1	1	1	25	4	1	135	10	1	1	1	1
27.	Sreemangal	1	1	1	25	4	1	135	10	1	1	1	1
28.	Chandina	1	1	1	25	3	2	135	20	1	1	1	1
29.	Mirsarai	1	1	1	25	3	2	135	20	1	1	1	1
30.	Khagrachhari Sadar	1	1	1	25	3	2	154	20	1	1	1	1

Annex Table 3.1: Month-wise marketing volumes of agri-commodities sold through the CCMCs & CPs during July 2020–June 2021.

Month	Volume(kg)	Reporting from the Upazilas		
		CCMCs	CPs	
Jul-20	691836	All 30 Upazilas	Chandina (1)	
Aug-20	561579		Chandina (1)	
Sep-20	693440		Birganj, Parbatipur, Shibganj, Nakla, Chandina, Khagrachari Sadar (6)	
Oct-20	684411		Birganj, Chirirbandar, Parbatipur, Shibganj, Bogra Sadar, Baraigram, Kaliganj, Jessore Sadar, Nakla, Islampur, Delduar, Kapasia, Belabo, Chandina, Mirsarai, Khagrachai Sadar (16)	
Nov-20	732926		Birganj, Chirirbandar, Parbatipur, Mithapukur, Shibganj, Bogra Sadar, Baraigram, Kaliganj, Jessore Sadar, Nakla, Islampur, Delduar, Madhupur, Kishorganj Sadar, Kapasia, Belabo, Raipura, Sreemangal, Chandina, Mirsarai, Khagrachari Sadar (21)	
Dec-20	904961		26 upazilas (Except Muktagachha, Savar, Godagari&Dakkhin Sumra)	
Jan-21	1128748		27 upazilas (Except Muktagachha, Savar & Dakkhin Sumra)	
Feb-21	1248497		29 Upazilas (Except Shibpur)	All 30 Upazilas
Mar-21	1136150		All 30 Upazilas	27 Upazilas(Except Raipura, Belabo& Madhupur)
Apr-21	851296		29 Upazilas (Except Shibganj)	29 Upazilas (Except Raipura)
May-21	911135	All 30 Upazilas		
Jun-21	1044422			
Total from Jul'20 to Jun'21 = 10589,401Kgs (10589.401 tons)				

Annex Table 3.2: Upazila-wise total volume of agri-commodities marketed through the CCMCs & CPs: - July 2020 – June 2021.

No.	Name of the Upazila	Volume (kgs)	No.	Name of the Upazila	Volume (kgs)
1.	Birganj	901,325	16.	Islampur	409,917
2.	Chirirbandar	237,590	17.	Delduar	336,925
3.	Parbatipur	568,186	18.	Madhupur	101,042
4.	Mithapukur	299,813	19.	Muktagachha	215,791
5.	Palashbari	51,212	20.	Kishoreganj Sadar	174,019
6.	Shibganj	468,339	21.	Kapasia	255,626
7.	Bogura Sadar	144,217	22.	Shibpur	226,000
8.	Naogaon Sadar	159,794	23.	Belabo	277,990
9.	Baraigram	159,005	24.	Raipura	184,373
10.	Godagari	835,530	25.	Savar	511,990
11.	Kaliganj	413,981	26.	Dakkhin Surma	686,936
12.	Jhikorgachha	244,601	27.	Sreemangal	283,716
13.	Jashore Sadar	429,943	28.	Chandina	366,712
14.	Bagharpara	154,976	29.	Mirsarai	170,344
15.	Nakla	1057,300	30.	Khagrachhari Sadar	262,208
Total = 10,589,401 kgs (10589.40 tons)					

Annex Table 3.3 : Volumes of agri-commodities marketed through the CCMCs & CPs during Jul 2020 – Jun 2021. (in order of volumes marketed)

No.	Name of Vegetable/fruit	Volume (kgs)	No.	Name of Vegetable/fruit	Volume (kgs)
1.	Rice	1507,245	30.	Taro Stolon	71,786
2.	Brinjal	1157,607	31.	Red Amaranth	70,136
3.	Country Bean	912,444	32.	Jujube	68,411
4.	Banana	826,408	33.	Ridged Gourd	63,386
5.	Potato	810,229	34.	Malta	51,631
6.	Lemon	565,286	35.	Jackfruit	43,655
7.	Guava	504,575	36.	Sponge gourd	39,423
8.	Tomato	372,447	37.	Okra	35,679
9.	Pointed Gourd	329,612	38.	Jute leaf	35,301
10.	Teasel Gourd	297,574	39.	Watermelon	29,552
11.	Amaranth	242,912	40.	Spinach	28,175
12.	Cucumber	222,539	41.	Coriander	27,066
13.	Bottle Gourd	213,224	42.	Blackberry	19,152
14.	Cauliflower	194,314	43.	Palmyra palm (Taal)	16,869
15.	Bitter Gourd	179,230	44.	Hog Plum	16,598
16.	Sweet Gourd	166,778	45.	Turnip	15,880
17.	Cabbage	158,040	46.	Burmese Grape	11,175
18.	Long Bean	148,838	47.	Grape Fruit	7,648
19.	Indian Amaranth	145,104	48.	Aonla	6,851
20.	Mango	136,287	49.	India Olive	4,766
21.	Radish	108,505	50.	Pea	4,748
22.	Chilli	106,962	51.	Dragon fruit	4,680
23.	Papaya	106,787	52.	Bael	2,334
24.	Snake gourd	102,695	53.	Moringa (stick)	2,279
25.	Taro/Eddo/Aroid	81,398	54.	Amla	1,857
26.	Broccoli	80,600	55.	Onion	1,575
27.	Ash Gourd	79,130	56.	Sapota	350
28.	Pineapple	75,697	57.	Golden Apple	230
29.	Litchi	75,537	58.	Carrots	204
Total = 10,589,401 kgs (10589.40 tons)					

Annex Table 3.4: Agri-commodities marketed from CCMCs+CPs over the years.

SL	Crops	Jul-16 to Jun-17	Jul-17 to Jun-18	Jul-18 to Jun-19	Jul-19 to Jun-20	Jul-20 to Jun-21	Total
1	Brinjal	28000	223620	782822	681764	1157607	2873813
2	Bitter Gourd	11000	73300	75734	169569	179230	508833
3	Sweet Gourd	11000	16400	121501	254706	166778	570385
4	Pointed Gourd	0	42130	119166	270035	329612	760943
5	Teasel Gourd	0	56700	235626	336718	297574	926618
6	Bottle Gourd	5000	0	86018	96621	213224	400863
7	Ash Gourd	10000	17560	41884	28944	79130	177518
8	Ridged Gourd	0	6000	11653	80877	63386	161916
9	Tomato	3000	7210	311732	529238	372447	1223627
10	Banana	0	38200	344330	911481	826408	2120419
11	Lemon	0	242550	610657	398804	565286	1817297

SL	Crops	Jul-16 to Jun-17	Jul-17 to Jun-18	Jul-18 to Jun-19	Jul-19 to Jun-20	Jul-20 to Jun-21	Total
12	Potato	0	45000	559335	509746	810229	1924310
13	Chilli	0	48030	27503	79699	106962	262194
14	Papaya	0	0	37294	60215	106787	204296
15	Taro Stolon	0	0	4997	56645	71786	133428
16	Cucumber	0	17800	99842	212353	222539	552534
17	Cabbage	4500	9200	82430	162377	158040	416547
18	Red Amaranth	0	6940	31321	55659	70136	164056
19	Country Bean	3500	2000	472120	895987	912444	2286051
20	Cauliflower	4500	13500	65069	148323	194314	425706
21	Radish	12000	37210	13417	67185	108505	238317
22	Rice	0	0	576818	804630	1507245	2888693
23	Carrots	3000	0	2950	6677	204	12831
24	Indian Amaranth	0	9760	33313	75294	145104	263471
25	Coriander	0	8080	3544	21565	27066	60255
26	Onion	0	0	29220	949	1575	31744
27	Pineapple	0	0	8716	6502	75697	90915
28	Bael	0	0	1000	2644	2334	5978
29	Guava	0	1000	38410	314365	504575	858350
30	Long Bean	0	0	20052	106230	148838	275120
31	Taro/Eddo/Aroid	0	0	1610	50887	81398	133895
32	Blackberry	0	0	0	0	19152	19152
33	Moringa (stick)	0	0	2690	0	2279	4969
34	Amla	0	0	0	0	1857	1857
35	Snake gourd	0	4280	33694	52597	102695	193266
36	Okra	4500	2080	15193	35859	35679	93311
37	Jute leaf	0	9320	38415	32697	35301	115733
38	Sapota	0	0	320	0	350	670
39	Sponge gourd	0	0	2884	22739	39423	65046
40	Mango	0	0	65438	45081	136287	246806
41	Jackfruit	0	0	2789	22422	43655	68866
42	Litchi	0	0	102835	34568	75537	212940
43	Rozelle Leaf	0	0	200	0	0	200
44	Golden Apple	0	0	0	0	230	230
45	Palmyra palm (Taal)	0	0	0	17053	16869	33922
46	Watermelon	0	0	472	0	29552	30024
47	Grape Fruit	0	0	0	8326	7648	15974
48	Garlic	0	0	10692	9696	0	20388
49	Hog Plum	0	0	0	6939	16598	23537
50	India Olive	0	0	0	10732	4766	15498
51	Elephant foot yam	0	0	0	520	0	520
52	Broccoli	0	0	0	6970	80600	87570
53	Spinach	0	1340	0	6337	28175	35852
54	Jujube	0	0	0	98758	68411	167169
55	Turnip	0	0	0	460	15880	16340

SL	Crops	Jul-16 to Jun-17	Jul-17 to Jun-18	Jul-18 to Jun-19	Jul-19 to Jun-20	Jul-20 to Jun-21	Total
56	Strawberries	0	0	0	580	0	580
57	Amaranth	0	26100	0	17921	242912	286933
58	Sweet Potato	0	0	0	14770	0	14770
59	Pea	0	0	0	292	4748	5040
60	Muskmelon (Bangi)	0	0	0	5700	0	5700
61	Tamarind	0	0	0	842	0	842
62	Dragon fruit	0	0	0	2985	4680	7665
63	Burmese Grape	0	0	0	0	11175	11175
64	Malta	0	0	0	0	51631	51631
65	Aonla	0	0	0	0	6851	6851
Total		100,000	965,310	5,125,706	7,851,533	10,589,401	24,631,950

Annex Table 4: Volumes of agri-commodities exported thru CCMCs between 2017-18 and 2020-21.

Years	2017-18	2018-19	2019-20	2020-21	Total
Volume (tons)	32	739	567.79	599.26	1938.05

Annex Table 5. Training programmes carried out for different client groups during 2017-18 to 2020-21.

Training by Client group	Year												Total no. of client days	
	2017 – 18			2018 - 19			2019 – 20			2020 – 21			Target	Achieved (% of target)
	Batches	No. of participants	No. of client days	Batches	No. of participants	No. of client days	Batches	No. of participants	No. of client days	Batches	No. of participants	No. of client days		
ToT for DAE Officers	4	94 (12)	188	2	53 (19)	106	-	-	-	-	-	-	300	294 (97%)
SAAOs	10	300 (32)	600	--	--	--	-	-	-	-	-	-	600	600 (100%)
LBFs	2	30X2=60	120	2	30X2=60	120	-	-	-	-	-	-	240	240 (100%)
CIG Farmers	64	1910 (300)	1910	220	6600 (1601)	6600	34	1020 (265)	1020	74	2220 (499)	2220	14000	11750 (84%)
POs	--	--	--	65	1948 (308)	1948	29	660 (95)	660	40	1200 (112)	1200	3480	3808 (109%)
Traders	--	--	--	15	450	450	15	450 (07)	450	-	-	-	900	900 (100%)
Micro and Small Agri-Business	--	--	--	--	--	--	--	--	--	--	--	--	150	00
Total	80	2364 (344)	2818	304	9111 (1928)	9224	78	2130 (367)	2130	114	3420 (611)	3420	19670**	17592 (89%)

Figures in the parentheses indicate number of women participants, except for the last column.

** After R-DPP was approved and became effective on 27th May 2021, the total number of client days got reduced and were re-assessed to 19670.

Annex Table 6.1: List of agri-commodities marketed by hortexbazarbd.com & their sources – Fruits

Items	Quantity (Kg)	Collected source from different CCMCs/Upazilas
Pineapple	1475	Naniarchar, Rangamati
Litchi	950 (19000pcs)	Chirirbandar, Dinajpur
Jackfruit, Banana, Papaya, Guava, Burmese grape, Green coconut, Seed less lemon, Zara Lemon, Dragon fruits	14648	Kapasia, Madhupur, Muktagacha, Delduar, Shibpur, Bogura Sadar, Shibganj, Palashbari, Sreemangal, Bandarban
Mango	11630	Chirirbandar, Mithapukur, Bagha, Godagari, Khagrachhari, Shibganj/Chapainawabganj, Sapahar/Naogaon, Kapasia, Muktagacha
Mango, Jackfruits, Pineapple, Burmese grape, Guava, Papaya, Lemon etc	2770	Shibpur, Singair (Manikganj), Shibganj/Chapainawabganj, Satkhira
Total	31473 Kg	

Annex Table 6.2: List of agri-commodities marketed by hortexbazarbd.com & their sources – Vegetables

Items	Quantity (Kg)	Collected source from different CCMCs/Upazilas
Pumpkin, Pointed gourd, Teasel gourd, Cucumber, Okra, Yard long bean, Wax gourd, Bitter gourd, Sponge gourd, Brinjal, Green papaya, Jackfruit seed, Arum/Eddo, Stolon of taro, Snake gourd, Bottle gourd, Broccoli, Radish, Red amaranth, Spinach, Coriander leaves	7688	Kaunia/Rangpur Kapasia Madhupur Muktagacha Delduar Shibpur Bogura Sadar Shibganj Palashbari Sreemangal Bandarban Savar
Pumpkin, Pointed gourd, Teasel gourd, Cucumber, Okra, Yard long bean, Wax gourd, Bitter gourd, Sponge gourd, Brinjal, Green papaya, Arum/Eddo, Stolon of taro, Snake gourd, Bottle gourd, Broccoli, Radish etc	3090	Shibpur Savar Singair (Manikganj)
Total	10778 Kg	

Annex Table 6.3: List of agri-commodities marketed by hortexbazarbd.com & their sources – Agro processed products

Items	Quantity (Kg)	Collected source from different CCMCs/Upazilas
Cashew nut	72.5	Bandarban
Jaggery (<i>Khejur Gur</i>)	51	Natore, Jashore Sadar
Button mushroom	12	Savar
Mushroom compost	157	Savar
Aromatic & boiled rice	1025	Dinajpur & Sherpur
Honey	37	Sundarban, Gazipur, Sherpur
Spices	17	Gazipur
Mustard oil	18	Gazipur
Green tea	6	Tangail
Cashew nut, Jaggery (<i>Khejur Gur</i>), Button mushroom, Mushroom compost, Honey, Mustard oil, Green tea etc	836.5	Bandarban, Jashore Sadar, Savar, Sherpur Sadar
Total	2232 Kg	

Annex Table 7: Financial Statement.
RADP allocation and financial progress : 2016-17 to 2019-20

(in lakh taka)

Code & Description		Financial Years										Total	
		FY 2016-17		FY 2017-18		FY 2018-19		FY 2019-20		FY 2020-21		*RADP Allocation	Expenditure
Code no.	Code Description	*RADP Allocation	Expenditure	*RADP Allocation	Expenditure	*RADP Allocation	Expenditure	*RADP Allocation	Expenditure	*RADP Allocation	Expenditure	*RADP Allocation	Expenditure
A. Revenue Component													
4500	Salary of Officers	-	2.42	4.80	2.32	4.80	4.80	4.80	4.80	4.80	4.80	16.82	16.72
4600	Pay of Establishment	-	31.32	62.64	29.90	61.12	60.24	59.74	60.24	60.24	60.24	214.44	211.00
4700	Allowances	-	-	-	-	-	-	-	-	-	-	-	-
4800	Supply & Services	10.65	170.01	291.76	152.76	274.77	190.91	179.95	194.46	172.88	194.46	857.79	790.06
4900	Repair and Maintenance	2.60	11.25	45.00	9.33	45.00	35.05	33.67	41.50	41.50	41.50	135.40	130.36
Sub Total A:		13.25	10.56	404.20	194.31	385.69	291.00	278.16	301.00	279.42	301.00	1224.45	1148.14
B. Capital Component													
6800	Asset acquisition	9.15	18.00	45.80	4.40	45.31	9.00	8.98	5.00	5.00	5.00	86.95	72.83
7000	Construction & civil work	-	-	-	-	-	-	-	-	-	-	-	-
7900	CD VAT	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total B:		9.15	18.00	45.80	4.40	45.31	9.00	8.98	5.00	5.00	5.00	86.95	72.83
Grand Total: (A+B)		22.40	19.70	450.00	198.71	431.00	300.00	287.14	306.00	284.42	306.00	1311.40	1220.97
			(88%)		(86%)	(95%)		(96%)		(93%)			(93%)

* Only RPA, no GOB allocation

Annex Table 8: Procurement Progress of NATP-2, Hortex Foundation, FY 2020-21

Goods: A total of 05 procurement packages were completed during 2020-21 as detailed in the table below.

Sl. No.	Package Name	Package No.	Qty	Allocation (Taka)	Expenditure (Taka)	Status
01	Refurbishing, improving the Collection Points (CP) of selected traders	GD/Hortex-NATP2/26	LS	5,00,000.00	4,99,400.00	Completed
02	Furnishing Collection Points/CCMCs with needed tools & equipment	GD/Hortex-NATP2/27	LS	5,00,000.00	4,99,890.00	Completed
03	Printing and Documentation (Training Manual for CIG Farmers/POs, Annual Report, Newsletter, Booklet, Leaflet etc.)	GD/Hortex-NATP2/31	LS	5,00,000.00	4,99,050.00	Completed
04	Office Supply	GD/Hortex-NATP2/32	LS	2,00,000.00	1,99,117.00	Completed
05	Equipment & Furniture for Markets and Collection Points/CCMCs (300 Plastic Armless Chair, 30 Plastic Folding Table, 22 Digital Weighing Machine-Capacity 200 Kg, 01 Digital Signboard, 01 Picture Board with Steel frame & Glass cover)	GD/Hortex-NATP2/33	LS	5,00,000.00	4,99,740.00	Completed
Total		05 Packages		22,00,000.00	21,97,197.00	

Annex 9

Executive Summary from the report ‘Sustainability Assessment of the CCMCs & CPs’

This report entitled ‘Sustainability Assessment of the Commodity Collection and Marketing Centres (CCMCs) and Collection Points (CPs)’ presented by Hortex Foundation is in fulfilment of the ‘Agreed Actions’ of the ‘Implementation Support Missions’ (ISMs) of the World Bank. Hortex Foundation has been implementing value chain development for selected high value crops (HIVs) as strategic partner of DAE under NATP phase II project. As such, in 30 pilot upazilas the CCMCs and CPs were established for marketing high value crops (HVCs) where improved postharvest management (PHM) practices are followed. Farmers in production clusters in a pilot upazila were organized in 20 common interest groups (CIGs), who in turn federated into a Producer Organization (PO). The 29-member executive committee of the PO became the Market Management Committee (MMC) for operating the CCMCs/CPs. The CCMCs and CPs, numbering 30 each, started functioning from different times, between early 2018 and as late as early 2021. The CCMCs/CPs were equipped with necessary materials and equipment for improved functioning, and CIG farmers and PO members were provided specific training to support the value chain development activities.

The sustainability assessment was carried out during March to June 2021 employing a questionnaire and supplementing the information gathering through telephone interviews, conducted with PO-MMC members, farmers, DAE officials and LBFs. The sustainability prospects were examined from a number of aspects of the PO-MMC capacities, which were: institutional capacity, financial management, improved postharvest management practices, achievements through income generating activities and marketing progress. The analysed results were adjudged using a prospect scale of very good, good, moderate, average and low and are depicted in the table below:

Sustainability prospects of the CCMCs/CPs by upazilas				
Very good	Good	Moderate	Average	Low
Chirirbandar Mithapukur Palashbari Shibganj Naogaon Sadar Godagari Kaliganj Jashore Sadar Jhikorgachha Bagharpara Delduar Kapasia Belabo Dakkhin Surma Chandina	Parbatipur Islampur Muktagachha Kishoreganj Sadar Sreemangal Khagrachhari Sadar	Birganj Baraigram Madhupur Shibpur Raipura Savar	Bogura sadar Mirsarai	Nakla
A total of 15 CCMCs/CPs have very good prospects	Six (06) CCMCs/CPs have good prospects	Six (06) CCMCs/CPs have moderate prospects	Two (02) CCMCs/CPs have average prospects	One CCMC/CP faces low prospect of sustainability

Further assistance to improve the performance and standings of the PO-MMCs in the remaining two years of the NATP-2 project to make all the CCMCs/CPs sustainable have been mentioned. These include: engaging more with the PO-MMCs for their organizational improvement through visits and meetings; organizing exposure visits to better performers; facilitating business planning workshops; assisting in income generation and expenditure management; help in asset development, help them handle financial matters and account keeping and other records. PO-MMCs adjudged as moderate, average and low will get special attention and stronger support. With the expected improvements in PO-MMC capabilities, the rent and other cash supports to the CCMCs/CPs will be gradually withdrawn as the exit strategy of the Project.

Annex 10: Glimpses of some value chain development activities



Photo 10.1: The use of plastic crates to carry fresh produces from field to markets is expanding.



Photos 10.2 & 10.3 : The practice of PHM in an orderly manner - a neat way of grading and stacking in the CCMC.



Photos 10.4 & 10.5: The practice of PHM in an orderly manner – systematic sorting and washing in the CCMC.



Photos 10.6 & 10.7: The practice of PHM in an orderly manner – proper way of packaging in the CCMC as against traditional packaging.



Photos 10.8 & 10.9: The practice of PHM in an orderly manner – proper way of transporting from the CCMC. The mini-truck is acquired through AIF-3 grant. Traditional way of loading on trucks (left) are discouraged to prevent the huge PH losses.



Photos 10.10 & 10. 11: Hortex Foundation designed and produced the paper carton for fresh produce marketing and the environment-friendly bag for marketing aromatic rice.

Annex 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. Jafar Ali Khan	LBF, Deiduar, Tangail
Md. Bazlur Rahman	Supply Chain Integration & Marketing Expert	Md. Abdulah Al Rakib	LBF, Madhupur, Tangail
Dr. Mofaratus Sattar	Monitoring & Evaluation Expert	Md. Limon Talukdar	LBF, Muktagachha, Mymensingh
Biplab Das	Accounts Officer	Md. Tifur Rahman	LBF, Sadar upazila, Kishoregonj
Md. Mizanur Rahman	Data Analyst	Md Tazul Islam Khandaker	LBF, Kapasia, Gazipur
Md. Masud Haque	LBF, Birganj, Dinajpur	Md. Robel Molla	LBF, Shibpur, Narshingdi
Md. Ashraful Islam	LBF, Chirirbandar, Dinajpur	Md. Saifuddin Bhuiyan	LBF, Belabo, Narshingdi
SDM Monjurul Hasan	LBF, Parbatipur, Dinajpur	Md. Alamgir Hossain	LBF, Raipura, Narshingdi
Md. Sahadat Hossain	LBF, Palashbari, Gaibandha (joined 01 Jul 2020)	Md. Riyazul Islam	LBF, Savar, Dhaka (up to 10 Sep 2020)
Md. Mazharul Islam	LBF, Mithapukur, Rangpur	Gopal Mondal	LBF, Savar, Dhaka (joined 11 Sep 2020)
Md. Jahanur Islam	LBF, Shibganj, Bogura	Md. Shorif Ahmed	LBF, Sreemangal, Moulvibazar
Md. Abu Rayhan	LBF, Sadar upazila, Bogura	Ajit Kairi	LBF, Chandina, Cumilla
Sreekanto Kumer Sarker	LBF, Sadar upazila, Naogaon	Sajib Ahmed	LBF, Sreemangal, Moulvibazar
Md. Nizam Uddin	LBF, Baraigram, Natore	Shibu Chandra Roy	LBF, Mirsarai, Chattogram
Md. Rofizuddin	LBF, Godagari, Rajshahi	Satten Tripura	LBF, Sadar Upazila, Khagrachhari
Md. Hafijur Rahman	LBF, Kaliganj, Jhainaidah	Md. Nurul Islam	Driver
Md. Torikul Islam	LBF, Sadar upazila, Jashore	Abu Saled Chowdhury	Driver
Md. Mahamudul Hasan	LBF, Jhikorgachha, Jashore	Md. Sumon Mia	Driver
Md. Raihan Hosen	LBF, Baghapara, Jashore	Md. Delwar Hossain	Driver
Ahsanuzzaman Zebu	LBF, Nakla, Sherpur (up to 30 Jun 2021)	Md. Rasel Ali	Dispatcher/Office Support
Md. Josim Uddin	LBF, Islampur, Jamalpur	Mithun Chandra Das	Office Support staff

Hortex Foundation Staff

Mitul Kumar Saha	Assistant General Manager	Md. Forkan Ahmed	Driver
Joyanal Abedin	Manager	Md. Safiqul Islam	Driver (up to 26 Jun 2021)
Syed Miraz Mahmud	Deputy Manager	Md. Maklesur Rahman	Driver
Mohiuddin Md. Nurul Absar	Assistant Manager	Abdul Matin Mollah	Support Staff
Md. Nawab Ali	Driver	Zitu Mia	Night Guard
Mojibur Talukder	Driver	Hosnara Begum	Cleaner

