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Editor's Note

Bangladesh agriculture has made a tremendous progress over the past four decades and agriculture continues to be the driving force of its economy. Agriculture contributes a major share in national GDP 14.23%, growth rate 3.51%, export value 5.74% and employs labor 40.6%. Within the agriculture sector, most of the sub-sectors performed well during FY2018-19 and contribution of crops and horticulture sub-sector was 7.51% in GDP (BER 2019). Bangladesh agriculture is gradually transforming from subsistence to commercial agriculture and farmers are increasingly turned to growing high value high quality horticultural crops as its climate and soils are suitable for wide range of horticultural crops cultivation.

But the perishable nature of fruits and vegetables witnessed significantly high postharvest losses (22% to 42%) in Bangladesh because of lack skills, inadequate postharvest management facilities, packaging and transport system. Being mostly small and marginal and absence of organized producer organization (PO), the farmers are usually forced to sell their produce instantly at low prices as they have no bargaining capacity and inadequate facilities for storage at rural production clusters, pack house and cold chain system. Marketing system also has not yet adopted any advanced postharvest management practices or rightly invested in any proper facilities, contributing to this enormous postharvest loss as well as being negligent on food safety and quality assurance issues. Thus, farmers are still suffering getting better price of their produces.

Although Bangladesh achieved self-sufficiency in food grain but yet a lot of supports are needed transforming agriculture towards commercial farm by adopting BangladeshGAP Standard, following strict compliance of SPS measures, increasing capacity to follow product quality & safety issues, promoting group farming, introducing advanced PHM technology minimizing high postharvest losses, cold chains & enhancing transportation and low cost storage facilities at the modern pack house by selecting appropriate production clusters, ensuring good packaging, and improving market linkages for the smallholder farmers.

Hon'ble Agriculture & Commerce Ministers visited Hortex Foundation Stall in National Vegetables Fair 2019



Hortex Foundation participated the three day long “National Vegetables Fair and Vegetables Exhibition-2019” organized by DAE and the Ministry of Agriculture from 24-26 January 2019 at KIB premises, Farmgate Dhaka. Dr. Muhammad Abdur Razzaque MP, Hon'ble Minister, Ministry of Agriculture inaugurated the Fair as the Chief Guest while Mr. Tipu Munshi MP, Hon'ble Minister, Ministry of Commerce, Abdul Mannan MP were present as the Special Guests. Besides this, inauguration ceremony was presided over by Mr. Md. Nasiruzzaman, Secretary, Ministry of Agriculture. Before the inaugural programme of the fair, the Ministers and other dignitaries and delegates paid a visit to the Hortex Foundation stall. Hon'ble Agriculture Minister had shown his immense pleasure to being presented 100% export oriented value added agro-commodities canned pineapple, aloe vera made by Taiwan Food Processing & Industries Ltd. with the initial support of Hon'ble Minister himself.

Hortex Foundation displayed a good number of exportable fresh, processed vegetables & other agro-commodities and postharvest management technologies of crops which received immense interest from the visitors. From the Hortex stall, different technical bulletins, booklets, leaflets and export related data/info were disseminated to the visitors free of cost. Hortex Foundation received a special prize participating the **Vegetables Fair 2019** successfully.

Value chain analysis of exportable vegetables

Mitul Kumar Saha¹

Nowadays, a supply chain and value chain² analysis is precondition to identify the constraints and opportunities of the selected agro-commodities here in vegetables export for designing appropriate intervention strategy and implementation plan for export growth and its sustainability.

1. Supply chain analysis

Supply chain is the process of planning, implementing and controlling the operations of the supply chain as efficiently and effectively as possible from point-of-production to point-of-consumption.

Supply chain development is a market-oriented approach. Supply chain analysis is precondition for preparation of activity schedule for specific intervention area. All activities of a particular chain are directed towards the market. If farms/enterprises cannot satisfy the needs (or requirements, preferences, desires) of their buyers, the buyers will sooner or later turn to another reliable supplier. It is, therefore important to understand that all stakeholders along a particular supply chain need to cooperate and coordinate their activities to satisfy the needs of the end consumer. If there is one weak link in the chain, the competitiveness of the overall value chain is endangered. This is especially true in a business environment in which local enterprises increasingly compete with foreign companies not only on the national market but also and especially for export markets. We need to understand that no individual farm/enterprises compete with each other, but the entire value chain work together.

One of the key constraints in designing any intervention in the agribusiness sector is the lack of sufficient and authentic information on the size of the farm/enterprises and values generated as well as its sub-sectors. The process will provide deep understanding of constraints and opportunities in each sub-sector (vegetables) and lead to development of activities for interventions. It will also illustrate roles and responsibilities of each stakeholder in the supply chain.

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²Often the terms *production chain* and *value chain* are used interchangeably, but in fact the two have important differences. In its simplest definition, a production chain is the description of all participants in an economic activity that relate to take inputs to a final product and deliver it to the final consumers. Conversely, a value chain is understood as a vertical alliance or strategic network among a number of independent business organizations within a production chain.

2. Value chain analysis

Value chain is a chain of activities. Product pass through all activities of the chain in order and at each activity the product gains some value. The chain of activities gives the product more added value than the sum of added values of all activities. A value chain analysis should be done to identify the actors involved in the supply chain of any sub-sector, to improve access of inputs, markets and services by mobilizing the poor farmers and policy environment towards facilitation of the chain. Value chain generally starts with the raw materials supply at the farm level and ends with consumers who make the choice to buy, or not to buy, the finished product. Any value chain has several links between the farm and the consumer such as procurement, transportation, processing, commodity storage, conversion packaging, distribution, retailing and other services.

3. Rationale of value chain analysis

Entrepreneurs including the farmers and traders are operating their business by their existing knowledge. They might have lack of knowledge on market information and process of operations in the chain. That limits the growth of the market, profitability of the entrepreneurs and ultimate satisfaction of the end consumers. The value chain analysis give greater understanding of the market players, their roles and interrelationship, of the sub sector/value chain in specific/project area. For this, any sub-sector map should be prepared after collecting the information of the whole value chain. Sub-sector map is a schematic diagram that describes the product flows and contractual relationships among farms in a sub-sector/value chain.

4. Identification of actors, services & service providers in vegetables export value chain

The following major actors, embedded services and different service providers have been identified for vegetables export value chain analysis:

Actors

- Input manufacturers/dealers/retailers
- Farmers
- Local traders/collector, suppliers
- Commission agent
- Wholesaler, retailer, grader/packer
- Transporter
- packaging manufacturer
- Processors
- exporters
- Household/supermarket consumer
- Wholesaler/importer in international market
- Retailer in international market
- Consumer in abroad (Ethnic/superstore)

Major embedded services/inputs

- Land, labor, capital/financial support/credit
- Seed/planting materials, fertilizers, pesticides/bio-pesticides, irrigation
- Equipments/machineries
- Extension services, postharvest management services
- Marketing services, transport services (local)
- Capacity building/Training
- Human resource (education, research & extension)
- Processing & packaging facilities; C&F, quarantine, customs, air/sea shipment services
- Media, ICT, Waste management, National political stability, cultural and religious practices

Major service providers

- Ministries (Policy, act, rules & regulations)
- DAE (Production, extension, quarantine & certification)
- Export Promotion Bureau (EPB)
- Hortex Foundation
- Education, training and research institutes (Agricultural Universities, NATA & NARS)
- Seed breeder farm, inputs manufacturers
- Input distributor/agent/retailer
- Access to finance (Bank/Financial Institutes)
- Access to information
- Market intelligence
- Lab (Quality, safety & certification)
- Infrastructure facilities and transport companies
- Cold storage, customs, C&F agents, Airlines/Shipping lines
- Media
- Business associations (BFVAPEA, BPEA, BAPA)
- Development Partners

5. Domestic supply chain of vegetables

Vegetables supply chain is characterized by a large number of market actors and outlets including farmers, input sellers, traders, wholesalers, commission agents, retailers, processors, exporters, transporters, C&F agents, and a number of other smaller actors, each contributing to a specific stage in the supply chain.

In Bangladesh, the micro, small and marginal farmers are very vulnerable to the exercise and influence of market power practicing by the traders, wholesalers, retailers, processors and exporters. With a very limited control over the pricing of agricultural inputs, outputs and with inadequate market access & information, farmers are poorly rewarded for their efforts and risks they endure. Furthermore, inadequate marketing infrastructures like packhouse and quality control often results in a significant reduction in produce quality and gross returns as well as increasing huge postharvest losses.

Current postharvest management practices of vegetables presents a depressing picture. Traditional techniques which result in considerable deterioration of physical and nutritional quality are generally practiced by the farmers, traders, wholesalers, processors, exporters, transporters, retailers. Improvement of these age-old practices and

adaptation of modern postharvest management technologies have now become essential in order to reduce the high levels of postharvest losses in produce so as to increase the supply for quality vegetables for the growing population. Reducing postharvest losses has been recognized by policy makers and planners as a major strategy to address food security in the country. The management of the supply chain starting from cultivation through to the final sale to consumers is one of the major options available for minimizing this waste. This however, requires the concerted action of a large number of stakeholders including farmers, farmer associations, producer organizations (POs), processors, service providers, transporters, exporters and retailers, along the entire value chain. Postharvest management of vegetables in its traditional way faces lot of problems to meet the growing demand of good quality produces in the domestic as well as export markets.

Bangladesh produces a diversity of vegetables on a seasonal as well as year round basis. Simultaneous harvesting often leads to gluts in the market and so reduces prices to the farmers. Overcoming periodic gluts necessitates the preservation and minimal processing of vegetables³. Market opportunities exist for processed vegetables such as dehydrated vegetables, canned vegetables, frozen vegetables, pickled vegetables, tomato ketchup and paste, potato chips, starch, flakes and other value added potato products, both in domestic and export markets.

In this context, supply chain management of vegetables has become the crucial areas of management and national focus. This area becomes even more important in the sector of agribusiness because most of the vegetables are perishable and have a very short shelf life. Farming enterprise that comprises the entire set of processes and activities required to produce⁴ and then deliver it to a target market maintaining quality. Numerous supporting activities are required functioning the chain effectively such as input supply, packaging, transport and integrating the chain partners. Hortex Foundation developed a generalized supply chain map of vegetables/flow of vegetables at domestic market is shown in **Figure-1**:

³ Minimal processing of vegetables like zero energy evaporative cooler system which was successfully demonstrated by SCDC of NATP Phase-I, Hortex Foundation at project areas during year 2008-2014 funded by the World Bank, IFAD and GOB.

⁴ The term “produce” encompasses growing, transformation and manufacturing of products where the entire chain goes from farm to table with a subset of links within the chain.

6. Vegetables export supply chain

Vegetable production is gaining increased popularity in Bangladesh over the years as per the demand of the modern health conscious consumers. The main reason for this growing demand is the awareness with regards to health promoting phyto-chemical constituents such as antioxidants, vitamins, minerals and dietary fibre. Hortex Foundation has contributed immensely to the growth of vegetables production and export promotion. Numerous high quality high yielding high value exportable vegetables are now being produced year round basis and there is no off season for vegetable production in the country.

Hortex Foundation facilitates the export of fresh vegetables in close cooperation with the Department of Agricultural Extension (DAE) and exporters under the Bangladesh Fruits, Vegetables and Allied Products Exporters' Association. Most of the vegetable exporters belong to the SME group and they export to their friends, relatives and international buyers (wholesalers/importers) in various market places major at Middle East, EU and Far East regions. This export represents the lowest segment of the market, usually known as the ethnic markets, which are more or less protective in nature, where buyers/customers are mostly either from Bangladesh or from nearby Asian countries like India, Pakistan, Sri Lanka, Nepal, Bhutan, Maldives among others.

Since the produce quality and safety consciousness is not yet high at the exporters mind, the exporters mostly remain satisfied with their traditional way of collecting the vegetables through suppliers/selected agents for export. They normally procure vegetables through middlemen/agent who collect orders from various exporters, then go to the producing areas, collect vegetables from farmers/local markets and arrange to deliver the same to the exporters processing centers on the day of shipment. The exporters then arrange vegetables for sorting, grading, washing and packaging in their own traditional way and go for export shipment. They do not use any cool chain, nor did they follow any production standard, traceability, postharvest handling and packaging protocol. As a result, the postharvest losses⁵ are enormous, sometime more than 40%. Traditional exporters are not in

⁵ Bangladesh produced over 16 million tons of vegetables per year. Postharvest losses of vegetables vary from 22 to 42% and cause enormous losses. This avoidable wastage of high-value produce requires serious attention of all; the farmers, the market handlers, the scientists and the policy planners as there is no sense in producing more for wasting. Growing of vegetables are highly rewarding to the farmers in terms of returns per unit area. This sub-sector is also expected to contribute significantly for food and nutritional security, employment opportunity and poverty alleviation.

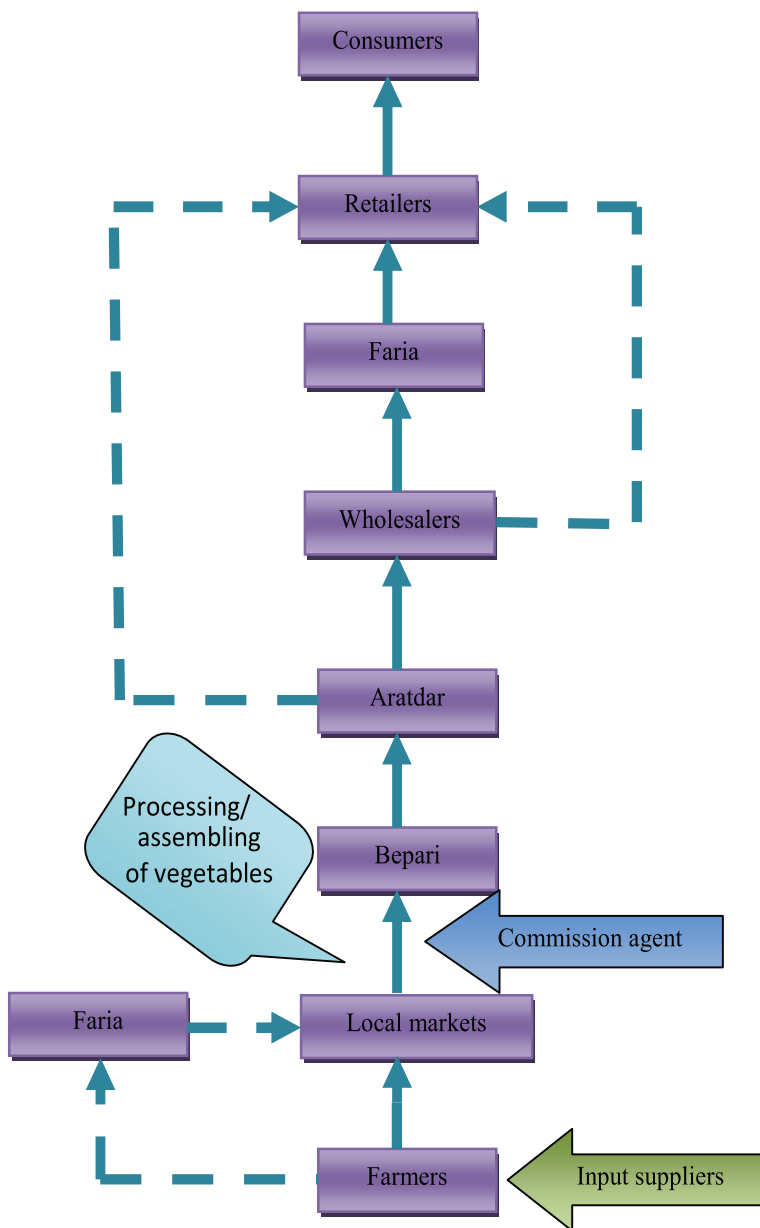


Figure-1: Generalized supply chain map of vegetables at domestic market

The stakeholders involved in the vegetables supply chain are: Input suppliers, growers, faria, bepari, commission agents, wholesalers, aratdars and retailers. All the stakeholders have specific activities to make the chain more efficient. Capacity building of each stakeholder needs to be increased to deliver proper services to make quality vegetables for the satisfaction of consumers/buyers. Different functions are associated with vegetable supply chain. The major functions are production, pre & postharvest management and marketing.

a position to even fulfill the export orders of their ethnic market buyers in the present way of delivery for year round supply continuity. Recently, however, some of the ethnic market buyers, operating in countries outside the EU have started insisting for produce quality improvement and good packaging requirement. This has led to gradual but slow improvement in packaging and quality improvement of exportable vegetables in Bangladesh.

7. Vegetables supply chain in Narsingdi

Supply chain analysis helps farmers, traders, collectors, wholesaler, retailer, entrepreneurs, processors, exporters and other allied stakeholders to know who are the potential actors in the chain, what are the volume of produce is transacted, what is the flow of produce, information & knowledge exist in the chain, what are the different process in the chain and what types of business (services) are feeding into the chain. Incorporating this entire information, farmers/entrepreneurs can grow their business more efficiently.

In Shibpur/Narsingdi district, farmers bring their vegetables to the faria/local hat/bazar where a large number of paiker/traders/exporters agents procure vegetables for supply to Dhaka city markets and to the exporters. Along with this traditional concept, farmers in a group often carry these vegetables to Dhaka wholesale market and other city markets. About 90% of the vegetables from Shibpur/Narsingdi district are distributed to Dhaka City, 5% of the same are destined to other districts. 5% of the vegetables are consumed at Shibpur/Narsingdi through local traders. Outside Shibpur/Narsingdi, the primary destinations of the vegetables are the wholesale market of Dhaka city and the different marketing companies, super stores, processors and exporters.

The retailers are collected vegetables mostly from the Dhaka wholesale markets. Marketing companies and super stores are also collected vegetables from City traders/suppliers who other way around collected vegetables from Shibpur/Narsingdi through traders. Vegetables supply chain map at Shibpur/Narsingdi district is incorporated in **Figure-2**.

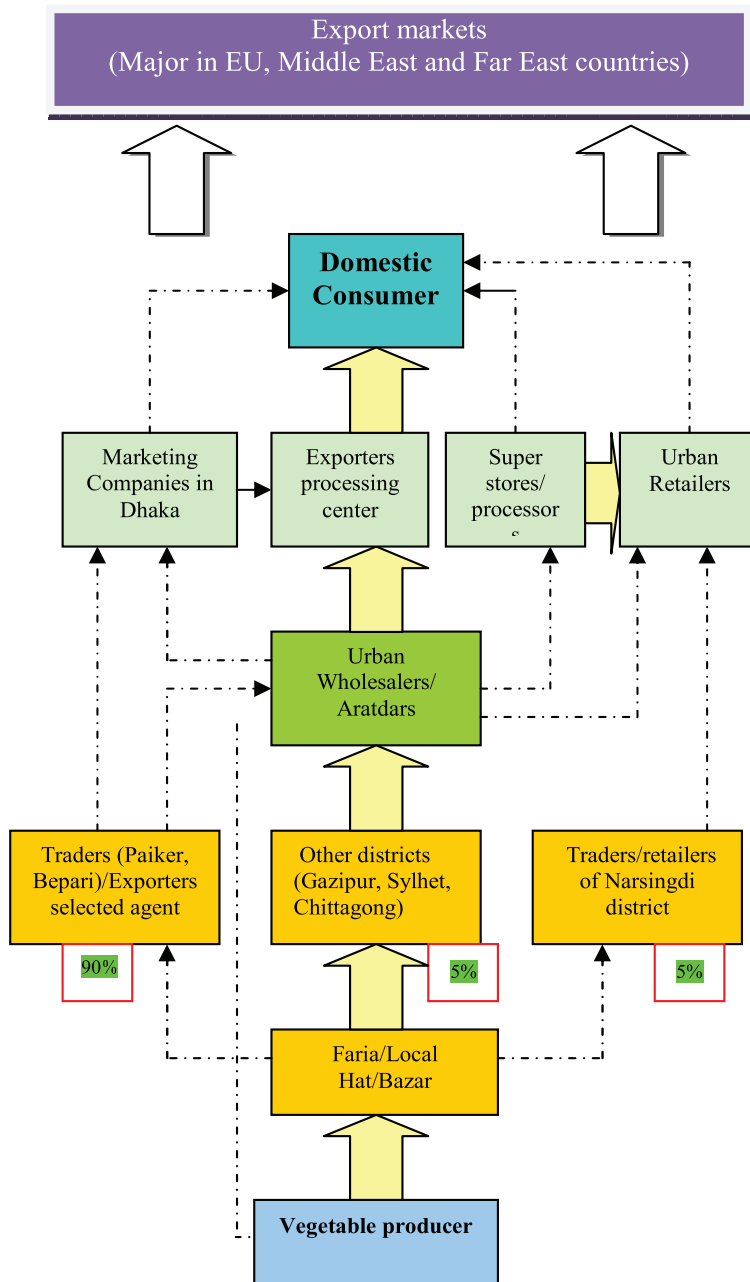


Figure-2: Supply chain map of vegetables at Shibpur/Narsingdi

Large numbers of local traders are associated with vegetables trading in Shibpur. Supply chain analysis reveals that most of the actors in the supply chain have acute lack of knowledge on produce quality & safety, sources of microbial & chemical contamination of vegetables, proper postharvest management like sorting, grading, washing, packaging, transportation. As a result postharvest loss is incurred at different stage of the supply chain. To make the export supply chain of vegetables more functioning, capacity building of different stakeholders along the chain need to be strengthened for promoting vegetables export.

8. Designing value chain diagram of brinjal

Shibpur upazila of Narsingdi district is considered as the important exportable vegetables producing area in Bangladesh. Vegetables contribute significantly in the local economy and national GDP. However, the vegetables sub-sector has been running with acute constraints despite huge potentials. Shibpur upazila holds a number of roadside markets where brisk transactions take place between the farmers and traders/selected agent and they supply brinjal to major wholesale markets of Dhaka City and to the exporters. To understand the constraints and opportunities, value chain maps are developed and interventions are identified to mitigate the constraints.

Cost of production of brinjal per bigha (33 decimal) in Shibpur is calculated at Tk. 61015, gross return Tk. 126000 and net return Tk. 64985. It indicates that brinjal cultivation is profitable for the farmers. Farmers' average selling price of brinjal was Tk. 18 per kg. However, market prices of brinjal remain higher during the period of July – September. The average price (per kg) was Tk. 20 for traders, Tk 32.6 for wholesalers and Tk. 37 for retailers. This value chain can be made more profitable for the farmers by developing contract farming, place of farmer-market linkages/pack house, involvement of exporters during production, postharvest management and mass use of sex pheromone trap⁶, yellow trap use minimizing the input cost primarily for reducing the use of chemical fertilizers, pesticides, per unit increment of productivity through replacing local varieties with high yielding improved varieties, adding value through sorting, grading, washing and improved packaging, use of cool chain transport promoting export and minimizing the role of market intermediaries in the supply chain.

Present Government of Bangladesh is attaching high importance in terms of agricultural policies and programs

⁶ The most serious insect of brinjal is shoot and fruit borer. To control insect damage, higher doses of insecticides with shorter intervals are very often practiced by the farmers. In case of brinjal, the major disease is bacterial wilt. The major insecticides used by the farmers are of the Cypermethrin (Superthion) groups, whereas the major fungicides are Dithane M45, Thiovit, Minicaper and Redomil. It is noted that sex pheromone trap is gaining popularity in control of insect pests to avoid chemical residues in brinjal. The trap is in use to control insect pests, where porous plastic tubes containing 2-3 ml pheromone attract male moth for 6-7 weeks. Still, the rate of adoption of the technology is lower, and the farmers are increasing their production cost by spending for both on the pheromone trap and the chemical pesticides side by side. However, they admitted that, the sex pheromone trap alone can control insect pest by 80%. Many of the brinjal farmers of Shibpur adopted sex pheromone trap technology to control insect attack supported by DAE, NATP-2.

for producing horticultural crops especially fruits & vegetables, developing modern PHM technology and agro-commodity export through diversification of produces and markets. Government has taken different initiative and measures to ensure supply of safe and quality vegetables in the market by managing proper PHM.

Government has given importance to render support relating to establish modern PHM technologies like Commodity Collection and Marketing Center (CCMC), Pack house, Collection point through development project. One such project is National Agricultural Technology Program – Phase II Project (NATP-2) funded by the Government of Bangladesh, WB, IFAD & USAID.

To improve value chain development of crop/horticulture and market linkage activities of smallholder farmers' in selected 30 upazilas under 22 districts, NATP-2 is funding the Hortex Foundation providing technical services in value chain development for selected high value crops as a 'Strategic Partner' to the DAE. The method emphasizes on adoption of improved PHM practices for high value horticultural crops, and showcasing these activities through better marketing solutions like the CCMCs, Collection Point (CP) and extending such linkages for the value chain actors. The smallholder farmers are organized in production clusters as CIGs of 20 or 30 members in each group, who are further federated into a 400 to 600 members Producer Organization (PO) in each upazila incl. Shibpur, Raipura and Belabo upazilas of Narsingdi district.

Under NATP-2, improved PHM practices (sorting, grading, washing, packing) has been taught by Hortex Foundation through hands-on training for the DAE Cadre Officers, CIG farmers, traders, exporters, POs. Already the trained farmers, traders, POs have started adopting, by using plastic crates, sorting mat, grading table, full washing facility complete with source tube well, pipes, pump machine, overhead tank and a wash-bay (house), ceiling fans for drying, packaging and regularly using the facilities of the CCMC and CP for PHM works. The essence of proper marketing of vegetables lies with PHM. Quality assurance and food safety of vegetables are the prime needs that are also served by adopting proper PHM practices at CCMC and CP.

A sample value chain analysis and value addition of brinjal on one crop season is incorporated in **Figure-3** and **Figure-4** respectively. Calculation of monetary gains along 4-phase value chain of brinjal at domestic market and export value chain of brinjal is also incorporated in **Figure-5** and **Figure-6** respectively.

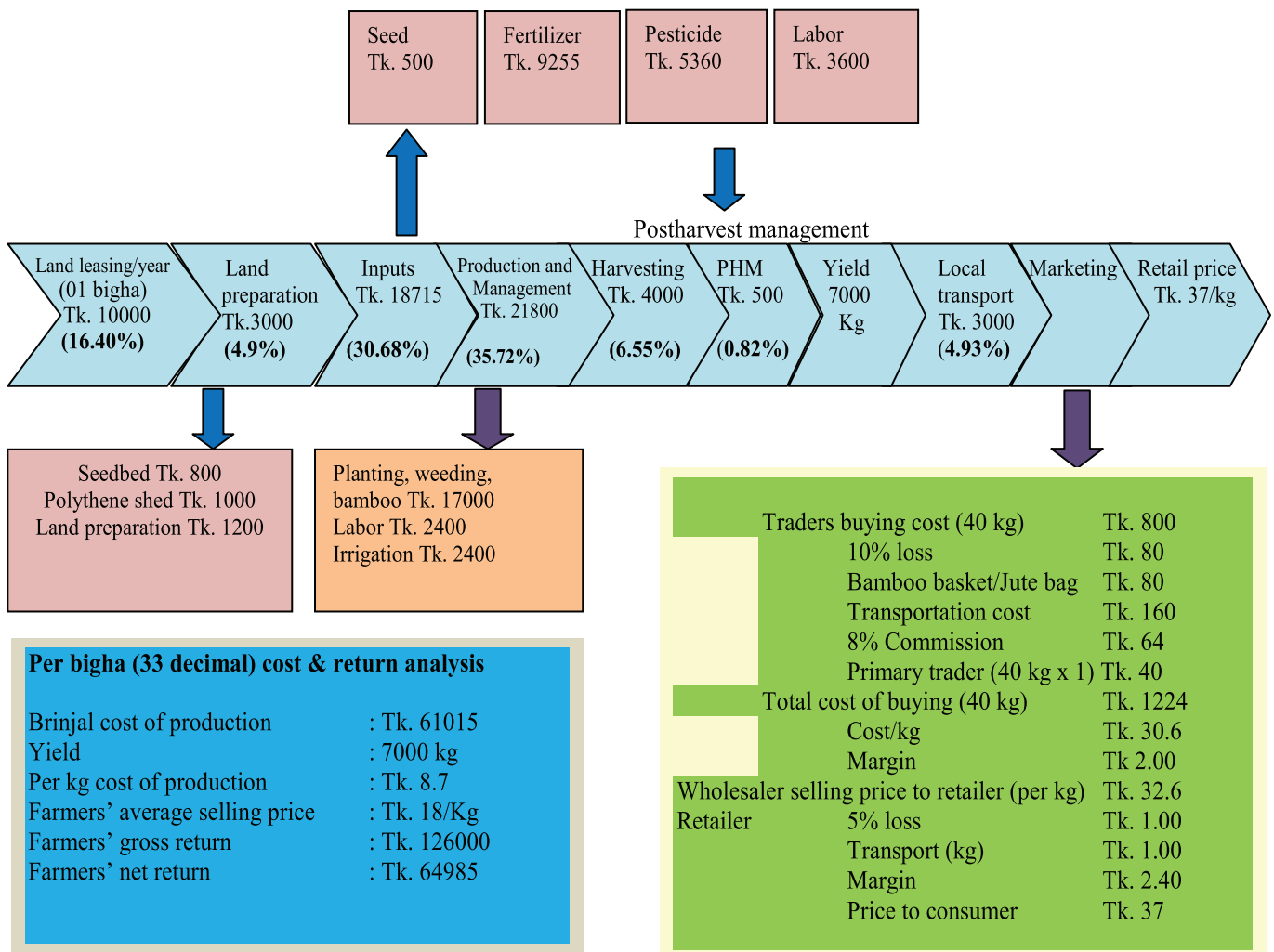


Figure-3: Value chain analysis of brinjal



Figure-4: Value addition of brinjal at domestic market

The value addition by different stakeholders is greatly varied along the supply chain.

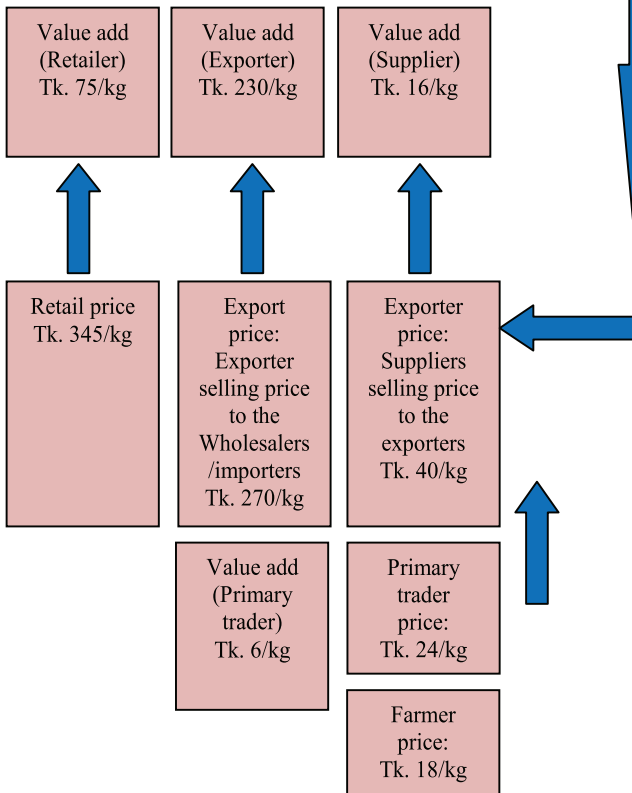
▼	PRIMARY PRODUCER = Brinjal farmer <i>(delivers vegetables/brinjal to buyer/consumer)</i> <ul style="list-style-type: none"> ➤ Production Costs (PC) = Tk. 8.7/kg ➤ Sales Price (SP) = Tk. 18/kg ➤ Marketing Profit (MP) = SP - PC = Tk. 9/kg
▼	PRIMARY MARKET = primary trader/collector/faria <i>(supply to the traders)</i> <ul style="list-style-type: none"> ➤ Purchase Price (PP) = Tk. 18/kg ➤ Marketing Cost (MC) = Tk. 1/kg ➤ Sales Price (SP) = Tk. 20/kg ➤ Marketing Margin (MM) = SP - PP = Tk. 2/kg ➤ Marketing Profit (MP) = MM - MC = Tk. 1/kg
▼	SECONDARY MARKET = secondary trader/selected agents <i>(supply to wholesaler/market)</i> <ul style="list-style-type: none"> ➤ Purchase Price (PP) = Tk. 20/kg ➤ Marketing Cost (MC) = Tk. 10.6/kg ➤ Sales Price (SP) = Tk. 32.6/kg ➤ Marketing Margin (MM) = Tk. 12.6/kg ➤ Marketing Profit (MP) = MM - MC = Tk. 2/kg
▼	RETAIL MARKET = retailer/seller (retail marketing) <ul style="list-style-type: none"> ➤ Purchase Price (PP) = Tk. 32.6/kg ➤ Marketing Cost (MC) = Tk. 2/kg ➤ Sales Price (SP) = Tk. 37/kg ➤ Marketing Margin (MM) = Tk. 4.4/kg ➤ Marketing Profit (MP) = MM - MC = Tk. 2.4/kg

Per kg cost of brinjal for supplying to the exporters from the traders (supplier buying cost for export market):
 Suppliers/selected agent buying cost of brinjal from primary traders: Tk. 24
 5% loss: Tk. 1
 Labor (loading, unloading): Tk. 2
 Primary packaging: Tk. 2
 Transport: Tk. 2
 Others/Road expenses: Tk.1
 Profit margin: Tk. 8
 Selling price to the exporters: Tk. 40
 Exporter buying cost:

Note: Our exporter pays Tk. 40.00/kg on an average price for brinjal to their suppliers/selected agents for export. However, recently started contract farming production of brinjal in some areas in Bangladesh, where the exporters purchased brinjal and other vegetables from the farmers directly by Tk. 40-50/kg for export.

Figure-5: Calculation of monetary gains along 4-phase value chain of brinjal (domestic market)

A four-phase value chain shows above 200% rise in price for brinjal from Tk. 18/kg at the farm gate to Tk. 37/kg as the final retail price at Dhaka City.



Brinjal export outlay on various heads	Value (in TK./Kg)
i. Exporters purchase price from the Suppliers	40.00
ii. Local transportation charges	1.71
iii. Labor cost (loading and unloading)	2.85
iv. Grader and packer charges	2.00
v. Airfreight charges (UK)	170.00
vi. Marketing agents (C&F) costs on 1000kg shipment	1.71
vii. Service provider charges incl. GSP, lab test	1.00
viii. Quarantine charges (Phytosanitary certificate)	0.35
ix. packaging costs	10.00
x. Bank Charges	2.00
xi. Miscellaneous	4.00
xii. Total cost	235.62
xiii. Sale value of brinjal in UK (2.5GBP/Kg) @ TK 108/GBP (Average unit export price of vegetables received by the exporters from the importers/wholesalers)	270.00
xiv. Exporters gross profit	34.38/Kg
xv. Add cash incentive support provided by Govt.@ 20% FOB	TK. 20/Kg
xvi. Export income	54.38/kg

Figure-6: Export value chain of brinjal

Brinjal is one of the major exportable vegetables in Bangladesh. It is exported mainly for the importers/wholesalers to ethnic markets in abroad. Many actors are involved in the supply chain of brinjal such as input suppliers, farmers, collectors, traders, suppliers and exporters. Most of the exporters collected brinjal from the farmers through their selected suppliers/agent and some of them also collect from the CCMC, local market and Shambazar/Karwan bazar of Dhaka City. Brinjals are sorted, graded, washed and packed in paper carton boxes for air shipment without maintaining cool chain for transportation to the Central Pack house or direct airport in Dhaka.

In the value chain analysis, land leasing and land preparation was estimated 16.40% and 4.9% of the total cost of production, while inputs, production & intercultural operation, harvesting, postharvest management (PHM) and local transport cost incurred 30.68%, 35.72%, 6.55%, 0.82% and 4.93% respectively. In export value chain, there is a huge price gap between farmers' price and retail price at the overseas market in UK. Farmers sell their brinjal at the price of Taka 18.00 per kg while an ethnic consumer in UK purchase price is seen Taka 345.00/kg (Figure-6). Due to lack of special air cargo for fresh produce, quick transport, infrastructures among other facilities, the cost of marketing increases significantly. Careless handling of the brinjal, poor packaging, and sometime delay in transit causes serious damages and postharvest losses including cost of quarantine certificate and customs clearance which also increases the cost of brinjal marketing. The farmers 'share in consumer' price could be increased by minimizing (not eliminating) the role of market intermediaries in the existing supply chain and improve marketing system. And hence, contract farming and pack house should be developed for ensuring quality and safe produce and supporting better price for the farmers. Inadequate market infrastructure facilities, under developed marketing system, inadequate transport systems, lack of efficient market information system hinders in developing strong value chain of brinjal.

Meanwhile with the support of DAE and Hortex Foundation under NATP-2, organization of Producer Organization (PO) and Commodity Collection and Marketing Center (CCMC) at the production areas are being placed to overcome the constraints associated with quality production, PHM, market access of the smallholder farmers with better price and export promotion of vegetables by linking with potential traders and exporters. Integration, coordination and capacity building of all value chain partners need to be strengthened developing efficient supply chain of vegetables including brinjal promoting export.

9. Constraints and opportunities

Several constraints have been identified during the value chain analysis of exportable vegetables. However, there has been a significant potential of vegetables farming to raise the productivity and farming as a business. The following major factors that limit vegetables farming growth can be summarized as under in Table-1.

Table-1: Constraints & opportunities of vegetable farming

Constraints identified	Opportunities prevailed
Farmers do not know exactly about quality seed, fertilizers, pesticides, bio-agents and the selection criteria of planting materials of vegetables during buying	Formation of farmers group and build capacity of the smallholder farmers through proper training
Lack of knowledge of the farmers on improved production management of vegetables	Provide necessary extension services to build capacity of the smallholder farmers for advanced vegetables farming and PHM through proper training
Lack of quality inputs like seed, fertilizers, pesticides	Develop linkage for farmers with the reputed input suppliers, Govt. extension department and NGOs
Lack of vegetables collection point and processing center at field level	Establish adequate numbers of collection point and processing center at field level for advanced PHM and linking farmers, traders and exporters with the collection point and processing centers
Lack of effective transport system to carry vegetables from farm gate to market/exporters processing center	Ensure cool chain transport and develop farmers group marketing system minimizing the cost of transportation during supply to the exporters processing center or airport
Inappropriate wholesale market	Develop good infrastructure with modern facilities for the national wholesale market/distribution center maintaining hygiene
Farmers are lacking of defined buyer i.e. no link with the organized buyers e.g. traders, wholesaler, exporters, processors, superstores	Develop direct farmer-market linkage by facilitating group farmers to link with the local traders, wholesaler, exporters, processors, super stores as group marketing approach
Lack of updated knowledge on food quality and safety	Create awareness and provide training to relevant stakeholders on GAP, protection of microbial, chemical and physical contamination of vegetables
Limited contact of Extension and Marketing Department developing vegetables farming as a business	Develop effective linkage among the vegetables farmers, DAE, Hortex Foundation, traders, exporters, Business Association
There is a constraint of financial and input to scale up contract farming of vegetables.	DAE, Hortex, Business Association can facilitate in linking the vegetable group farmers with the bank, financial institutes, exporters, superstores, processing industries for establishing effective contract farming to promote vegetables export from Bangladesh.

10. Identification of interventions

Constraints need to be prioritized based on importance and immediate demand according to the actor. Several interventions have been identified for implementation of vegetables farming as a business to promote export. Some of the interventions are presented in Table-2.

Table-2: Identification of possible interventions

Value chain actors	Existing constraints	Proposed interventions
Farmers	lack of capital	Timely disbursement of loan arrangement from Bank/FIs for vegetable farmers
	lack of technical knowledge on updated production and PHM	Capacity building of farmers through proper training for GAP implementation
	lack of market information	Develop Horticultural Crop based Market Information System
	Lack of proper business plan and enterprise experience of farmers	Business plan needs to be developed to bring vegetable farming as a business. Govt. and private sectors can come forward for larger investment developing contract farming
Traders	lack of finance	Timely delivery of loan on easy terms
	Inadequate facilities of transportation	Arrange cool chain/pick-up van for transporting vegetables from farm gate to market and exporters' hand
	Lack of facilities at market place	Improvement of market facilities in terms of space, sanitation, sorting, grading, washing, cool chamber
Input suppliers	There is a demand for quality inputs i.e. seed, fertilizers, pesticides, machineries/equipments	To satisfy the demand of farmers for quality inputs, it is need to be ensured by Govt. and private sectors
Service providers	Inadequate linkage among value chain actors to share the available business information	Develop Horticultural Crops Knowledge Bank and disseminate through ICT based communication network
	Lack of knowledge and experience on updated technology	Develop VegVC related training module/manual and improve capacity of the VC actors
	Lack of institutional capacity	For export promotion of vegetables, different organizations/institutions who are involving production, extension, PHM, research and facilitator of market linkage needs to be strengthened both of technically and financially.

Hortex news in brief



11th Governing Body meeting of Hortex Foundation held on 10 April 2019 Chaired by Mr. Md. Nasiruzzaman, Secretary, Ministry of Agriculture & Chairman, Hortex Foundation

During the reporting period July 2018 to June 2019, two Governing Body meetings of Hortex Foundation comprising 116th and 117th were held at Hortex conference room on 10th October 2018 and 10th April 2019 respectively under the Chairmanship of Mr. Md. Nasiruzzaman, Secretary, Ministry of Agriculture, Government of the People's Republic of Bangladesh and Chairman, Hortex Foundation. Important policy directives and administrative decisions were taken in those meetings.

Market intelligence support given by Hortex

During the reporting period July 2018-June 2019, Hortex Foundation provided market intelligence support services to the 46 producers, new entrepreneurs, exporters, processors, business associations, academicians, researchers, extensionist, foreign importers among others for agribusiness development both for domestic and export market. The notable among the recipients including services are as follows:

Service recipients	Specific service provided by Hortex Foundation
Md. Shafiul Alam, Owner, Green Factory, Gobindaganj, Gaibandha	As a new agro-entrepreneur, he was suggested to start fruits & vegetables trading and thus linked with CCMC under NATP-2, Hortex Palashbari collecting quality banana and selling at local market
Mr. Sajal Mandal, MS Student, Government Titumir College, Dhaka	As per interest to be an agro-entrepreneur, he was suggested to start vegetables local marketing and then export

Service recipients	Specific service provided by Hortex Foundation
Md. Ismail Hossain, Bagmara, Rajshahi and Owner, Friends Fall Somahar, Savar, Dhaka	He was guided exportable betel leaves production and way of successful export of mango
Mr. Mizu, Maruhisa Pacific Co. Ltd., Dhaka	He was supported test cultivation of sweet potato at Sherpur Sadar Upz promoting export of value added agro-commodities
Md. Sharif Sarkar, Owner, M/S. Sarkar Traders, Jogorjani, Palashbari, Gaibandha	As producer of fruits & veg., he was guided on quality production, postharvest management and to start export
Md. Nazrul Islam, Prestige Feed & Ingredient, H-268, R-19, Mohakhali DOHS, Dhaka	He was given export guidelines of mango (BARI Aam-3) from Cox's Bazar and thus linked with PQW of DAE for quarantine certification
Md. Julfikar Moin, Ph.D Fellow, Dept. of Agricultural Extension & Information System, Sher-e-Bangla Agricultural University, Dhaka	He was guided and supported conducting Ph.D research on "Impact of using selected postharvest practices to strengthen vegetables value chain of export market
Syed Tamjid ur Rahman, Chairman, Seoul Eco Food Company Ltd., Kha-226/12/1, Khilkhet, Dhaka-1229	He was given shelf-life extension technology and provided necessary assistance exporting way of pineapple from Bangladesh to South Korea
Syed Midhat Monjur, Quality Control Officer, Unipex Trade Corporation Limited, Ghopal, Toker Bazar, Sylhet	He was suggested fruits and vegetables export way to USA and thus linked with PQW of DAE for registration and BFVAPEA/BPEA for membership
Md. Shahriar Rahman & Anika Taslim, MS Student of Agricultural Marketing, Sher-e-Bangla Agricultural University, Dhaka	For conducting their MS Thesis, they were given data/info on NATP-2 & shared list of contract/CIG farmers of Narsingdi district for interview
Mr. Sharif Uddin, PTI Shariatpur, Shariatpur Sadar, Shariatpur	As a new entrepreneur, he was suggested export way of vegetables
Ms. Sadia Mustafa, University of Manitoba, Canada	For conducting Thesis "Determination of fruits & vegetables consumption in Bangladesh, she was supported and given data/info on production of indigenous vegetables & fruits, organic farming and market supply chain mechanism

Service recipients	Specific service provided by Hortex Foundation
Md. Farhad Julfikar, General Manager, Edge Consulting Ltd., H-47, R-23, Bl.-B, Banani, Dhaka	For exporting jackfruits in USA, he was suggested to develop contract farming and linked with PQW of DAE for exporter registration.
Md. Saiful Islam, H-1351, East Shewrapara, Kakrail, Dhaka	As a new entrepreneur, he was guided exporting vegetables in EU (Portugal)
Md. Shojib Hossain, Alternative Marketing System, 64 Tejturi Bazar, Tejgaon, Dhaka	For collection and marketing of Mushroom, he was linked with Mushroom Development Center, Savar and Mr. Saiful, Khidma Mushroom
Md. Rubaiyat Mostofa Farhan, Research Assistant, Materials and Metallurgical Engineering, BUET	He was guided to develop agro-entrepreneurship and export way & opportunities of agro-commodities
Md. Rezaul Karim (rezaulk6@gmail.com)	As a new agro-entrepreneur, he was guided about sweet corn production technology. He was further given per acre sweet corn production cost i.e. Tk. 47,000.00 as on 2016 data. He was linked with Md. Ashraful Alam Pradhan, Syngenta Foundation Bangladesh, Rangpur developing contract farming production of sweet corn in North Bengal
Mohammad Reaz Uddin, Jupain, Shampur, Dhaka	As a new entrepreneur, he was guided for export fruits & vegetables to Middle East
Md. Rashed Shamim Chowdhury, Managing Director, Alubari Agro Produce Ltd., 60 Dilkusha C/A, Dhaka	He was guided for potato export to Malaysia and linked with PQW of DAE for registration as horticultural crops exporter
Mokammel Haque, 64-65 Kazi Nazrul Islam Avenue, Dhaka-1215	As a new entrepreneur, he was guided for export way of fruits & vegetables to EU and Middle East countries
Md. Ismail Hossain, Plot No. 585/8, R-12/A, Dhanmondi R/A, Dhaka	As a new entrepreneur, he was guided for local marketing and export way of fruits and vegetables and supply chain development of fresh produce
Christophe M. David, Elysium Trade, Paris, France, +33 (6) 05 54 99 87, chris.elysiumtrade@gmail.com	As per interest showed at Hortex Foundation importing mango from Bangladesh to France & other EU countries, he was linked with Mr. Paritosh Chandra Das, M/S. Dip International, Dhaka for further business communication

Service recipients	Specific service provided by Hortex Foundation
AKM Shariful Islam & Gazi Morsedul Arefin, CEO, S M Nirapod Agro, 948/1, East Shewrapara, Kafrul, Dhaka	As a new entrepreneur for online marketing of safe food, they were linked with CCMCs in Shibpur & Chandina Upazilas under NATP-2, Hortex Foundation for collecting safe vegetables for online marketing in Dhaka City
Md. Habibur Rahman, Panchbibbi, Joypurhat	He was suggested safe fruits & vegetables production technology and local marketing & export and given Hortex's publications
AKM Shifullah Hemun Chowdhury, CEO/Proprietor, SARA Foods Company, 49 Naya Paltan (1 st Floor), Dhaka-1000	He was suggested for sugarcane (local var.) export to Singapore by sea shipment following temp. 5-7°C and 72-75% RH. He was given produce compatibility analysis and fruits & vegetables temp. and humidity control for mixed shipment of sugarcane, green coconut, lemon, cabbage, tomato, pumpkin, chilli, carrot, bean. He was then linked with BSRI for further info on sugarcane
Md. Mehedi Hasan, Mirpur, Dhaka	He was suggested local marketing of vegetables and export guidelines of betel leaves to Middle East
Masum Ahmed, Dhania, Jatrabari, Dhaka	As a new entrepreneur, he was suggested to start local trading from Narsingdi to Dhaka City with seasonal quality fresh produce
Md. Rokunuzzaman, Senior Assistant Chief, Planning Division, Planning Commission, Sher-e-Bangla Nagar, Dhaka	As Post-graduate Student under JDS Scholarship in Hiroshima University, Japan (International Development & Cooperation), he was guided and given Organic Agriculture Policy in Bangladesh, Hortex's article and linked with Mr. Shoaib (Gemcon Group), Dr. Tanveer (APO, Tokyo), Dr. Nazim (BARI) for further info/data
Md. Tarif Hasan, Pananagar, Puthia, Rajshahi	As a new entrepreneur, he was guided exportable mango production technique and export way to Middle East. He was then linked with M/S. Dip International, Dhaka for supplying exportable mangoes

Service recipients	Specific service provided by Hortex Foundation
Shaikh Md. Kamal, Managing Director, Radiant Green Agro Ltd., 142/A Green Road, Dhaka	As manufacturing, export & import, he was guided fresh vegetables export way to Malaysia & KSA. He was given produce compatibility analysis and reefer container temp. & RH guidelines. He was further linked with BAPA for membership and PQW of DAE for registration & PC
Fahmida Haq Majumder, Research Associate, SANEM, H-1/B, R-35, Gulshan	She was given info as per structure questionnaire & interview as KII on Research Title "Mobilizing Involvement and Investment of the Private Sector in Implementing SDG in Food and Agriculture in Bangladesh" jointly conducted by SANEM and FAO
Md. Aslaks Khan, General Manager, Seasta Exim Ltd., Baridhara, Dhaka	He was guided tobacco product export to Australia and then linked with BAPA for association membership and PQW of DAE for registration and phytosanitary certificate
Md. Mahabub Alam, PD & Executive Engineer, BADC, Jashore	He was given info/data on fruits & vegetables PHM and publications of Hortex developing DPP of their new drip irrigation project for water saving and safe vegetables, fruits & flowers production
Kazi Harunur Rashid, Managing Director, TRIO Brothers Ltd, R-3, H-9, F-601, Dhanmondi, Dhaka	For processing and local marketing of fish in Dhaka City, he was linked with Dr. AKM Aminullah Bhuiyan, Expert of NATP-2, Dept. of Fisheries for entrepreneurship and market linkage development of processed fish
Mr. Sarwar Murshed Justice, ABC Group, H-90, L-19, S-14, Uttara, Dhaka	As a new entrepreneur, he was guided exporting fresh fruits & vegetables like Mushroom, Capsicum, Dragon Fruits and Cucumber to Germany. He was given export strategy paper, cost analysis on UK market, publications of Hortex developing business plan. He was then linked with Authentic Freight for C&F agent service

Service recipients	Specific service provided by Hortex Foundation
Mr. Karim Sherali Jivani, MD, Bombay Sweets & Co. Ltd., Delta Life Tower (8 th Floor), 37 Gulshan North C/A, R-90, Gulshan-2, Dhaka	Hortex Foundation supported to introduce large size peanuts by Bombay Sweets & Co. Ltd. Hortex Foundation arranged a meeting on 24/03/2019 with the official of Bombay Sweets Mr. Farhad and Dr. Mobarok, PSO, ORC, BARI highlighting HYV & large size peanut production technology and export development of peanut based value added products
Md. Bahauddin, Manager, Universal Traders, Khulna	For exporting Taro/Eddo by sea shipment to South Korea with MRL test, he was linked with Dr. Sultan, Pesticide Analytical Lab, BARI conducting MRL test of taro. He was then linked with PQW of DAE for registration and phytosanitary certification. As per requirement of Korean buyer for importing Taro/Eddo from Bangladesh should comply MRL below 0.01ppm
Md. Abdullah Patwary, Owner, M/S. Friends International, 1-2 No Lolit Mohan Das Lane Lalbagh, Dhaka	As a new entrepreneur for export to EU & Middle East, he was guided export procedure, buyer sourcing and international marketing of fruits & vegetables
Md. Lutful Habib, Director, Bangla Neerman, H-428/A, L-4, R-30, New DOHS, Mohakhali, Dhaka	For development of cold storage in North Bengal, he was given cold storage related data/info, shelf life of different fruits & vegetables and publications
Md. Zoynal Abedin, SAPPO, Upazila Agriculture Office, Bandar, Narayanganj	A total of 150 nos. farmers are being engaged different flowers production using 113 ha of land in Bandar, Narayanganj. As per requirement, he was suggested flowers PHM and linked with Mr. Babul Prashad, Shahbagh Phul Chashi Samity for developing market linkage
Mohammed Anisuzzaman, Dhaka (azaman1993@yahoo.com)	As a new entrepreneur, he was guided aloe vera production & processing and thus linked with Taiwan Food Processing & Industries Ltd to supply aloe vera
Md. Mueeedul Islam, Partner, Urban Limited, H-172, R-3, New DOHS, Mohakhali, Dhaka	As a new entrepreneur, he was guided different fruits and vegetables like mango, pineapple, potato export way to African countries

Service recipients	Specific service provided by Hortex Foundation
Sayem Mohammad Hanif, Manager, T&C Corporation, Uttara, Dhaka	As an importer & exporter of fruits & vegetables, he was guided pineapple export way to UAE & KSA following proper production, PHM, waxing
Dr. Mohammad Golam Mostafa, District Training Officer (DTO), DAE, Narayanganj	As proper processing of vegetables, he was provided postharvest technology related data/info, report developed by Hortex Foundation
Ashik Pasha, Head of Business Development, Halda Valley Food & Beverage Ltd., YN Center, H-6/A, R-113, Gulshan Avenue, Dhaka-1212	As per requirement, provided support to export guidelines and local marketing of different agro-commodities like tea, red flesh dragon fruits produced under Halda Valley Tea Company Ltd. in Fatikchhari, Chattogram
Hakim (Dr.) N.M. Ibrahim Shamim, Healthy Food Company, Dhaka	As a new entrepreneur of food business, he was given guidelines of fruits & vegetables export, exporter registration at PQW of DAE and contract farming developing supply chain of quality fresh produce.

Cool chain transportation support by Hortex

In the reporting period 01 July 2018 to 30 June 2019, Hortex Foundation provided cool chain transportation **(580 round trips by its five reefer trucks)** support services to 08 business organizations (ACG Associated Capsule (Pvt.) Ltd.-268, Transcom Foods-47, DSB-252, Popular Pharmaceuticals Ltd.-3, Square Pharmaceuticals Ltd.-3, Radiant Pharmaceuticals Ltd.-1, Incepta Pharmaceuticals Ltd.-4, Dip International-2) for minimizing all forms of deterioration to the perishable and high temperature sensitive commodities during transportation.



**Participation in National Food Fair-2018,
4th Nat'l Development Fair-2018 and
National Vegetables Fair-2019**

National Food Exhibition & Fair 2018



Hortex Foundation participated the three day long “Food Exhibition & Fair 2018 during October 16-18, 2018 at AKM Giasuddin Milky Auditorium premises, Farmgate, Dhaka. Mr. Tofail Ahmed MP, Hon’ble Minister, Ministry of Commerce, Government of Bangladesh inaugurated the Fair as the Chief Guest while Matia Chowdhury MP, Hon’ble Minister, Ministry of Agriculture was present as the Special Guest. Mr. Md. Nasiruzzaman, Secretary, Ministry of Agriculture, Government of Bangladesh presided over the seminar of the inaugural session. Before the inaugural programme, the Ministers and other dignitaries and delegates paid a visit to the Hortex Foundation stall.



Hortex Foundation displayed a good number of exportable fresh and processed agro-commodities and post harvest technologies, packaging which received immense interest from the visitors. From the Hortex stall, different technical bulletins, booklets, leaflets and export information were disseminated to the visitors free of cost. Hortex Foundation received a special prize from Mr. Md. Nazmul Islam, Additional Secretary (PPC), Ministry of

Agriculture and the Chief Guest of Closing Ceremony for participating the fair successfully.



4th National Development Fair 2018

Hortex Foundation participated the three day long “4th National Development Fair-2018” with the theme on “Development Strides Unstoppable Bangladesh” organized by District Administration Dhaka during 04-06 October 2018 at Dhaka International Trade Fair premises, Sher-e-Bangla Nagar. Hortex Foundation participated the fair successfully under the Ministry of Agriculture, Government of Bangladesh.



National Vegetables Fair 2019

Hortex Foundation participated the three day long “National Vegetables Fair and Vegetables Exhibition-2019” organized by DAE and the Ministry of Agriculture from 24-26 January 2016 at KIB premises, Farmgate Dhaka.



Chairman of Hortex Foundation



Mr. Md. Nasiruzzaman, Secretary, Ministry of Agriculture and Chairman, Hortex Foundation

Mr. Md. Nasiruzzaman joined Ministry of Agriculture as the Secretary on 19 August 2018 and he is the Chairman of Hortex Foundation.

Md. Nasiruzzaman, Secretary, Ministry of Agriculture is an officer of BCS (Administration) cadre. Prior to his present position he worked as Chairman Bangladesh Agricultural Development Corporation (BADC). Before that he also served in different posts in field administration including Deputy Commissioner in Sherpur. Besides, he performed duties in different positions in Finance Division, Economic Relations Division, Ministry of Religious Affairs.

Md. Nasiruzzaman obtained graduation in Social Science from the University of Dhaka, MBA from Northern University and MS in Environment from State University of Bangladesh. He also has trained in professional training from Duke University, Durham, USA and University of Wolverhampton, UK.

In his professional career, he participated in different important capacity development programs in home and abroad. He traveled a number of countries in Asia, Europe, North America, Africa and Australia for participating in training, seminar etc. related to state affairs & agreements where he contributed a lot.

Throughout his career, he got the opportunity to devote himself in sports and cultural activities, associated with different socio-cultural organizations.

Hortex supported export in 2018-19

A. Hortex supported horticultural crops export 2018-19

Export items	Achievements	Remarks
Canned Aloe vera, Pineapple Jam and Dried bitter gourd chips export to China, Taiwan, Hong Kong and Vietnam	Export quantity 1930 MT of which Canned Aloe vera 1877 MT (91955 CAN), Pineapple Jam 53 MT & Dried bitter gourd chips 0.19 MT with total export value US\$ 14.72 Lakh	Hortex is being worked with 100% export oriented Taiwan Food Processing & Industries Ltd. for promoting export of different value added agro-commodities from Bangladesh since 2014.
Export of vegetables using the facilities of the CCMCs at Shibpur & Belabo of Narsingdi, Mithapukur of Rangpur Madhupur of Tangail and Chandina of Cumilla districts under NATP2, Hortex	770 metric tons of vegetables have been exported	Mostly brinjal, teasel gourd, bottle gourd, bitter gourd, lemon and potato have been exported to the countries like, Malaysia, Dubai, Qatar and Saudi Arabia. A total of 14 companies were involved in these vegetable exports.
Fresh mango export to UK	3.652MT (UK)	Hot water treated mangoes were exported by M/S. Parly Int'l
Fresh mango export to UK	4.102MT (UK)	Hot water treated mangoes were exported by M/S. M K Enterprise
Fresh potato export to Sri Lanka and Dubai	420 MT	Kisan Botanix Ltd. (Var. Diamant, Granola and BARI ALU-39-Balani)
Fresh potato export to Malaysia	243 MT	ALUBARI AGRO-PRODUCE LIMITED
Local marketing of different agro-commodity through the 30 Commodity Collection and Marketing Centers (CCMCs) under NATP2, Hortex Foundation	A total of 5071.80 tons were marketed through the CCMCs in FY2018-19	More than 6137 metric tons of agro-commodities were sold through the 30 nos. CCMCs up to June 2019. It includes the quantity of 1065.31 tons marketed during the year from 2016 to 2018.

Local marketing of safe tomato producing tomato pulp. VEGAN Food & Beverage Ltd supplied tomato pulp to Square Food & Beverage Ltd (SFBL) and PRAN. SFBL, PRAN produced tomato sauces and ketchups both for domestic and export markets	126 MT fresh tomato supplied from Sherpur Sadar Upz., Sherpur District and Dhunat Upz., Bogra District of which 35 MT tomato pulp produced	Hortex is being worked with VEGAN Food & Beverage Ltd and developed farmer-market linkages to arrange supply of safe and fresh tomato from the lead farmers of Sherpur Sadar Upazila, Sherpur and Dhunat Upazila, Bogra, District.
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B. Names of the companies exporting agri-commodities through the CCMCs under NATP-2, Hortex Foundation during FY2018-19

1. M/s Ahmed Trading (AT)	8. M/s Tareque Enterprise
2. M/s Mariam & Sons	9. M/s Fresh Vegetables Dot Com
3. M/s Nurul Alam International	10. M/s Sheuli Enterprise
4. M/s Dip International	11. M/s Aziz & Sons Enterprise
5. M/s Sujon International	12. M/s Imon Traders
6. M/s M.K. International	13. M/s Miami Trading
7. M/s Lee Enterprise	14. M/s R R Enterprise

National export of horticultural crops

About 100 types of fruits and vegetables are being exported from Bangladesh to more than 38 countries in the world. Export of fresh fruits and vegetables from Bangladesh are significantly increased from US\$ 46.41 million in FY2004-05 to US\$ 209.38 million in FY2013-14.

However, below Table reveals that export quantity and value of fresh fruits and vegetables are in decreasing trend from FY2014-15 due to restriction in EU countries on some fruits and vegetables including self ban by the Government of Bangladesh. The major causes of restrictions were (i) not complying with the phytosanitary requirement of importing countries, (ii) presence of quarantine harmful organisms like thrips and fruit fly in Momordica (major in bitter gourd, teasel gourd); thrips and fruit fly in gourds; white fly, leaf miner & spodoptera in leafy vegetables; thrips & shoot and fruit borer in brinjal; fruit fly and stone weevil in mango; *Salmonella spp.* bacteria in betel leaf; canker, black spot and thrips in citrus; brown rot bacterial agent (*Ralstonia solanacearum* (Smith) Yabuuchi *et al.*) & potato tuber moth in potato;

(iii) absence of product integrity, (iv) documentary reasons i.e. modification of Phytosanitary Certificate (PC) and, sometimes absence of PC during export from Bangladesh.

However, export of fresh vegetables are in increasing trend from FY2018-19 compared to FY2017-18 due to different Government and Project especially NATP-2 initiatives promoting export of fruits and vegetables. Fresh fruits and vegetables export growth on values from FY2004-05 to FY2018-19 are shown below:

A. Export of fresh fruits and vegetables in Bangladesh

Fiscal year	Quantity exported (MT)	Export value (in m. US\$)	Export growth on value (in %)
2004-05	29100	46.41	-
2005-06	19460	39.59	(-) 14.70
2006-07	19805	40.53	(+) 2.37
2007-08	33626	69.12	(+) 70.54
2008-09	24670	50.71	(-) 26.63
2009-10	29370	64.21	(+) 26.62
2010-11	48428	109.41	(+) 70.39
2011-12	59573*	134.59	(+) 23.01
2012-13	80660*	182.23	(+) 35.39
2013-14	92679*	209.38	(+) 14.89
2014-15	62730*	141.72	(-) 32.31
2015-16	59656*	124.57	(-) 12.10
2016-17	42266*	83.72	(-) 32.79
2017-18	40568*	80.22	(-) 4.18
2018-19	61491*	100.07	(+) 24.74

Source: PQW of DAE, NBR, EPB and data analysis by Hortex Foundation 2019

B. Export of fresh vegetables in Bangladesh

Fiscal year	Quantity exported (in MT)	Export growth (on quantity, in %)	Value (in m. US\$)	Export growth (on value, in %)
2005-06	17218	-	32.92	-
2006-07	18277	(+) 06.15	35.64	(+) 08.26
2007-08	30931	(+) 69.24	60.47	(+) 69.67
2008-09	22791	(-) 26.32	44.67	(-) 26.13
2009-10	23959	(+) 05.12	46.84	(+) 04.86
2010-11	36672	(+) 53.06	71.73	(+) 53.14
2011-12	39586*	(+) 07.95	77.43	(+) 07.95
2012-13	56411*	(+) 42.50	110.34	(+) 42.50
2013-14	75435*	(+) 33.72	147.55	(+) 33.72
2014-15	52781*	(-) 30.03	103.24	(-) 30.03
2015-16	53344*	(+) 1.06	104.34	(+) 1.06
2016-17	41426*	(-) 22.34	81.03	(-) 22.34
2017-18	39868*	(-) 3.76	77.98	(-) 3.76
2018-19	58677*	(+) 47.18	99.68	(+) 27.84

Source: PQW of DAE, NBR, EPB and data analysis by Hortex Foundation 2019

C. Export of fresh fruits in Bangladesh

Fiscal year	Quantity exported (in MT)	Value (in m. US\$)	Export growth (value, in %)
2005-06	2242	6.67	-
2006-07	1528	4.89	(-) 26.69
2007-08	2695	8.65	(+) 76.89
2008-09	5204	16.67	(+) 93.41
2009-10	5411	17.37	(+) 3.83
2010-11	11757	37.68	(+) 116.92
2011-12	17835*	57.16	(+) 51.69
2012-13	22431*	71.89	(+) 25.77
2013-14	19292*	61.83	(-) 13.99
2014-15	12006*	38.48	(-) 37.76
2015-16	6312*	20.23	(-) 41.32
2016-17	840*	2.69	(-) 86.70
2017-18	700*	2.24	(-) 16.72
2018-19	2814*	0.39	(-) 82.58

Source: PQW of DAE, NBR, EPB and data analysis by Hortex Foundation 2019

D. Export of fresh potatoes in Bangladesh

Financial year	Quantity exported (MT)	Export value (in m. US\$)	Export growth on value (%)
2008-09	407	0.68	-
2009-10	9687	03.45	(+) 407
2010-11	34891	15.98	(+) 363
2011-12	34232	08.50	(-) 47
2012-13	41830	10.93	(+) 29
2013-14	103000	33.82	(+) 210
2014-15	94614	32.22	(-) 4.73
2015-16	40230	10.06	(-) 68.78
2016-17	55652	12.96	(+) 28.83
2017-18	52821	11.27	(-) 13.04
2018-19	34795	12.50	(+) 10.91

Source: PQW of DAE, NBR, EPB & data analysis by Hortex Foundation 2019

E. Country-wise potato export in FY2018-19

HS Code 0701: Export of potatoes, fresh or chilled	Total Export Value (in US\$)
AE: UNITED ARAB EMIRATES	567,595.06
BH: BAHRAIN	32,865.02
BJ: BENIN	18,913.04
BL: Bangladesh local export code	9,153.33
BN: BRUNEI DARUSSALAM	62,781.93
GB: UNITED KINGDOM	6,414.08
ID: INDONESIA	5,965.45
KW: KUWAIT	26,680.18
LK: SRI LANKA	922,504.14
MM: MYANMAR	37,359.54
MV: MALDIVES	36,230.84
MY: MALAYSIA	7,932,388.85
NP: NEPAL	92,915.73
QA: QATAR	56,697.95
RU: RUSSIAN FEDERATION	28,084.54
SA: SAUDI ARABIA	935,449.77
SG: SINGAPORE	1,711,143.19
US: UNITED STATES	11,960.54
VN: VIET NAM	8,572.85

Source: EPB 2019

MoU signing between Hortex and DAM



A MoU was signed between Hortex Foundation and Department of Agricultural Marketing (DAM) on 08 August 2018 at DAM premises for starting joint activities promoting agro-commodity PHM and marketing.

This MoU identifies the areas of cooperation including improving agricultural market access & infrastructure, commercialization of agriculture, strengthening supply chain between farms to wholesaler/exporter, value chain management, expand contract farming of high value crops for domestic and export market, exchange of data & info; knowledge and skill development; inspection and monitoring of commodities on sale; strengthening legal framework with compliance of Safe Food Act, 2013 and enforcement thereof; establishment and human resource development; food safety awareness building program; conduct study and research.



MoU signing between KGF and Hortex



A MoU was signed between Krishi Gobeshona Foundation (KGF) and Hortex Foundation on 06 September 2018 at BARC conference room where Mr. Md. Nasiruzzman, Secretary, Ministry of Agriculture, Government of Bangladesh attended as the Chief Guest.



KGF and Hortex Foundation agreed to -

- provide research generated technological support to export oriented producers and farms;
- sensitize the issue of postharvest of horticultural crops and loss reduction practices in trading process through research and development;
- cooperate on value chain and agro market analysis research;
- organize and undertake collaborative studies to identify constraints for improving postharvest handling and management of market study, value chain analysis of major vegetables and fruits;
- organize and undertake evaluation studies on practice adopted for food safety, especially on fresh fruit and vegetable handling and consumption.
- identify the constraints associated with exportable agro-commodities that needs attention of the research intervention (s). Then identified constraints may be transmitted to KGF for research based solutions.

Capacity building programme & consultation

During the reporting period July 2018-June 2019, Hortex Foundation organized different capacity building programs like ToT for DAE's BCS Cadre Officer, training for CIGs, traders, POs, consultation, seminar/workshop and the Foundation's officials also participated following major events:

1. Visited Kbd. Md. Mahbubor Rahman, ADD, DAE, Naogaon Sadar held on 01 July 2018 highlighting implementation of NATP-2, Hortex activities.

2. Meeting with the officials of Change Maker, Seoul Eco Food held on 03 July 2018 to discuss pineapple export way to S. Korea.

3. Attended Progress Review & Program Planning Workshop-2018 held on 07 July 2018 organized by PMU of NATP-2 at BARC Auditorium. MD, Hortex presented activity presentation on NATP-2 implementation.

4. Meeting with the officials of Winrock Int'l Ms. Nilufar, DAUUNE DEPPE held on 09 July 2018 on the ways of agro-processing development in Bangladesh.

5. Meeting with a new exporter Md. Shafiul Alam, Green Factory, Gobindaganj, Gaibandha held on 12 July 2018 on fresh fruits & vegetables export to Qatar. He was further linked with PQW of DAE for exporter registration as horticultural crops exporter.

6. Attended meeting with the Members of 2nd Implementation Support Mission (ISM) of the World Bank and IFAD on NATP-2 held on 16 July 2018 at DAE. Dr. Ratan Chandra Dey, Director, PIU-NATP2-DAE presented crop development presentation of DAE incl. Hortex Foundation activity on value chain development and market linkage activities in 30 cluster upazilas.

7. Attended meeting of 2nd ISM of the World Bank and IFAD on NATP-2 held on 18 July 2018 at BARC. M& E Expert of NATP-2, Hortex presented the Hortex's activity on value chain development and market linkage activities.

8. A request letter with sample sweet potato using Japanese var. dated 19 July 2018 sent to DG of BARI, Joydebpur on sweet potato research & evaluation.

9. Meeting with a new entrepreneur Md. Ismail Hossain held on 24 July 2018 on trading of betel leaves and mango.

10. Meeting held on 25 July 2018 at DAE with the officials of JICA designing concessional financing project for food value chain and promoting food safety.

11. Visited Savar CCMC at Harindhara Bazar held on 31 July 2018 for assisting, facilitating and guiding the team of AIS, MOA preparing a video documentary of postharvest management of safe fruits and vegetables marketed from the CCMC under NATP-2.

12. Visited Shibpur, Belabo and Raipura UAO Office and CCMCs held on 01 August 2018 to see implementation of value chain activities under NATP-2 and discussed with the UAOs, LBFs and SAAOs of respective upazilas.

13. Visited Shibpur, Belabo and Raipura upazilas CCMCs held on 06 August 2018 to see implementation of value chain activities under NATP-2. Further visited vermin compost plant at Khamarerchar, Belabo upazila; guava production field at Raipura upazila and DD office, Narsingdi and discussed CIG activities under NATP-2.

14. Meeting with a new entrepreneur Mr. Sohel Rana, Palashbari, Gaibandha held on 07 August 2018 on banana export. He was suggested business plan, documentation process and further linked with PQW of DAE for exporter registration as horticultural crops exporter.

15. Meeting with a new entrepreneur Mr. Md. Nazrul Islam, Prestige Feed & Ingredient held on 13 August 2018 on mango export. He was linked with PQW of DAE for exporter registration as horticultural crops exporter.

16. Visited Jashore Sadar, Jhikargacha, Bagharpara upazilas of Jashore and Kaliganj upazila of Jhenaidah district CCMCs held on 29 August to 01 Sept. 2018 to see the implementation of value chain activities under NATP-2, Hortex Foundation and attended meeting with the MMC of PO members of respective upazilas. Visited water melon and summer tomato field demonstrated by the CIG farmers at Potengali village, Malonchi Block, Arabpur Union Jashore Sadar.

17. Meeting with Mr. Syed Midhat Monjur, Unipex Trade Corporation Ltd, Ghopal, Sylhet held on 06 Sept. 2018 on frozen vegetables processing and export. He was linked with PQW of DAE for exporter registration.

18. Attended 6th National Convention, Int'l Seminar, Council and Annual General Meeting 2018 at KIB held on 08 Sept. 2018. Hon'ble Prime Minister Sheikh Hasina MP attended as the Chief Guest.

19. Meeting held on 11 Sept. 2018 at the Ministry of Agriculture Chaired by Mr. Sanat Kumar Saha, Additional Secretary on MRL of beans detected in UK during export.

20. Refreshers training for Local Business Facilitator (LBF) held on 24-25 Sept. 2018 at the conference room of Hortex organized by Hortex Foundation under NATP-2.

21. Meeting held on 27 Sept. 2018 at the Ministry of Agriculture Chaired by Mr. Sanat Kumar Saha, Additional Secretary (Ext.) on Phytosanitary Certificate for betel leaves exporting to Middle East countries.
22. Organized food processing stream sub-committee meetings held on 01 & 07 Oct. 2018 at Hortex Foundation chaired by Managing Director, Hortex Foundation.
23. ToT for capacity building of DAE & Hortex staff on production planning, business plan, marketing, contract farming, PHM, value addition and food safety held on 8-9 Oct. 2018 organized by Hortex under NATP-2.
24. ToT for capacity building of DAE & Hortex staff on production planning, business plan, marketing, contract farming, PHM, value addition and food safety held on 21-22 Oct. 2018 organized by Hortex Foundation under NATP-2. Mr. Md. Nazmul Islam, Additional Secretary (PPC), Ministry of Agriculture attended as Chief Guest.
25. Meeting held with new exporter Mr. Md. Rashedul Islam, Shafidi BD Jute Export & Import exporting vegetables to Dubai on 29 Oct. 2018 at Hortex office.
26. Attended National Portal Framework training held on 11-12 Nov. 2018 at DOICT Training Lab, Agargaon organized by DOICT, coordinated by the Cabinet Division and technical supported by a2i project where two officials attended building capacity of portal management.
27. Meeting with DAE and submitted DPP of value chain development project (DAE and Hortex) to the Ministry of Agriculture on 12 November 2018.
28. Visited Savar UAO Office and CCMC at Harindhora Bazar held on 28 Nov 2018 to see implementation of value chain activities under NATP-2 and discussed with the UAO, AEO, LBF and SAAO arranging meeting with CIG farmers during visit of Director, PIU-NATP2-DAE.
29. Attended two meeting held on 29 Nov. 2018 at the Ministry of Agriculture Chaired by the Secretary on preparation of vegetables fair-2018 and meeting on mango export and approval of contract farmers Chaired by Mr. Sanat Kumar Saha, Additional Secretary (Ext.).
30. Meeting held on 03 Dec. 2018 at DAE on mango export Chaired by the Director, PQW of DAE.
31. Visited UAO and CCMC, Chandina, Cumilla held on 04 Dec. 2018 and attended meeting with the President & Secretary of MMC of POs and local suppliers of vegetables for using CCMC.
32. Meeting held on 10 Dec. 2018 at DAE highlighting development of safe vegetables production zone Chaired by the Director, Horticulture Wing, DAE.
33. Review progress meeting held on 20 Dec. 2018 at DAE with the Director, Experts and Officials of PIU-NATP2-DAE, PMU & Hortex Foundation.
34. Meeting held on 20 Dec. 2018 at the Ministry of Agriculture Chaired by Mr. Sanat Kumar Saha, Additional Secretary (Ext.), MOA on export promotion of mango.
35. Meeting held on 03 Jan. 2019 at ITOCHU with Mr. Md. Shafiqur Rahman, Sr. Manager, ITOCU Corp., Mr. Ryuichi Katsuki, Program Advisor for Agri. and Rural Dev., JICA Bangladesh Office and Mr. Takeshi Saito, Second Secretary, Economic Affairs and Dev. Corp., Embassy of Japan in Bangladesh on way of mango export.
36. Visited UAO office & Daligati village of Monirampur upz. of Jashore; UAO office, village super market & collection point at Kathaltola of Dumuria upz. of Khulna; UAO office of Tala upz. of Satkhira; UAO office & Purbo Brahmanakathi village of Nesarabad upz. of Pirojpur; DD & UAO office of Jhalokathi sadar upz. held during 07-09 Jan. 2019 conducted feasibility study with the team of DAE under market linkage dev. project of DAE & Hortex.
37. Attended seminar titled Food Safety for a Nation of Healthy Citizens held on 04 Feb. 2019 at KIB organized by BfSA on different issues related to food safety management system and regulatory affairs.
38. Meeting held on 07 Feb. 2019 at Hortex with Mr. Md. Habibur Rahman, Hon'ble Mayor, Panchbibi upazila, Joypurhat on safe food production and local marketing with support of Hortex. He was linked with Mr. Ashraf, UAO developing linkage with the CIGs under NATP-2 and supported business plan & supply chain development.
39. Meeting held on 18 Feb. 2019 with exporter Mr. Shifullah, CEO, SARA Foods Company on Hortex support for sugarcane and vegetables export to Singapore. He was linked with BSRI, PQW of DAE and given produce compatibility analysis and fruits & vegetables temp. & humidity control data for mixed sea shipment.
40. Meeting with new exporter Mr. Shaikh Md. Kamal and Mr. Anam Mahmud Khan, RADIANT Green Agro Ltd. held on 04 March 2019 for veg. export to Malaysia.
41. Meeting held on 13 March 2019 with Mr. Aminul Moven and Mr. Md. Golam Fazle Rabbani, MarGen on mango export. They were supported providing mango production & PHM technology and Hortex developed lead mango farmers list of Bagha & Chorghat upazila of Rajshahi developing contract farming.

42. Visited UAO office and attended CIG farmers training organized by Hortex Foundation at Nakla upazila & MMC members meeting at CCMC, Tarakandi Bazar under NATP-2 held on 19 March 2019.
43. Visited UAO office and attended AEO, SAAOs, LBF & MMC members meeting at CCMC, Litchutola, Islampur Bazar organized by Hortex Foundation under NATP-2 held on 20 March 2019.
44. Organized meeting in favor of Bombay Sweets with Mr. Farhad, Bombay Sweets and Dr. Mobarrak, PSO, ORC of BARI held on 24 March 2019 at Hortex Foundation for developing HYV peanut production technology to promote export of processed agro-products using large size peanuts.
45. Meeting with new vegetables exporter Mr. Md. Bahauddin, Manager, Universal Traders held on 25 March 2019 on taro leaves export to Korea. He was then linked with Dr. Sultan, BARI testing MRL and PQW of DAE for exporter registration and Phytosanitary Certificate.
46. Meeting held on 03 April 2019 at the Ministry of Commerce Chaired by Mr. Tapan Kumar Ghosh, Additional Secretary (Export), MOC on status of action plan implementation for agro & food processing.
47. Meeting with the officials of Source Trace, Dhaka held on 04 April 2019 for implementing QR Code traceability.
48. Visited CCMC at Khorokmara Bazar, Shibpur and Baroicha Bazar, Belabo upazila, Narsingdi held on 05 April 2019 with the team of BTV documenting CCMC activities like PHM (grading, sorting, washing, packaging) and supplying safe vegetables from the CCMC to Dhaka exporters exporting to UK and Middle East countries.
49. Meeting with the Hon'ble Agriculture Minister Dr. Muhammad Abdur Razzaque MP held on 09 April 2019 at the Ministry of Agriculture. Mr. Md. Manzurul Hannan, MD, Hortex Foundation presented the presentation highlighting brief activities, future plan & necessity of strengthening of the Foundation. Hon'ble Agriculture Minister focused export increment of potato, pineapple (fresh & processed), banana, mango, flowers, jute leaves, sweet potato; tomato ketchup; development of pack house; implementation of GAP standard, expansion of flowers production area in Savar & Tangail; net house production of fruits & vegetables.
50. Mid Term Review (MTR) Mission of the WB and IFAD meeting under NATP-2 held on 29 April 2019 at BARC. Hortex Foundation presented implementation progress & achievements to the mission members.
51. Provided market intelligence support on 30 April 2019 to Mr. Md. Moyeedul Islam, Urban Limited for exporting fresh fruits and vegetables to African countries.
52. Mid Term Review (MTR) Mission of the WB and IFAD meeting under NATP-2 held on 02 May 2019 at BARC on implementation status of procurement.
53. Appraisal meeting of market linkage project held on 02 May 2019 Chaired by the Secretary, MOA.
54. Meeting held on 06 May 2019 at Hortex conference room Chaired by the Secretary, Ministry of Agriculture on SDG target & implementation where Chief Coordinator of SDG to the Prime Minister's Office Mr. Md. Abul Kalam Azad, Chairman, BADC; DG of BRRI, BARI, BINA, DAE and MD of Hortex Foundation attended.
55. Meeting with Mr. Md. Ashraf Al Ratan, Genuine Agro (GAgro), Dhaka held on 13 May 2019 creating an online platform jointly for marketing of safe food.
56. Flowers export related market intelligence services given dated 14 May 2019 to Ms. Samanta Halim, EMBA student, DU preparing Thesis titled "Problems and Prospects of Exporting Flowers from Bangladesh".
57. Organized two day long Local Business Facilitator (LBF) refreshers training under NATP-2 held on 11-12 June 2019 at Hortex conference room.
58. Organized LBF training under NATP-2 on market management (operation & maintenance) held on 13 June 2019 at Hortex conference room.
60. Supported six day long ToT program held during 15-20 June 2019 at the Hortex conference room on procurement and financial management organized by Project Management Unit (PMU), NATP2 where Assistant General Manager, Hortex Foundation attended.
61. Visited CCMC at Delduar, Modhupur, Islampur and Nakla upazilas during 21-22 June 2019 and Director, PIU-NATP2-DAE, PMU-NATP2 Expert and Assistant General Manager, Hortex Foundation attended meeting with DD office Tangail and SAAOs, LBFs, PO/MMC Members meeting at the CCMCs of four upazilas .
62. Attended meeting held on 25 June 2019 at BFSA office, Eskaton, Dhaka on standard harmonization process moderated by Mr. Sanjay Dave, International Consultant (Food Safety).
63. Meeting with the officials of DBL Group, Dhaka held on 27 June 2019 highlighting export of fresh fruits and vegetables with support of Hortex Foundation.

Implementation of NATP-2 activities

Out of five Components of National Agricultural Technology Program – Phase II Project (NATP-2), Component-2 (Supporting Crop Development) is being implemented by PIU-DAE, Ministry of Agriculture where 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) to the DAE under a strategic partnership agreement.

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. There are other identified vegetables and fruits for horizontal expansion of the practices.

Major activities under NATP-2 in FY2018-19

Training programme implementation

During the reporting year 2018-19, training programmes were implemented for DAE officers, Local Business Facilitators (LBFs), Common Interest Group (CIG) farmers, Producer Organization (POs) and Traders.

Hortex Foundation organized two batches of ToT courses held on 8-9 Oct. 2018 and 21-22 Oct. 2018 at its conference room where attended by a total of 53 BCS Cadre officers incl. 17 lady officers of DAE, and their topics included production planning, business plan, marketing and Commodity Collection and Marketing Centre (CCMC) functionalities, contract farming, improved postharvest management technology (PHM) technologies and practices, value addition, food safety and quality assurance, and related issues addressing the training needs of CIGs, POs and market actors that they need to train for value chain development and market linkage activities.

A total of 6600 nos. CIG farmers (incl. 1583 female) have received training from 220 batches organized by Hortex Foundation during 2018-19, which were 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 1920 nos. (incl. 339 nos. female) have received also similar training from 64 batches, but with more emphasis on market management, especially of running the CCMCs.

The traders 450 nos. have received training from 15 batches, but with more emphasis on business plan, and

market linkage development with CIGs, Market Management Committee (MMC), POs and CCMCs.

For capacity building, 30 nos. Local Business Facilitator (LBFs) received two batches refreshers training on the topic of PHM, food safety, marketing, quality assurance, value chain and one batch Market Management training during 2018-19. They got also one foundation and one refreshers training in 2017-18.

Establishing and initiating the CCMCs

Nine (09) Commodity Collection and Marketing Centre (CCMCs) could be initiated by the end of 2017-18. During FY2018-19 rest of the 21 CCMCs were established and all 30 CCMCs at 30 cluster upazilas under 22 districts were brought into function.

List of the CCMCs with location

Sl. No.	Upazila	District	Location of the CCMC
1	Birganj	Dinajpur	Birganj hat
2	Chirirbandar	Dinajpur	Hatkhola Bazaar
3	Parbatipur	Dinajpur	Khayerpukurhat
4	Mithapukur	Rangpur	Baldipukur Bazaar
5	Palashbari	Gaibandha	BRAC Sobji Bazaar
6	Shibganj	Bogura	Chandihara Bazaar
7	Bogura Sadar	Bogura	Pollimangal Hat
8	Naogaon Sadar	Naogaon	Tetulia Bazar
9	Baraigram	Natore	Bonpara Bazaar
10	Godagari	Rajshahi	Bashlitola Bazaar
11	Kaliganj	Jhenaidah	Kaliganj Bazaar
12	Jhikorgachha	Jashore	Barbakpur Bazaar
13	Jashore Sadar	Jashore	Churamonkathi
14	Bagharpara	Jashore	Dadpur Bazaar
15	Nakla	Sherpur	Tarakanda bazaar
16	Islampur	Jamalpur	Islampur Bazaar
17	Delduar	Tangail	Putiajani Bazaar
18	Madhupur	Tangail	Kuragachha Bazaar
19	Muktagachha	Mymensingh	Gabtali Bazaar
20	Kishoreganj Sadar	Kishoreganj	Mulshotal
21	Kapasias	Gazipur	Chandpur Bazaar
22	Shibpur	Narshingdi	Kharakmara Bazaar
23	Belabo	Narshingdi	Baroicha Bazaar
24	Raipura	Narshingdi	Lochonpur Bazaar
25	Savar	Dhaka	Horindhara Bazaar
26	DakkhinSurma	Sylhet	Rakhalganj Bazaar
27	Sreemangal	Moulvibazaar	Notun Bazaar
28	Chandina	Cumilla	Nimsar Bazaar
29	Mirsarai	Chattogram	Bhangadokan
30	Khagrachhari Sadar	Khagrachhari	Shibmondhir Bazaar

Logistics and support provided to the CCMCs

For full functioning of the CCMC, logistics and technical supports were provided to the CCMCs like basic furniture of office table and chairs.

The operational items for PHM activities, i.e. weighing machine, sorting mat, plastic crates, rickshaw van, grading table, washing facility, ceiling fans for drying were provided and are being used. Running water for washing had been an issue, and to start with, plastic buckets were provided. 23 CCMCs are fitted with a full washing facility complete with source tube well, pipes, pump machine, overhead tank and a wash-bay (house).

Formation of Producer Organization (PO)

During the reporting period, all of the 30 POs, 30 Market Management Committee (MMC) and 30 Market Linkage Committees have been formed and mobilized functioning value chain development and market linkage activities centering CCMC.

The MMCs are regularly organized and attended monthly meeting at the CCMCs, and getting engaged in business discussions regarding market linkage, savings, plans for AIF-3 project etc.

Marketing of agro-commodity from CCMCs

More than 6137 metric tons of agricultural commodities were sold through the CCMCs up to June 2019. It includes the amount of 1065.31 tons marketed from 2016-17 & 2017-18.

During the year 2018-19, a total of 5071.807 tons were marketed through the CCMCs.

FY2016-17	FY2017-18	FY2018-19	Total
100 MT	965.31MT	5071.807 MT	6137 MT
Only the CCMC at Parbotipur functioned during this period under SCDC of NATP Phase-I	Only CCMC of Belabo, Shibpur, Raipura, Delduar, Savar functioned during this period	All 30 CCMCs functioned at 30 cluster upazilas under 22 districts	Most traded items were brinjal followed by lemons and country bean

Export of vegetables through the CCMCs

A significant achievement during 2018-19 had been export of vegetables to the countries like, Malaysia, Dubai, Qatar and Saudi Arabia using the facilities of some of the CCMCs. Over 770 metric tons of vegetables have been exported. Mostly brinjal, teasel gourd, bottle gourd, bitter gourd, lemon and potato have been exported to these countries. Over 700 tons have been exported using the CCMCs at Shibpur & Belabo of Narshingdi, Mithapukur of Rangpur Madhupur of Tangail and Chandina of Cumilla districts during July 2018 to June 2019. A total of 14 companies were involved in these vegetable exports.

Facilitation of market linkage activities

Hortex Foundation adopted CIG, MMC, PO, CCMC and Collection Point based approach for improving market linkages for the farmers as it is one of the most important activities developing value chains of high HVCs in NATP-2. During the reporting period, different facilitation of market linkage meetings were organized with the CIGs, MMCs, POs, traders, exporters, DAE officials. And thus visited CCMC of Khorokmara Bazar, Shibpur; Baroicha Bazar, Belabo and Lochonpur Bazar, Raipura upazila, Narsingdi held on 14 June 2019 with the team of Ministry of Agriculture and PMU-NATP2 observing three CCMC activities like PHM (washing, grading, sorting, packaging), benefits of CIG farmers & Members of Producer Organization (POs) involving CCMC and also benefits of traders supplying vegetables to the exporters using CCMC where Mr. Sanat Kumar Saha, Additional Secretary (Ext.), MOA and PD of NATP-2 attended. The team further visited Farmers Information & Advice Centre (FIAC) of DAE at Panchdona Union, Shibpur upazila to see their activity.

Trader-farmer-extension worker linkage

Hortex Foundation has taken initiative to organize a platform where local traders join with representatives of the MMC/PO, and selected SAAOs in a market-linkage committee under the chairmanship of UAO for market-linkage development. The Foundation is facilitating the market linkage process also by identifying prospective buyers at regional or national level so that the scope for product marketing of the CCMCs can be widened.

Participation in fair

During the reporting period, Hortex Foundation was participated three National Fairs namely 4th National Development Fair-2018, National Food Fair-2018, National Vegetables Fair-2019 with the financial support of NATP-2.

National workshop



Hortex Foundation organized a “National Workshop on Postharvest Management of Fruits and Vegetables for Food Safety & Quality Assurance” under NATP-2 held on 06 Feb. 2019 at its conference room. Mr. Mohammad Mahfuzul Hoque, Chairman, Bangladesh Food Safety Authority (BFSA) attended the workshop as Chief Guest, Mr. Mir Nurul Alam, DG, DAE; Dr. Msmt. Nazmanara Khanum, DG, DAM; Dr. F. H. Ansarey, MD & CEO, ACI Agribusiness Special Guests while Mr. Sanat Kumar Saha, Additional Secretary (Ext.), Ministry of Agriculture Chaired the workshop. Mr. Md. Manzurul Hannan, MD had given welcome address while the workshop anchored by Mr. Mitul Kumar Saha, AGM, Hortex Foundation.

Keynote paper was presented by Dr. Md. Atiqur Rahman, PHM Expert, NATP-2, Hortex Foundation. Technical session was chaired by Kbd. Md. Hamidur Rahman, Expert Member, APA, Ministry of Agriculture & supported by team of Mr. Md. Monjur Hasan Bhuiyan, DPD, NATP-2, Ms. Shushmita Anis, MD, ACI Formulations Ltd. and Prof. Dr. Kamrul Hassan, Dept. of Horticulture, BAU, Mymensingh. A total of 93 diverse participants attended the workshop and some participants were took part the open discussion. Finally, vote of thanks given by Mr. Mitul Kumar Saha, AGM (Marketing), Hortex Foundation.

Documentation and publications

Published two training manuals (in Bengali) on improved PHM of HVCs and Producer Organization; Annual Progress Reports 2016-17 & 2017-18; Booklet on pack house based improved PHM of fruits & vegetables; Poster depicting traditional vs. improved PHM on banana; Video clips on improved PHM practices of banana and distributed to related officials, LBF, CCMC, UAO, CIG, PO-MMC and most of the FIACs of 30 pilot upazilas.

Procurement

During the reporting period 2018-19, completed total of 14 procurement packages (Goods-11 nos. and Services-3 nos.) under NATP-2.

Financial progress

Financial progress in 2018-19: BDT 430.99 lakh as per RADP BDT 450.00 lakh (IDA & IFAD), 96% financial progress.

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