

Adaptive research support for export promotion

Identification/Detection of Coconut mite, *Aceria guerreronis* Keifer in Dry Coconut for export to Russia (March 08, 2016)

Several pieces of dry coconut (without husk) were supplied to Bangladesh Agricultural Research Institute (BARI) by the exporter M/S Greentex Ltd. through Hortex Foundation. Supplied samples were preserved in the Laboratory of Entomology Division, BARI, Joydebpur, Gazipur about 10 (ten) days in the room temperature of $27 \pm 2^\circ\text{C}$ and 60-70% relative humidity for different examination.

Research Methodology

Observation: Three different types of observation were done.

- i) **Physical observation:** Randomly five dry coconuts were taken from the lot and physical observation was done by three senior scientists of BARI separately. Magnifying hand lens (10X) and camel hair brush (0.5mm) were used and checked thoroughly.
- ii) **Microscopic observation:** After physical observation, same numbers of dry coconuts were used for microscopic observation. A Stereo Zoom Microscope with monitor (Olympus SZ 61 & DP 22 photographic attachment) was used for this observation. All three scientists were observed individually under the microscope. Entire body of the dry coconut was observed under the microscope.
- iii) **Scrap observation:** After physical and microscopic observation, sampled coconuts were used for laboratory test. From each coconut randomly five different areas of the surface were selected for scraping. A total of 25 scrape samples were collected and kept it in the petridishes for ten days. After ten days, all the Petri dishes were checked under the microscope whether the neonate mites were coming out after completing life cycle or not. Normally a coconut mite develops from egg to adult in 10 days.

Results:

From physical & microscopic observation, it was revealed that there was no mite and any other insect pests observed in the supplied dry coconuts. Scrap observation was also checked after ten days. In the scrapped samples no mites and other insect pests were also observed.

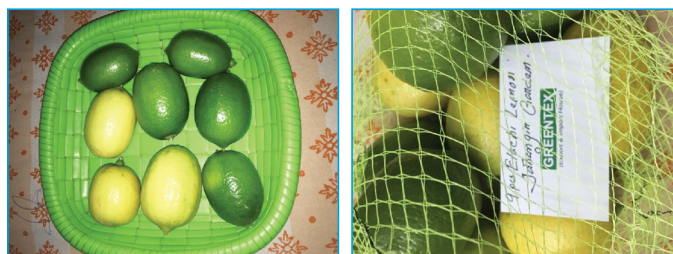
Findings:

The coconut mite, *Aceria guerreronis* Keifer, attacks **young fruits** of the coconut palm, *Cocos nucifera* L. Early-stage infestation of a young coconut is often detectable.

Normally peak densities of *A. guerreronis* on 3 to 4 months old fruits and declined thereafter. In the dry un-husked coconut there is no chance of any infestation of coconut mites, which has been reflected in the laboratory report where no mite and other insect pests were observed in the supplied dry coconut. **So, the supplied dry coconuts were totally quarantine insect pest free and suitable for export.**



Lab test of lemon for export to Russia (Feb 25, 2016)



As per request of Hortex Foundation for lab test of lemon, Plant Pathology Division of BARI conducted a lab test and tested the samples of lemon supplied by Hortex Foundation in favor of an export firm Greentex Ltd for exporting to Russia. After lab test, BARI did not find any infection of Citrus Canker (*Xanthomonas axonopodis* pv. *Citri*), black spot (*Guignardia Citricarpa*) and fungal disease (*Cercospora angolensis*) in all the lemon samples.

Brown rot bacteria (*Ralstonia solanacearum*) test of potato for export to Russia (Feb 25, 2016)



As per request of Hortex Foundation for Brown rot bacteria lab test of potato, TCRC of BARI conducted a lab

test and tested the samples of potato supplied by Hortex Foundation randomly collected from Sherpur (Diamant & Cardinal), Bogra (Cardinal), Rangpur (Laura) in favor of an export firm Greentex Ltd for exporting to Russia. After lab test using Kelman's TZC Agar test, TCRC of BARI find presence of *Ralstonia solanacearum* (+++) in all the potato samples.

Sweet potato test cultivation (Dec 22, 2017)

Hortex Foundation supported Maruhisa Pacific Co Ltd to conduct a test cultivation of sweet potato in Sherpur Sadar Upazila on Dec 2017 using Japanese variety for export promotion. Highlights of sweet potato test cultivation are given below:

Producer company: Naruto Japan Co. Ltd. a sister concern of Maruhisa Pacific Co., Ltd., Bangladesh.

Purpose:

- to know the yield of Japanese Sweet potato variety at Sherpur Sadar Upazila
- finally processing of the Sweet potato to export in Japan and selling in the local market

Farming system: Contract farming following DAE

Farmers introduced by: Hortex Foundation and DAE

Cultivation method: Japanese

Fertilizer dose: As per TCRC of BARI recommendation

Sweet potato variety: Anno Beni (purple skin and yellow flesh) and Anno Kogane (golden skin and yellow flesh)

Life cycle: 120 days

Average yield (t/ha): 17.13

Cultivation period: December 2017 to April 2018

The production details are given below in following table:

Farmers	Location	Land area (acre)	Production (ton)	Yield (t/ha)
Afzul Hossain	Betmari, Sherpur Sadar, Sherpur	0.23	2.01	21.54
Shazahan	Betmari, Sherpur Sadar, Sherpur	0.30	2.11	17.34
Mijanur Rahman	Betmari, Sherpur Sadar, Sherpur	0.18	0.81	11.14
Total		0.71	4.93	17.13 (avg.)



Farmer Afzul transplanting Sweet potato vines in his land



Farmer's Sweet potato field



Farmer Afzul shows no. of Sweet potatoes in a vine



Sweet potato collection after harvesting

Benefits of hot water treated banana

As per meeting with an International Consultant M. Senthil Kumar at Hortex, he expressed his consultancy experience in Ghana on banana hot water treatment using immediate after harvest by 48-50°C for 10 minutes benefiting shelf life increment, control ripening delay, disinfect of insects and diseases to keep the fruit long time storing at 13-15°C and 85-90% RH for 6 weeks. Hot water treatment control enzymes to produce ethylene delaying 4-6 days. Before hot water treatment of banana, 80-85% harvesting index should be followed for export.

Fruits & vegetables storage requirement in reefer container during export

Analysis of produce storage compatibility

When storing different types of produce in the same area/reefer container, it is crucial to consider the optimum storage conditions of each commodity. Mixed produce that is stored together must be compatible in terms of temperature, relative humidity (RH) and production and sensitivity to ethylene.

Use this compatibility guide to determine which fruits and vegetables may be stored together. Since most storage

areas do not have six different compartments, some compromises may be made (*specifically for temperature and humidity levels*). When mixing commodities, let the more valuable ones determine the storage conditions of the rest.

Group-1: Fruits and vegetables, temperature 10°C and 85-90% RH

- a. Beans
- b. Cucumber
- c. Egg Plant
- d. Okra
- e. Potatoes

Group-2: Fruits and vegetables, temperature 13°C to 15°C and 85-90% RH (many products in this group produce ethylene)

- a. Banana
- b. Carambola
- c. Coconuts
- d. Guava
- e. Jackfruit
- f. Lemons
- g. Mangoes
- h. Papaya
- i. Pineapple
- j. Pumpkin

Capacity building program

During the reporting period January 2016-June 2018, Hortex Foundation organized different capacity building program like ToT, training, seminar/workshop and its officials also participated following major events:

1. Bangabandhu National Agricultural Award-1420 program held on 07 Jan 2016 at Osmani Smrity Auditorium organized by MOA, GOB. Hon'ble Prime Minister, Sheikh Hasina was present as the Chief Guest while Matia Chowdhury MP, Hon'ble Minister, MOA, GOB presided over the event.
2. FAO organized technical workshop at Lake Castle Hotel, Gulshan-2 during 17-19 Jan 2016 on Food Safety Risk Assessment: Enhancing Capacity for Science-based Decisions in Regulatory Food Control. The workshop was facilitated by FAO Senior Technical Expert, Prof. Alan Reilly and other Food Safety Experts. It was organized through an USAID-funded project "Institutionalization of Food Safety in Bangladesh for Safer Food.
3. Workshop on "Bangladesh Food Laboratory Conclave" held on 22 Feb 2016 at Mukti Seminar Hall, Power Development Board, Abdul Gani Road, Dhaka organized

by Bangladesh Accreditation Board (BAB), Bangladesh Food Safety Authority (BFSA) and FAO. Advocate Md. Qamrul Islam MP, Hon'ble Minister, Ministry of Food, GOB was present as the Chief Guest, Mr. Mike Robson, FAO Representative in Bangladesh was present as the special guest while Mr. Md. Abu Abdualh, Director General, BAB presided over the event. Mr. Mustak Hassan Md. Iftexhar, Chairman, BFSA chaired the morning session of the event.

4. Meeting on potato export promotion to Thailand, Philippines, Vietnam and Indonesia held on 24 Feb 2016 organized by EPB at their conference room, Karwanbazar, Dhaka-1215. The meeting was chaired by Begum Mafruha Sultana, VC, EPB. AGM (Marketing), Hortex Foundation shared guidelines and strategies in the meeting promoting export of potatoes as per short, mid and long term basis.

5. Certificate Award Ceremony and Review Workshop "Implementing Food Safety in Agricultural Value Chains" held on 27 Feb 2016 organized by FAO-FSP. Mr. Md. Hamidur Rahman, DG, DAE presided over the event. Md. Maksudul Hasan Khan, Secretary, MOFL, GOB attended as the chief guest. Md. Mosharraf Hussain, Addl. Secretary (Extension), MOA, GOB and Mr. Mike Robson, FAOR attended as the special guests.

6. Training on Trade Foundation Course for Commercial Counsellors organized by Bangladesh Foreign Trade Institute (BFTI) held on 28 Feb 2016 at BFTI conference room, Karwanbazar, Dhaka. Mr. Mitul Kumar Saha, AGM (Marketing), Hortex Foundation presented the technical paper highlighting export potential of agro-commodities of Bangladesh exploring niche markets in abroad.

7. Meeting held on 10 March 2016 at FAO-FSP, Mohakhali, Dhaka to discuss progress review of horticultural value chain activities under FAO-FSP, Horticulture sub-sector implemented by Hortex Foundation in collaboration with DAE.

8. FGD on Analysing Export Readiness of Vegetable Sector of Bangladesh held on 28 March 2016 organized by BFTI at their conference room. Mr. Mitul Kumar Saha, AGM was given expert opinion promoting export of vegetables in line with the experiences of Hortex.

9. Progress review meeting of Hortex LOA activities under FAO-FSP held on 29 March 2016 at FAO-FSP, Mohakhali, Dhaka.

10. Training program on Rules and Procedures for Import, Export and Customs held on 31 March 2016 organized by BFTI at its conference room. Mr. Mitul Kumar Saha, AGM presented the technical paper "Prospects of Agro-medicinal Plants and Herbal Products – Major Challenges Faced by the Exporters".

11. Meeting held on 17 April 2016 at MOA on National Fruit Exhibition-2016 chaired by the Secretary, MOA. AGM, Hortex Foundation attended the meeting and requested to the Secretary, MOA providing financial support to Hortex Foundation from the allocated budget of fruit exhibition for raising good stall promoting export of agro-commodities.

12. Workshop to validate “Guidelines on Improving Food Safety in Horticultural Value Chains held on 26 April 2016 at BARC conference room organized by FAO-UN, FSP and BARC. Mr. Md. Mosharraf Hussain, Addl. Secretary (Extension), MOA, GOB attended as the chief guest while Dr. Md. Abul Kalam Azad, EC, BARC presided over the event. Dr. Md. Abdul Jalil Bhuyan, MD, Hortex Foundation presided over the technical session. Mr. Mitul Kumar Saha, AGM, Hortex Foundation attended as the rapporteur. A draft guideline of food safety was presented by Dr. Md. Saleh Ahmed, FAO-FSP.

13. Meeting held on 28 April 2016 at MOA on Annual Development Program (ADP) of FY2015-16 chaired by Matia Chowdhury MP, Hon’ble Minister, MOA. Mr. Mitul Kumar Saha, AGM, Hortex Foundation attended as the representative of MD, Hortex and no issues were discussed about Hortex Foundation and NATP-2.

14. First meeting of Technical Advisory Group (TAG) on CDAIS held on 05 May 2016 at BARC, Farmgate, Dhaka chaired by Dr. Abul Kalam Azad, EC, BARC. Mr. Mitul Kumar Saha, AGM, Hortex Foundation attended the meeting and given expert opinion for implementation mechanism of CDAIS in Bangladesh.

15. Workshop on Total Quality Management (TQM) held on 12 May 2016 at National Academy for Planning and Development (NAPD), Nilkhet, Dhaka chaired by DG, NAPD. The workshop was organized by NAPD, Ministry of Planning, GOB where AGM (Marketing), Hortex Foundation attended.

16. Training workshop on Critical Path Method (CPM) in Development Projects held on 24 May 2016 at training room (2nd floor), training building, BARC organized by Planning and Evaluation Division, BARC. Mr. Mahbubul Haque Patowari, Deputy Chief (Planning), MOA attended as the special guest. Dr. Abul Kalam Azad, EC, BARC attended as the chief guest while Dr. Paresh Chandra Golder, Member Director (P&E), BARC presided over the event. Mr. Dipak Kumar Sarker, Deputy Chief, Planning-2, MOA presented the keynote paper.

17. The 2nd National Consultation on Country Investment Plan in the Environment, Forestry and Climate Change Sectors held on 31 May 2016 at Carnival Conference Hall, BICC, Agargaon, Sher-e-Bangla Nagar, Dhaka organized by the Ministry of Environment and Forests in association with the project

“Strengthening the Environment, Forestry and Climate Change Capacities of the Ministry of Environment and Forests & its Agencies” with FAO support and funding from the USAID. Mr. Anwar Hossain Manju, Hon’ble Minister, MOEF attended as the chief guest while Dr. Kamal Uddin Ahmed, Secretary, MOEF, GOB presided over the event.

18. National dialogue on “Enabling Policy Environment for Mango Marketing” held on 06 June 2016 at the Dhaka Chamber of Commerce & Industry (DCCI) auditorium, Motijheel, Dhaka organized by DCCI in cooperation with DAI: USAID’s Agricultural Value Chains project. Mr. Mohammad Nazmul Islam, Addl. Secretary (PPC), MOA, attended as the chief guest while Mr. K. Atique-E-Rabbani, FCA, Vice President, DCCI presided over the event. In the open discussion, Mr. Mitul K. Saha, AGM Hortex emphasized that private sector should come forward to invest agricultural R&D, capacity building of supply chain actors, implementation of GAP, traceability, PHM, vapor heat treatment (VHT) of mangoes, develop farm to market approach and institutional strengthening of Hortex Foundation for the betterment of agricultural marketing development in Bangladesh. DCCI & USAID can support with technical & financial investment for ensuring safe mango among other agro-commodities both for domestic and export markets, Mr. Saha added.

19. Evaluation of National Budget FY2016-17: Bangladesh Agriculture Perspective held on 11 June 2016 at BARC auditorium organized by Bangladesh Agricultural Economists Association (BAEA). Mr. Abul Maal Abdul Muhith MP, Hon’ble Minister, Ministry of Finance, GOB attended as the chief guest while Prof. Dr. Shamsul Alam, Member (GED), Bangladesh Planning Commission (Senior Secretary) presided over the event.

20. Workshop on Explore Bangladesh through Vegetables and Fruits Export held on 12 June 2016 at Grand Prince Hotel, Mirpur-1 organized by Fasal Agro Industries Ltd in cooperation with a2i, Prime Minister’s Office and Hortex Foundation. Mr. Mitul K. Saha, AGM, Hortex presented the technical paper highlighting export potential of fruits, vegetables and potato in Bangladesh.

21. National seminar on “*Falodo Brikkha Ropon Pokkha-2016*” held on 16 June 2016 at KIB organized by MOA. Mr. Tofail Ahmed MP, Hon’ble Minister, MOC, GOB attended as the chief guest. Matia Chowdhury MP, Hon’ble Minister, MOA, GOB and Mr. Md. Mokbul Hossain MP, Hon’ble Chairman, Agriculture Ministry related Parliamentary Standing Committee attended as the special guests. Dr. Abul Kalam Azad, EC, BARC was present as the guest of honor. Inaugural speech was given by Kbd. Md. Hamidur Rahman, DG, DAE. Keynote paper was presented by Dr. Md. Mahbubur Rahman, VC, BSMRAU, Salna, Gazipur. Mr. Mohammad Moinuddin Abdullah, Secretary, MOA presided over the seminar.

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22. Closing session of Fruits Fair-2016 held on 18 June 2016 at Gias Uddin Milky Auditorium organized by MOA. Mr. Md. Mosharraf Hussain, Addl. Secretary (Extension), MOA attended as the chief guest while Kbd. Md. Hamidur Rahman, DG, DAE presided over the event. Hortex stall awarded special prize for participating the fair and displaying quality and good numbers of fruits.
23. Farmers training on green chilli export to Dubai held on 19 July 2016 at Mohadebpur Union, Shibalaya upazila, Manikganj organized by Fasal Agro Ind. Ltd in cooperation with Hortex Foundation. Mr. Mitul K. Saha, AGM, Hortex attended the training program as trainer.
24. ADB Accountability Mechanism held on 21 July 2016 at Pan Pacific Sonargaon Hotel, Dhaka organized by the Asian Development Bank.
25. Promotion of food processing industry in Bangladesh: problems, opportunity and necessary steps held on 31 July 2016 organized by Export Promotion Bureau (EPB).
26. Union Digital Center (UDC) entrepreneurs training, Chittagong held on 20 August 2016 organized by Fasal Agro Ind. Ltd in collaboration with a2i Prime Minister's Office and Hortex Foundation for exporting fruits and vegetables to the non-resident Bangladeshi importer through UDC. Mr. Mitul K. Saha, AGM, Hortex Foundation attended the training program as trainer.
27. e-Learning course on value addition to agrifood products held on Aug. 29 to Sept. 01, 2016 at BRAC University, Dhaka jointly organized by National Productivity Organization (NPO), Ministry of Industry, Bangladesh and Asian Productivity Organization (APO), Japan.
28. 04 daylong National Innovation Facilitators' (NIF) training programme held on 17-20 October 2016 at the Bangladesh Academy for Rural Development (BARD), Comilla, Bangladesh organized by the FAO and CDAIS Agrinatura (UK) on Capacity Development for Agricultural Innovation Systems (CDAIS).
29. UNNExT Workshop on "Promoting Cross-border Agricultural Trade for Sustainable Development" held on 28-30 November 2016 at UNCC in Bangkok, Thailand organized by ESCAP in collaboration with the United Nations Economic Commission for Europe (UNECE) and the Agricultural and Food Marketing Association for Asia and the Pacific (AFMA). Mr. Mitul K. Saha, Hortex Foundation attended the workshop from Bangladesh.
30. Review workshop on matured technology developed by NARS Institutes (2013-14 to 2015-16) held on 3-4 Jan 2017 at BARC organized by BARC.
31. 04 daylong training on value chain management of economically important horticultural crops in Bangladesh for the officers of MOA agencies held on 06-09 February 2017 at National Agriculture Training Academy (NATA), Joydebpur, Gazipur organized by NATA and technically assisted by Hortex Foundation. Mr. Mitul K. Saha, AGM, Hortex attended the training program as trainer.
32. Market transformation workshop organized by the Embassy of the Kingdom of the Netherlands in partnership with the World Bank, the Embassy of Sweden, Dhaka and iDE held on 14 Feb 2017 at the Radisson Blu Dhaka Water Garden.
33. Workshop on strengthening market and value chains for safe fruit and vegetables in Bangladesh held on 27 March 2017 at NEC II conference room, ERD organized by ADB.
34. Technical video conference with DG Health and Food Safety of European Commission on mango export held on 26 April 2017 at the conference room of Ministry of Agriculture, Bangladesh Secretariat, Dhaka.
35. Seminar on Potato: A potential agro-product for export held on 15 May 2017 at EPB conference room organized by EPB, Mr. Mitul K. Saha, AGM (Marketing), Hortex Foundation attended as the Keynote Speaker.
36. Two Central Orientation Workshop held on 22 & 23 May 2017 at Gias Uddin Milky Auditorium organized by PIU-NATP2-DAE. Mr. Mitul K. Saha, AGM (Marketing), Hortex Foundation given technical paper on value chain development and market linkage activities in NATP-2 for the UAOs and DD's of DAE as participants of the events.
37. Meeting with Mr. SATO Hitoshi, GM, Food Dept and Mr. Mezbaul Islam Mizu, Maruhisa Co. Ltd held on 30 May 2017 for sweet potato test cultivation using Japanese farming system and HYV at Sherpur Sadar Upazila.
38. Meeting at MOA on action plan implementation for food processing as per road map of EPB held on 13 July 2017 chaired by Mr. Mahbulul Islam, Joint Secretary.
39. 3rd meeting on National Task Force Committee on opportunity of food processing industry held on 19 July 2017 chaired by Mr. Shubhashish Bose, Secretary, MOC.
40. Training program on web portal operation and content management held on 29-30 July 2017 organized by BAEN at SAU for strengthening agricultural advisory services.
41. First TAG Task Force meeting of CDAIS held on 08 August 2017 at SAC organized by BARC and chaired by EC, BARC & Convener, TAG-Task Force of CDAIS.
42. Global GAP and Bangladesh GAP training at Ascott Palace Ltd, Baridhara, Dhaka held on 08-11 Aug. 2017

organized by BFSA in collaboration with FAO and conducted by National Accreditation Board for Certification Bodies (NABCB), India.

43. Meeting with a Katalyst (Swisscontact) team held on 20 August 2017 on export readiness study of potato, mango, pineapple, betel leaf and flowers.

44. Meeting with Dr. Heidi Wernett, MD, Kunming Heidi Horticulture Company Ltd and DAI team held on 23 August 2017 on flowers export promotion.

45. Agricultural Innovation Market Place event under CDAIS held on 13 Sept. 2017 jointly organized by BARC & FAO at BICC. Mr. Fazle Wahid Khondaker, Addl. Secretary, MOA attended as the chief guest.

46. Workshop on Online Shop, e-ticketing and vegetable export held on 20 Sept. 2017 organized by air world & digi world and supported by a2i programme at DC Office, Narsingdi. AGM (Marketing), Hortex presented a presentation on export opportunity of fruits and vegetables in Bangladesh. Mr. Mohammad Mozammel Hoque, DC (in charge), Narsingdi attended as the chief guest.

47. Market Management Committee of Central Market, Gabtali, Dhaka meeting held on 04 Oct. 2017 at DAM chaired by DG, DAM.

48. Workshop on adoption of standards promoting export quality fruits & vegetables in Bangladesh held on 11 Oct. 2017 organized by EPB and chaired by Mr. Bijoy Bhattacharjee, VC EPB. Prof. Dr. Kararul Hassan, BAU presented the keynote paper.

49. Second TAG Task Force meeting of CDAIS held on 24 Oct. 2017 at BARC and chaired by Dr. Bhagya Rani Banik, EC, BARC.

50. Meeting at MOA held on 06 Nov. 2017 highlighting potato production quantity and variety selection committee chaired by Addl. Secretary and DG, Seed Wing, MOA. Hortex Foundation submitted written recommendations for promoting export of potatoes.

51. Study findings sharing meeting at MOC held on 28 Nov. 2017 on export readiness of agricultural commodities in Bangladesh: Betel leaf, pineapple, floriculture, mango and potato conducted by ATC-P and chaired by Mr. Shubhashish Bose, Secretary, MOC.

52. Meeting with Md. Ashraf Hossain, MD, Joyeeta Foundation held on 04 Dec. 2017 as joint work initiative between Hortex and Joyeeta Foundation for supporting and promoting women in agribusiness initiatives.

53. Launching ceremony of the project “Feed the Future Biotechnology Potato Partnership” held on 13 Dec. 2017 at BARC organized by BARI. Matia Chowdhury MP, Hon’ble Minister for MOA attended as the Chief Guest.

54. Training workshop on Climate Resilient Value Chain Analysis for Agriculture held on 18 Dec. 2017 at CIRDAP organized by ICCCAD. Md. Manzurul Hannan, Managing Director, Hortex Foundation attended as the Chief Guest.

55. Meeting with Mr. Shubhashish Bose, Secretary, MOC held on 18 Dec. 2017 at Bangladesh Secretariat on export promotion of fruits and vegetables. Mr. Bose suggested creating awareness using potato starch from Bangladesh potato by the RMG manufacturers. He further mentioned that fresh mango, potato, guava, jackfruits, honey should be promoted for export by Hortex Foundation.

56. Seminar on efficient and nutrition sensitive postharvest transformation and value addition to agro-processed products organized by BAPA held on 21 Dec. 2017 at Daffodil Int’l University.

57. Training on improved postharvest handling of fruits and vegetables under AFACI postharvest project held on 27-28 Dec. 2017 organized by BARC.

58. Opening ceremony of 23rd Dhaka Int’l Trade Fair-2018 held on 1st Jan. 2018 inaugurated by Hon’ble Prime Minister Sheikh Hasina as the Chief Guest.

59. ToT for Local Business Facilitator (LBF) on PHM practices, food safety, marketing and quality assurance held on 8-9 Jan. 2018 organized by Hortex Foundation under NATP-2. Mr. Shah Muhammad Nasim, ndc, PD (Addl. Secretary), NATP-2 attended as the Chief Guest.

60. ToT for capacity building of DAE & Hortex staff on production planning, business plan, marketing, contract farming, PHM, value addition and food safety held on 23-24 Jan. 2018 organized by Hortex Foundation under NATP-2. Mr. Md. Abdul Aziz, DG, DAE attended as the Chief Guest.

61. ToT for capacity building of DAE & Hortex staff held on 29-30 Jan. 2018 organized by Hortex Foundation under NATP-2. Mr. Anwar Faruque, Former Secretary, MOA attended as the Chief Guest.

62. ToT for capacity building of DAE & Hortex staff held on 12-13 Feb. 2018 organized by Hortex Foundation under NATP-2. Kbd. Md. Abdul Hannan, Director. FSW, DAE attended as the Chief Guest.

63. Inaugural ceremony of the organic farming, safe food and eco-friendly products fair-2018 held on 16 Feb. 2018 at BARC chaired by Dr. Abul Kalam Azad, DG, BARI.

Mr. Mohammad Nazmul Islam, Addl. Secretary (PPC), MOA attended as the Chief Guest.

64. ToT for capacity building of DAE & Hortex staff held on 18-19 Feb. 2018 organized by Hortex Foundation under NATP-2. Kbd. Md. Manzurul Hannan, Managing Director, Hortex Foundation given inaugural speech to the DAE's BCS Cadre participants.

65. ToT for capacity building of TARANGO's beneficiaries held on 18-20 Feb. 2018 on PHM of high value crops. Mr. SM Abu Zaar and Mr. Keshab Lal Das attended as the resource speakers from Hortex Foundation as newly appointed Expert Pool Members of Hortex.

66. Training on value chain management of economically important horticultural crops in Bangladesh held on 04-07 March 2018 organized by NATA for the participants of MOA agencies. Mr. Mitul K. Saha, AGM, Hortex presented three technical papers highlighting export potential of horticultural crops, potato and comprehensive value chain analysis of brinjal promoting export.

67. Meeting with PKSf held on 05 March 2018 highlighting joint facilitation of agro-commodity processing, storage and marketing development.

68. 28th Agriculture Ministry related Parliamentary Standing Committee meeting on 10th National Assembly held on 15 March 2018 at National Parliament Chaired by Mr. Md. Mokbul Hossain MP.

69. Hortex Foundation organized 10 batches ToT for capacity building of AAEOs/SAAOs held between March to April 2018 under NATP-2 where 300 participants attended.

70. Meeting held on 27 March 2018 at MOA on evaluation of vegetables, fruits, potato, betel leaf, jackfruits export status using central pack house and preparation of new project on agro-commodity processing and marketing as per direction of Hon'ble Prime Minister.

71. Meeting held on 08 April 2018 at WTO Cell, MOC on SPS issues chaired by Mr. Md. Munir Chowdhury, DG, WTO Cell.

72. ToT for LBF on financial products available and proposal preparation & refreshers course held on 24-25 April 2018 organized by Hortex Foundation under NATP-2 where 30 participants attended.

73. Training on Intellectual Property Rights held on 08 May 2018 organized by Crops Division, BARC where AGM (Marketing), Hortex Foundation attended.

74. Training on phytosanitary measures and food safety issues in Bangladesh held on 09 May 2018 organized by Crops Division, BARC.

75. Hortex Foundation organized 64 batches of CIG training for capacity building of male & female farmers held between 21 May – 26 June 2018 under NATP-2 where 1913 CIG farmers' incl. 300 women attended.

76. Seminar on ensuring food safety and increasing nutrition to build healthy nation held on 27 June 2018 organized by BIRTAN.

Highlighted activities of FAO-FSP implemented by Hortex Foundation & DAE

“Development of Food Control Guidelines and Pilot Implementation across the Horticultural Value Chain” a sub-project funded by the Food and Agriculture Organization of the United Nations (FAO-FSP) and implemented by Hortex Foundation during October 2014 March 2016 in collaboration with the Department of Agricultural Extension (DAE) in 27 upazilas with 520 lead farmers.

Activities performed under FAO-FSP

- i. Review of literatures related to food safety in horticultural value chain
- ii. Development of food safety GAP guidelines
- iii. Organized a national workshop for validation of food control guidelines
- iv. Prepared training modules/materials for conducting certified master trainers (MTs)
- v. Prepared training materials for conducting certified lead trainers training program
- vi. Prepared training materials for lead farmers and value chain actors
- vii. Training of value chain actors
- viii. Refresher training of certified master trainers
- ix. Refresher training of certified lead trainers
- x. Refresher training of lead farmers
- xi. Laboratory testing of mango samples
- xii. Training on Good Manufacturing Practices (GMP)
- xiii. Selection of pilot trial participants and pilot implementation
- xiv. National Committee Members of Mango Action Plan visited mango orchards by FAO-FSP
- xv. Organized field days
- xvi. Organized workshop on IT based monitoring system and distribution of IT materials
- xvii. Organized study tour in Thailand
- xviii. Prepared farm record book for safe fruit and vegetables production
- xix. Distribution of intervention materials
- xx. Training on auditing of crop farms
- xxi. Farmers-Market linkage development



Output of FAO-FSP

SL No.	Output indicators	LoA Target	LoA Achievements
1	Number of Hortex staff involved in LoA	06	06
2	Training modules developed	03	03
3	No. of Food Safety Guidelines validation workshops held	01	01
4	Number of EWG meetings held	05	03
5	Number of consultative meetings held (Dhaka)	03	03
6	Number of consultative meetings held (Field)	04	04
7	No. of pilot area (upazila) selected	25	27
8	No. of baseline surveys	01	01
9	No. of end line surveys	00	01
10	No. of master trainers done orientation course	30	00
11	No. of master trainers trained on good practices	30	30
12	No. of master trainers received one day refresher training	30	30
13	No. of lead trainers trained in good practices	100	111
14	No. of lead trainers received one day refresher training	100	111
15	No. of lead farmers trained in good practices	500	520
16	No. of actors in value chains trained	50	100
17	No. of lead farmers received one day refresher training	500	520
18	No. of monitoring visits (3 per month/upazila for 4 months) by supervisors	400	400
19	No. of monitoring visits (2 per month/upazila for 4 months) by supervisors	200	200
20	No. of monitoring visits by Hortex officials	28	30
21	No. of lab tests done	600	256
22	No. of field days organized	10	07
23	No. of National GAP standard workshop	1	0

Lessons learned from FAO-FSP

1. Training on food safety and quality assurance in horticulture value chain created significant impact among the stakeholders.
2. The issue of food safety deals with common interest of the population of the country, more mass campaign and practical demonstrations on 10 control keys are required.
3. Building capacity of the public and private sector officials focusing on improving food safety in horticultural value chain emphasizing GAP, HACCP and GMP are needed.
4. Buyers and producer's linkage should be strengthened.
5. Certification system of GAP should be developed immediately.
6. FAO technical assistance in GAP certification system development is essential. The assistance in capacity building of DAE officials for GAP implementation and small scale infrastructure development for PHM, storage and transportation might be the options.

Financial progress of FAO-FSP sub-project

The total expenditure during the FAO-FSP sub-project period was Tk. 1,32,98,648.01 against the received Tk. 1,46,93,516.00. The financial achievement as against the received amount was 90.50%.

Implementation of NATP-2 funded by the World Bank & IFAD

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

Sponsoring Ministry/Division:

- Ministry of Agriculture (MOA), Lead Ministry
- Ministry of Fisheries and Livestock (MOFL)

NATP-2 consists of five components

- C-1: Enhancing Agricultural Technology Generation (PIU-BARC), MOA
- C-2: Supporting Crop Development (PIU-DAE), MOA
- C-3: Supporting Fisheries Development (PIU-DOF), MOFL
- C-4: Supporting Livestock Development (PIU-DLS), MOFL
- C-5: Project Management (PMU), MOA to support the implementation, management and coordination of the NATP-2 project activities.