



ASIAN PRODUCTIVITY ORGANIZATION

PROJECT IMPLEMENTATION PLAN ADDENDUM

12 May 2015

1. **Project Code** 14-AG-05-GE-WSP-B/C-CAM
2. **Project Title** APO National Training Course on Postharvest Management of Fruit and Vegetables for Enhancing Farmers' Income and National Food Security
3. **Timing and Duration:** 16–19 June 2015 (four days)
4. **Venue:** Phnom Penh, Cambodia
5. **Addendum No.** 1
6. **Reference:** APO Project Implementation Plan
14-AG-05-GE-WSP-B/C-CAM dated 20 April 2015
7. **Subject** **Change in Timing**

7-1 Change in Item No. 3 “Timing and Duration”

At the request of the NPCC of Cambodia, the timing of the project has been changed to **22–25 June 2015**.

Unless otherwise modified by the APO in writing, the provisions of the Project Implementation Plan dated 20 April 2015 pertaining to this national training course remain valid.


Mari Amano
Secretary-General



ASIAN PRODUCTIVITY ORGANIZATION

PROJECT IMPLEMENTATION PLAN

20 April 2015

1. **Project Code** 14-AG-05-GE-WSP-B/C-CAM
2. **Title** APO National Training Course on Postharvest Management of Fruit and Vegetables for Enhancing Farmers' Income and National Food Security
3. **Reference** Project Notification 14-AG-05-GE-WSP-B/C dated 20 June 2014
4. **Timing and Duration** 16–19 June 2015 (4 days)
5. **Venue** Phnom Penh, Cambodia
6. **Implementing Organization** National Productivity Centre of Cambodia (NPCC)
Ministry of Industry and Handicraft
No. 45 Norodom Blvd., Phnom Penh, Cambodia
Phone: 855-12-814150
Fax: 855-23-222243
e-Mail: npccambodia@gmail.com
7. **Number of Participants** 50 participants
8. **Objectives**
 - a. To enhance participants' understanding of skills, tools, techniques, and technologies for postharvest handling of fresh fruit and vegetables (FFVs);
 - b. To increase the number of competent consultants, trainers, and practitioners for strengthening postharvest management of FFVs; and
 - c. To formulate recommendations and strategic action plans for strengthening postharvest management systems for FFVs in Cambodia.

9. Background

Small farmers in most developing countries lose a substantial amount of their produce due to poor postharvest handling. In Cambodia, postharvest losses of FFVs are estimated at up to 30%. Postharvest losses mean wastage of the resources utilized in production, storage, and transportation to market, i.e., land, water, fertilizer, seed, labor, energy, and financial investment. Cost-effective, simple-to-adopt tools, techniques, technologies, and approaches that could reduce postharvest losses as well as assure food safety between production and consumption are needed.

The main challenges in postharvest management are inappropriate harvest timing, lack of cooling/cold chain facilities, absence of grading, inappropriate packaging, and inadequate transportation facilities. A lack of awareness and understanding of postharvest handling skills, tools, techniques, and technologies hampers improvement in postharvest management systems. There is an urgent need to create a critical mass of postharvest management specialists in Cambodia through the training of different stakeholders in the horticultural supply chain. Concerted efforts by all stakeholders will be needed.

10. Scope and Methodology

The tentative topics to be covered are:

- a. Overview of postharvest management tools, techniques, technologies, and approaches;
- b. Issues and challenges in reducing postharvest losses in FFV supply chains;
- c. Challenges and opportunities in the marketing of FFVs;
- d. Best practices in preharvest, harvest, and postharvest handling;
- e. Food quality and food safety assurance in FFV supply chains;
- f. Building a cold supply chain for FFVs and its logistics; and
- g. Key success factors in the efficient, effective postharvest management of perishables.

The training course will employ interactive learning methods including interactive lectures, discussions, individual/group exercises, and hands-on applications.

The tentative program itinerary is given below:

Date/Time	Activity
Tues., 16 June	Opening session Training sessions
Wed., 17 June	Training sessions
Thurs., 18 June	Training sessions
Fri., 19 June	Training sessions Program evaluation Closing session

11. Requirements of Participants

Participants should be 25–50 years old, university graduates or equivalent, with at least three years of work experience in the development and management of agricultural production systems and/or implementation and dissemination of postharvest management knowledge, skills, tools, techniques, and technologies, preferably for FFVs.

Participants will be officers of the Ministry of Agriculture, Forestry and Fisheries (MAFF); fruit and vegetable growers; representatives of the Cambodia Agricultural Association(s); postharvest

handlers, wholesalers, and retailers; agricultural extension workers; policymakers/planners; food-processors/manufacturers; and academics in charge of postharvest management of FFVs. Participants should be physically and mentally fit to attend an intensive program.

12. Resource Persons

The APO will assign one overseas resource person. Local resource person(s) will be assigned by the implementing organization(s).

13. Financial Arrangements

To be borne by the host country (Cambodia)

- a. Implementation costs exceeding the APO share of USD10,000.
- b. Project management fees and personnel costs of the NPCC, including transportation of the facilitator(s) and project team to and from the project venue, meeting package for the project team, facilitator(s), and local resource person(s) during the training course, personnel service fees for the development of the program, honorarium for the local resource person(s) if applicable, and consultation meetings with key stakeholders.
- c. Any other local implementation costs.

To be borne by the APO

- a. All assignment costs of one overseas resource person.
- b. Implementation costs up to a maximum of USD10,000 for making local arrangements. An itemized breakdown of the implementation costs is attached (Appendix 1).

14. Roles and Responsibilities

The roles and responsibilities of the NPCC and APO are:

NPCC

- a. Making copies of the training materials;
- b. Organizing a four-day national training course in Phnom Penh; and
- c. Bearing the balance of project implementation costs if the total amount exceeds USD10,000.

APO

- a. Providing financial support for organizing the national training course as detailed in section 13;
- b. Assigning one overseas resource person for the national training course; and
- c. Coordinating with the overseas resource person and implementing organization.

15. Procedures for Project Implementation

This project is to be implemented in close collaboration with the APO Secretariat, referred to as the APO in this document.

- a. A temporary advance of up to 50% of the total APO share will be remitted to the NPCC, if necessary.
- b. The proposed project will be carried out by the implementing organization.
- c. The NPCC will make the expenditures for the assigned items and settle the entire account by providing all necessary bills and receipts to the APO after completion of the national training course.
- d. The NPCC will submit a project completion report and a statement of expenses supported with receipts, etc., related to the project to the APO within one month of project completion. The report will provide details on how the project was carried out in the country; program of activities; benefits and advantages to local agriculture sector, implementing organization(s), and host country; and follow-up action plans, among others.

16. Final Project Output

The project is expected to create a pool of 50 competent consultants, trainers, and practitioners of postharvest management of FFVs in Cambodia.

Upon completion of the project, the NPCC will undertake the following:

- a. Submit a "project completion report" on the national training course to the APO and disseminate the report on the proceedings of the training course including recommendations to relevant government bodies such as the MAFF of Cambodia within one month after project completion.
- b. Submit a statement of expenses supported by receipts/bills within one month after project completion.
- c. Submit documents and e-links relating to promotional material on the national program, e.g., newsletters, brochures, bulletins, news clippings, written in English or the local language with an English translation of the main points.
- d. Disseminate the knowledge and experience gained to the public and private sectors through publications, consulting and training services, etc.



Mari Amano
Secretary-General

Project Code: 14-AG-05-GE-WSP-B/C-CAM

**Estimated APO Share of Costs
for
the APO National Training Course on Postharvest Management of Fruit and Vegetables for
Enhancing Farmers' Income and National Food Security**

(Phnom Penh, Cambodia, 16–19 June 2015)

No.	Item	Cost (USD)
1	Meeting package for 4 days (including meals for participants, use of audiovisual equipment, conference room, etc.)	Up to 6,000
2	Training kit (including supplies and materials, printing and copying, stationery, and documentation)	Up to 650
3	Interpretation and translation (from English to Khmer)	Up to 3,000
4	Miscellaneous expenses (including local costs other than above)	Up to 350
Total		Up to 10,000
Notes:		
1. The APO will make a reimbursement based on the actual expenses with a maximum of up to USD10,000.		
2. The NPCC is required to submit to the APO receipts for all expenses incurred in implementing this national project.		



ASIAN PRODUCTIVITY ORGANIZATION

PROJECT NOTIFICATION

20 June 2014

1. **Project Code** 14-AG-05-GE-WSP-B/C
2. **Title** Workshop on Innovative Postharvest Management Tools and Technologies for Fruit and Vegetable Products
3. **Timing and Duration** 3–7 November 2014 (five days)
4. **Venue** Taichung, Republic of China
5. **Implementing Organizations**

Council of Agriculture, Executive Yuan
37 Nanhai Road, Taipei 10014, Republic of China
Phone: (886-2) 2381-2991
Website: <http://eng.coa.gov.tw/index.php>

China Productivity Center
2F, No. 79, Sec. 1, Xintai 5th Rd., Xizhi Dist.
New Taipei City 221, Republic of China
Phone: 886-2-2698-5886
Fax: 886-2-2698-2976
6. **Number of Overseas Participants** Up to 18 qualified participants from Bangladesh, Cambodia, Fiji, Lao PDR, India, Indonesia, IR Iran, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam.

Other member countries with particular interest in this project may nominate candidates upon consultation with the APO Secretariat (see 12. Qualifications of Candidates).
7. **Number of Local Participants** Up to six qualified participants
8. **Closing Date for Nominations** 22 August 2014
9. **Objectives**
 - a. To enhance participants' knowledge of innovative postharvest tools, technologies, and approaches to assure the quality and safety of fresh fruit and vegetables (FFV) and minimize postharvest crop losses;
 - b. To share novel practices for efficient postharvest management of FFV; and
 - c. To formulate strategic action plans for promoting best practices.

10. Background

Driven by rising incomes, an expanding middle class worldwide, and increasing demand for exotic products, global trade in FFV has increased substantially. For many Asian exporting countries, this trade may account for a significant share of their foreign earnings. The horticultural export industry offers an important source of employment for developing countries.

Asian producers have, however, been losing up to 40% of the value of their FFV due to inadequate postharvest handling. When food is wasted, all of the resources utilized in production, storage, and transportation to market, i.e., land, water, nutrients, seed, labor, energy, and financial investment, are wasted as well. In addition, customers are increasingly concerned about the quality and safety of the produce they buy. International markets have rejected shipments of FFV containing unauthorized pesticides, with chemical residues exceeding permissible limits, and/or with inadequate labeling and packaging. New, innovative technologies and approaches that could reduce postharvest losses in quantity and quality as well as assure food safety between produce harvest and consumption are needed.

Obviously, postharvest management determines food quality and safety, competitiveness in the market, and the profits earned by producers. Postharvest management in most developing Asian countries is, however, far from satisfactory. The major constraints include inappropriate harvest techniques, inefficient postharvest handling and transportation, inappropriate technologies for storage and packaging, inefficient logistics, and poor infrastructure. The concerted efforts of all actors including the public and private sectors in the supply chain are required to address these constraints.

11. Scope and Methodology

The tentative modules to be covered are:

- a. Postharvest losses in FFV supply chains: emerging challenges and opportunities;
- b. Innovations in preharvest, harvest, and postharvest handling techniques and technologies for FFV chains;
- c. Innovations in food quality and food safety assurance in FFV supply chains;
- d. Innovations in cold chain management of FFV and its logistics; and
- e. Innovative marketing of FFV for greater competitiveness.

Practical examples will be incorporated in all presentations to support theory so that participants can gain meaningful insights into the subject.

The workshop will consist of thematic presentations; sharing of country experiences; case studies; discussions; group exercises; and field visits to relevant farms, warehouses, processing and packaging plants, and markets.

The tentative program of the workshop is given below:

Date/Time	Activity
Sun., 2 November 2014	Arrival of participants in Taipei airport and transfer to Taichung
Mon., 3 November	Opening session Thematic presentations by experts
Tues., 4 November	Thematic presentations by experts Sharing of country experience by participants
Wed., 5 November	Sharing of country experience by participants Group exercise
Thurs., 6 November	Field visits to relevant farms, companies, or organizations
Fri., 7 November	Group exercise Program evaluation by participants, resource persons, and

Sat., 8 November

implementing organization
Summing-up session
Closing session
Departure of participants

12. Qualifications of Candidates

The participants are expected to possess the following qualifications:

Present Position	Growers of FFV and representatives of their associations; postharvest handlers, wholesalers, and retailers of FFV; agricultural extension workers; policymakers/planners; and academics who are in charge of postharvest management of FFV.
Experience	At least three years of experience in the position described above.
Education	University degree or equivalent qualification from a recognized university/institution.
Language	All proceedings of the project are conducted in English, and participants are frequently required to make oral and written presentations. They must therefore be proficient in spoken and written English. Those who are not proficient in English will not be accepted.
Health	Physically and mentally fit to attend an intensive project requiring participants to complete a number of individual and group activities and strenuous fieldwork. It is therefore recommended that member countries do not nominate candidates likely to suffer from physical and mental stress.
Age	Candidates who fit the above profile are typically between 35 and 50 years of age.
APO Certificate	Participants are required to attend the entire program to receive the APO certificate of attendance.

13. Financial Arrangements

To be borne by participants or participating countries

- a. Participants' insurance premiums: All participants should be fully insured against accident and illness (including hospitalization and death) for a principal sum equivalent to US\$10,000.00 for the entire duration of the project and travel and must submit to the APO Secretariat a copy of the comprehensive travel insurance certificate before participation. Such insurance should be valid in the host country. This insurance requirement is in addition to existing government insurance coverage in some member countries. If any participant is unable to insure himself/herself as stipulated above, he/she should secure this insurance in the host country at the commencement of the project and pay the premium himself/herself, if necessary, from the per diem allowance provided. Neither the APO nor the implementing organizations will be responsible for any eventuality arising from accident or illness.
- b. All expenses related to visa fees and airport taxes.
- c. Any expenses incurred by participants for stopovers on the way to and from the project venue as well as for extra stay at the project venue before and/or after the official project period because of early arrival or late departure, for example, due to

either limited available flights or any other reason.

To be borne by the host country

- a. Per diem allowances and hotel accommodation for up to 18 overseas participants for up to six days at the rate to be specified later.
- b. All local implementation costs.

To be borne by the APO

- a. All assignment costs of overseas resource persons.
- b. Round-trip economy-class international airfare by the most direct route between the international airport nearest to the participants' place of work and Taipei. As far as practicable, all participants should purchase discount tickets. Please note that the arrangements for the purchase of air tickets should follow the "Guide on Purchases of Air Tickets for APO Participants," which will be sent to the selected participants. It is also available on the APO website and from APO Liaison Officers in member countries.

14. Actions by Member Countries

- a. Each participating country is requested to nominate three or more candidates in the order of preference. Please ensure that candidates nominated meet the qualifications specified under section 12 above.
- b. No form of self-nomination will be accepted. All nominations must be endorsed and submitted by an APO Director, Alternative Director, Liaison Officer, or their designated officer.
- c. Please note that nomination of a candidate does not necessarily guarantee that he/she will be selected. Selection is at the discretion of the APO Secretariat. A basic criterion for selection is the homogeneity of the participants in terms of qualifications and work experience. Nonselection therefore does not mean that the candidates concerned are not competent enough. Sometimes candidates are not selected because they are overqualified for a project.
- d. Each nomination should be accompanied by the necessary documents. A nomination lacking any of these documents may not be considered: two copies of the candidate's biodata on the APO biodata form together with a passport-sized photograph. The biodata form can be downloaded from the APO website (www.apo-tokyo.org). We encourage submitting the biodata form to the APO Secretariat in electronic form as an attachment to a cover e-mail message from the APO Director, Alternate Director, or Liaison Officer. The nomination documents should be sent to the Agriculture Department, APO Secretariat (e-mail: agr@apo-tokyo.org, fax: 81-3-5840-5324).
- e. The APO Medical and Insurance Declaration/Certification Form. Every candidate must complete and submit a copy of the APO Medical and Insurance Declaration/Certification Form with his/her biodata at the time of nomination. Please note that self-declaration is sufficient for candidates without any of health conditions or illnesses listed on the reverse side of the medical form. However, for all others, medical certification by a licensed physician on the reverse side of the medical form is required.
- f. Necessary documents are to be submitted electronically. In that case, there is no need

to send a hard copy by postal mail. However, if the documents are submitted by fax, member countries are requested to mail the originals of the documents to the APO Secretariat as well. If a digital photograph of a nominee is not attached to the electronic biodata form, a hard-copy photograph should be sent to the APO Secretariat by postal mail. Please give the candidate's name and the project code on the reverse side of the photograph.

- g. Member countries are requested to adhere to the nomination deadline given on page 1. The APO Secretariat may not consider late nominations as they have in the past resulted in considerable difficulties to the implementing organization in its preparatory work for the project.
- h. For member countries where nominations are required to be approved by higher government authorities and require a longer time, the APO Liaison Officers/NPOs are urged to send the names of nominees on or before the deadline, indicating that government approval will follow.
- i. If a selected participant becomes unable to attend, he/she should inform the APO Liaison Officer/NPO in his/her country immediately and give the reason for withdrawal. The NPO concerned is requested to transmit that information to the APO Secretariat and the host country promptly.
- j. NPOs are requested to inform the selected participants that they are not to bring family members or to engage in any private business activities during the entire duration of the project.
- k. Each selected participant should be instructed to arrive at the venue one day before the start of the official project. Also, he/she is expected to return home upon completion of the official project because he/she is visiting the host country for the specific purpose of attending this APO workshop.
- l. NPOs should inform participants that they must attend all five days of the project to qualify for the certificate of attendance.

15. Actions by the APO Secretariat

- a. Under normal circumstances, candidates who are selected will be informed of their acceptance at least four weeks prior to the start of the project.
- b. If some candidates fail to qualify or be unable to participate after selection, or if some member countries fail to nominate any candidate, their slots may be filled by alternates from the same or another member country on a merit basis.

16. Project Preparation

The participants are required to prepare a technical paper prior to departure for the project venue. In preparing the paper, they are expected to follow the attached "Guidelines for the Preparation of Country Papers."

17. Postproject Actions

All participants are required to prepare action plans and share the plans with their NPOs. The APO will also request participants to submit progress reports six months after completion of the workshop.

18. Evaluation of Participants

If the conduct/attendance/performance of a participant is not satisfactory, these will be reported to the APO director concerned.

19. Guide for Participants

Other conditions for participation are given in the *APO Guide for Participants*, which is available from APO Liaison Officers/NPOs in member countries and on the APO website (www.apo-tokyo.org).



Mari Amano
Secretary-General

14-AG-05-GE-WSP-B/C

Workshop on Innovative Postharvest Management Tools and Technologies for Fruit and Vegetable Products, 3–7 November 2014, Taichung, Republic of China

Guidelines for the Preparation of Country Papers

Each selected participant is required to submit a technical paper keeping in mind the scope and objectives of the workshop and topical outline provided below. The paper may be written in the personal capacity of the participant but must be substantiated and should reflect an accurate account of the current status of technological innovations in postharvest management of fresh fruit and vegetables (FFV) in the participant's country. It must be supported by statistical data/information wherever appropriate.

The paper should be typewritten, single-spaced, on standard A4-size paper, and be between 6 and 8 pages in length, excluding tables/figures. A soft copy of the paper should reach the APO and China Productivity Center no later than 17 October 2014.

Participants are encouraged to provide in their papers as much relevant, useful information as possible but they must avoid including unnecessary general information on agriculture as well as the profile of their country.

Participants are also required to prepare a summary of their papers not exceeding 300 words. It should contain only the salient points of the paper. The summary will be used to prepare the highlights of the workshop.

The following topical outline, which may be revised later in consultation with the resource person(s), is suggested as a guide. It is not meant to restrict the preparation of the paper but rather to encourage the inclusion of other equally relevant information to make it more substantial and meaningful.

Topical Outline

- 1) Describe the current status of and trends in the horticulture sector in your country, e.g., contribution of horticulture to the national economy (GDP); area (hectares), production (tons), and average yield (tons per hectare) of main horticultural crops, especially FFV, and exports/imports of horticultural produce, especially fresh fruit and vegetables, e.g., quantity and value, main export/import markets. (5%)
- 2) List the percentage of postharvest losses in the main horticultural products in your country, especially FFV, trends in postharvest losses over the past decade (2004–2013), and steps undertaken by the government and private sector for reduction of such losses. (5%)
- 3) Give a brief account of the basic infrastructure (research, extension, storage, transportation, quality and safety assurance, etc.) available for postharvest management, as well as salient issues/impediments in improving the postharvest management of FFV. Please highlight the three most important issues impeding the strengthening of the national postharvest management system. (10%)
- 4) Describe one or two innovative techniques/technologies/practices for postharvest handling of FFV which have been invented/developed in your country. Please mention the background, major use, scale of commercialization, and high points including cost-effectiveness and low points of each practice or technology. (70%)

- 5) Briefly review the salient issues and challenges in making the fruit/vegetable supply chains green, safe, and reliable. (10%)
- 6) Provide a list of references/bibliography to acknowledge the sources of the information used in your paper.

Figures in parentheses at the end of points 1–5 above indicate the percentage share of each section in the final volume of the paper.

The references/bibliography section is required but is not assigned any set percentage share.
