



PROJECT IMPLEMENTATION PLAN ADDENDUM

15 October 2018

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| 1. Project Code | 18-AG-23-GE-DLN-A-02 |
| 2. Title | Self-learning e-Course on Urban Agriculture |
| 3. Timing and Duration | 1 November 2018–30 April 2019 (six months) |
| 4. Implementing Organizations | APO Secretariat and National Productivity Organizations (NPOs) |
| 5. Addendum No. | 1 |
| 6. Reference | Project Notification 18-AG-23-GE-DLN-A dated 9 January 2018 and Project Implementation Plan dated 18-AG-23-GE-DLN-A-02 dated 21 September 2018 |
| 7. Details | Change in Project Implementation Plan Item No. 4 “Timing and Duration” |

7-1. Change in Item No. 4 Timing and Duration

The timing and duration of the project have been changed to **1 December 2018–31 May 2019** (six months) due to the additional time needed for preparation of the training manual.

Unless otherwise modified by the APO in writing, the other provisions of the Project Implementation Plan dated 21 September 2018 pertaining to this self-learning e-course will remain valid.

Dr. Santhi Kanoktanaporn
Secretary-General



PROJECT IMPLEMENTATION PLAN

21 September 2018

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| 1. Project Code | 18-AG-23-GE-DLN-A-02 |
| 2. Title | Self-learning e-Course on Urban Agriculture |
| 3. Reference | Project Notification 18-AG-23-GE-DLN-A dated 9 January 2018 |
| 4. Time and Duration | 1 November 2018–30 April 2019 (six months) |
| 5. Implementing Organizations | APO Secretariat and National Productivity Organizations (NPOs) |
| 6. Number of Overseas Participants | Minimum of 400 participants |
| 7. Self-registration | Self-registration opens from 10:00 AM Japan Standard Time on 1 November 2018 on the eAPO's web portal: http://eAPO-tokyo.org |

Note: Participants can register directly from this portal on the APO website. Those who are already registered can access the course by using the assigned username and password. If you have forgotten your username and password, please refer to the help page on the home page of the portal.

8. Objectives

- To acquaint participants with key urban agriculture elements and unique features, as well as key roles of urban agriculture in an era of rapidly expanding urbanization;
- To build the capabilities of a critical mass of stakeholders in knowledge, technologies, and best practices related to urban agriculture; and
- To improve ecosystem services for and the social well-being of urban dwellers and sustainability of urban areas.

9. Background

Urban agriculture is farming or gardening that occurs in cities or densely populated towns and municipalities. It has several distinctive features compared with its rural counterparts. Due to space limitations, urban agriculture can be very creative, such as intensive rooftop

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gardening, growing flowers and fruit trees on shallow balconies of multistory buildings, vertical gardening in the small spaces between buildings, or plant factories. There are many different challenges unique to urban agriculture which are not issues in conventional rural agriculture. Space is the primary one, along with pollutants unique to the city, and the limited amount of natural lighting.

There is an increasing recognition of the potential importance of urban agriculture. By 2050 69% of the world population will be living in urban areas, 86% in the developed world. This will create pressures on essentials like energy, food and water. Using Google's Earth Engine software, as well as population, meteorological, and other datasets, researchers determined that, if fully implemented in cities around the world, urban agriculture could produce as much as 180 million metric tons of food a year or perhaps 10% of the global output of legumes, roots and tubers, and vegetable crops. Besides promoting local food production and consumption, urban agriculture contributes to disaster prevention, maintenance of landscapes, citizens' understanding of agriculture, children's education, and the social welfare of urban dwellers. Urban agriculture also performs several ecosystem services including reduction of the urban heat-island effect, avoiding stormwater runoff, nitrogen fixation, pest control, and energy savings.

Researchers estimated that taken together, these benefits make urban agriculture worth as much as USD160 billion per year globally, and fully realized urban agriculture could provide as much as 15 billion kilowatt hours of annual energy savings worldwide. It could also sequester up to 170,000 tons of nitrogen and prevent as much as 57 billion cubic meters of stormwater runoff, a major source of pollution in rivers and streams. In Japan, for example, there are over 63,000 of these parcels of land with a total area of over 13,442 hectares scattered throughout the country, but mostly concentrated in Tokyo, Osaka, and Nagoya.

Researchers hope that the multiple benefits of urban agriculture will encourage other scientists, as well as urban planners and local leaders, to begin to take it more seriously as a potential force for sustainability. Several social and environmental functions of urban agriculture have been recognized by Japanese policymakers. Policy in the USA, Japan, and internationally is already changing to accommodate and encourage urban agriculture. California, for example, passed its Urban Agriculture Incentive Zones Act in 2014, allowing landowners who put urban plots to agricultural use to receive valuable tax breaks. Similarly, the Government of Japan passed Urban Agriculture Promotion Basic Law in 2015. This law makes owners of urban farms that comply with the specified conditions eligible for inheritance tax waivers and lower property taxes.

10. Scope and Methodology

Scope

The course consists of six self-learning e-modules. Each module uses a "core case study" and several relevant examples as appropriate, with one PDF document per module. Quizzes are included for self-assessment. Relevant videos will be provided when available. A final examination is required to earn the APO certificate.

Module 1 (Setting the Context): The "Why," "What," and "How" of Urban Agriculture

This module is designed to offer a broad perspective of different dynamics of urban agriculture. The need and context for urban agriculture, different forms and formats of urban

agriculture, how urban agriculture is being practically carried out in different parts of the world, technologies with the potential for scaling to the needs of urban agriculture, and sustainability metrics of urban agriculture are covered in this module. The detailed contents of the module are presented below.

Contents:

- Setting the context: Purpose of urban agriculture
- Understanding innovations in urban agriculture: Examples from around the world
- How urban agriculture innovations are deployed in practice
- Which urban agriculture models can be scaled and what is needed
- Roles of different stakeholders (public, private, and others) in achieving the potential of urban agriculture using case examples

Quiz 1 (for self-assessment based on questions from Module 1)

Module 2 (Urban Food Production Technologies): Understanding the Roadmap for Urban Food Production Technologies

The objective of this module is to visualize the technology roadmap for urban agriculture, how technologies are being tested in practice, and which have the potential for contributing significantly to the food and nutrition security of countries and the world.

Contents:

- Technology roadmap for urban agriculture
- Technologies currently being tested in around the world
- Which technologies have potential for widespread application
- Review of technologies currently applied

Quiz 2 (for self-assessment based on questions from Module 2)

Module 3 (The Balancing Act of Urban Food Production): Achieving a Fine Balance among the 3Ps (People, Planet, Profit) in Urban Food Production

The module reviews different urban agriculture projects in terms of the three critical dimensions of people, the planet, and profit.

Contents:

- How urban agriculture can benefit people now and in the future
- How urban agriculture can benefit the planet now and in the future
- Which urban agriculture business models are profitable
- Reviewing the 3P dimensions of successful urban agriculture projects

Quiz 3 (for self-assessment based on questions from Module 3)

Module 4 (Value Chain Design for Urban Food): Urban Food Value Propositions and Feasible Value Chain Designs

The objective of this module is to understand food value chain principles for scalability, sustainability, and profitability and how these principles function in the context of urban

agriculture.

Contents:

- Principles of food value chains: Scalability
- Principles of food value chains: Safety and sustainability
- Principles of food value chains: Profitability
- Framework for making these principles work in the context of urban agriculture
- Reviewing successful urban agriculture value chains: Case studies

Quiz 4 (for self-assessment based on questions from Module 4)

Module 5 (Complementary Partnerships): Setting up Complementary Partnerships for Urban Food Systems

The scalability and success of a complex system like urban agriculture depend on complementary partnerships. An urban agriculture system is only as strong as its weakest link. Understanding the complementary partnerships that make urban agriculture and food systems robust is therefore critical. This module offers perspectives on different stakeholders and how to align and engage them.

Contents:

- Urban agriculture stakeholders: Framework
- The role of businesses in urban agriculture
- The role of public bodies
- The role of the general public
- The role of other stakeholders
- Framework to engage and align all stakeholders: Case study

Quiz 5 (for self-assessment based on questions from Module 5)

Module 6 (Scaling Urban Agriculture and Food Ecosystems): Approaches to Scaling Urban Food Production and Distribution

Scale is critical for any system to create the desired impact. This module explains the framework for the three components critical to scale: technology; business models; and stakeholders' engagement.

Contents:

- Technology framework for urban agriculture
- Business model framework for urban agriculture
- Multiple stakeholder engagement framework for urban agriculture
- Aligning the three frameworks to create scale and impact: Discussion with case study

Quiz 6 (for self-assessment based on questions from Module 6)

Final Examination

A final examination is required to earn the APO certificate.

11. Qualifications of Candidates

The target participants are government officers; urban planners and policymakers; representatives of urban businesses, food cooperatives, community-supported agriculture organizations, or retailers' and consumers' associations; consultants; academics; and other individuals with particular interest in promoting urban agriculture.

12. Eligibility for e-Certificate

A minimum score of 70% on the final examination is required to qualify for the APO e-certificate.

Note: Participants from nonmember countries are welcome to take the course for self-development, although APO e-certificates will not be provided.



Dr. Santhi Kanoktanaporn
Secretary-General

