PROJECT IMPLEMENTATION PLAN

21 September 2018

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

a. 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;

b. To build the capabilities of a critical mass of stakeholders in knowledge, technologies, and best practices related to urban agriculture; and

c. 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

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

PROJECT NOTIFICATION

9 January 2018

1. Project Code	18-AG-23-GE-DLN-A
2. Project Title	Self-learning e-Course for the Agriculture and Food Sectors
3. Timing	Throughout 2018
4. Implementing Organizations	APO Secretariat and National Productivity Organizations (NPOs)
5. Number of Participants	Minimum 400 participants per course
6. Registration	APO e-learning web portal: http://www.apo-elearning.org/moodle19/ (Participants can register directly from this portal on the APO website.)

7. Objective

To provide training to numerous participants in productivity tools, techniques, and technologies in selected subject areas of broad significance related to the agriculture and food sectors; familiarize them with the concepts of smart agriculture and future food systems in a cost-effective manner; create a mass of productivity professionals with the aim of strengthening agriculture, agribusiness, and food industry SMEs and revitalizing local communities for promoting smart agriculture and innovative food systems; and foster rural development. These will promote sustainable productivity and inclusive growth in member countries, while expanding global networks.

8. Background

Depending upon the needs of APO members and relevance of subject areas, the APO develops self-learning e-courses and offers them on its e-learning portal. These courses are developed based on the APO's experience and knowledge accumulated over years of organizing capacity-building projects in its focus areas. Based on the huge success of the self-learning e-courses over the past years, the APO plans to organize similar or upgraded ones relating to the agriculture and food sectors in 2018. The courses will focus on the subjects of advanced farm mechanization, building climate change-resilient agriculture, urban agriculture, business models for women entrepreneurs, modern food storage technologies, and future food: exploring business opportunities.

For each course a separate project implementation plan (PIP) containing specific information on the course and subject will be issued. NPOs are requested to start promoting the courses after receiving the PIPs.

9. Scope and Methodology

Scope
The scope of each course will be decided based on the subject and will be detailed in the PIP issued later for each course.

Methodology
Each course will consist of self-learning e-modules, additional study materials for participants, intermittent quizzes for self-assessment, and a final examination to qualify for the APO certificate. All learning modules, carefully prepared by internationally recognized experts, will be uploaded to the course site on the e-learning portal.

10. Modality of Implementation

Courses will be offered through the APO's dedicated e-learning portal: http://www.apo-elearning.org/moodle19/. Participants can register on this portal and create their own user accounts.

Registered participants are required to complete all learning modules and self-assessment quizzes before taking the final examination. Based on the results of the final examination, successful participants from member countries will be awarded APO e-certificates.

11. Special Features

a. Participants can register on the APO e-learning portal and create accounts by themselves.
b. Registered participants' progress will be tracked and monitored by the APO Secretariat throughout the course.
c. Participants can complete the course at their own pace within the prescribed official duration of the course.
d. Completion of all modules and quizzes is compulsory before taking the final examination.
e. A minimum score of 70% on the final examination is required to qualify for the APO e-certificate. The e-certificates will be sent to participants' registered e-mail addresses one day after completion of the final examination.
f. Successful participants may be given preference based on merit for selection to attend future APO multicountry face-to-face projects on the same subject in consultation with NPOs.

12. Qualifications of Candidates

The target groups are productivity practitioners, consultants, managers, academics, extension service providers, representatives of cooperatives and industry associations, producers, and all professionals working in the subject area from agriculture, agribusinesses, food industries, NPOs, government agencies, universities, and consultancy firms who wish to acquire a working knowledge of the subject.

13. Financial Arrangements

To be borne by NPOs

a. Coordination, communication, and promotion support for the course.

b. Any other local costs.

To be borne by the APO

a. All costs related to development of the self-study modules, additional study materials pertaining to the course, self-assessment quizzes, and examination.

b. Cost of hosting the course on the APO's e-learning portal and operating it from the APO Secretariat.

14. Actions by Member Countries/NPOs

Member countries/NPOs are requested to:

a. Promote and market the course by sending the project notification and PIP to as many relevant organizations as possible and encouraging all interested individuals to participate.

b. Upload the course announcement on the NPO's website and/or provide a link to the APO's e-learning portal.

c. Interact with registered participants and provide them with necessary inputs and guidance, if necessary.

d. Provide all necessary support and cooperation proactively to the APO Secretariat for successful implementation of the course.

15. Participation of Individuals from Nonmember Countries

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

Santhi Kanoktanaporn
Secretary-General