



ASIAN PRODUCTIVITY ORGANIZATION

## PROJECT IMPLEMENTATION PLAN

6 May 2016

1. **Project Code** 13-AG-33-LD-DON-C-CAM (TRC)
2. **Project Title** Training Course on Food Engineering
3. **Reference** APO Project Notification 13-AG-33-LD-DON-C (Special Program for Strengthening the Capacity of Food Supply Chain Management in Asian Least Developed Countries [FSCM-LDCs]) dated 10 January 2014
4. **Timing and Duration** 31 May to 3 June 2016 (four days)
5. **Venue** Phnom Penh, Cambodia
6. **Implementing Organization** National Productivity Centre of Cambodia (NPCC)
7. **Number of Participants** 20 participants
8. **Objectives**
  - a. To enhance the knowledge of NPCC consultants and food company managers of the concept, principles, tools, and techniques of food engineering;
  - b. To assist at least three food manufacturing companies to improve by assessing their current operations and making recommendations to increase productivity and efficiency through appropriate food engineering tools and techniques; and
  - c. To provide training to NPCC consultants and operations managers of the three food-processing companies in the applications of latest food engineering technologies and best practices.

### 9. Background

The NPCC, in line with its mandate to lead the productivity movement in Cambodia, is supporting SMEs in agribusiness and food manufacturing to enhance their capacities and introduce innovations to improve their productivity and competitiveness. A major challenge faced by most companies in Cambodia is the limited access to new knowledge and modern technologies. Furthermore, efficient utilization of energy and water, waste management, and minimization of environmental problems are important issues faced by food-related companies in the country.

The NPCC would like to support food-related companies in developing and upgrading their

capacities by exposing them to recent developments in food engineering. Food engineering is a multidisciplinary field of applied physical sciences which combines science, microbiology, and engineering for food and related industries. In the development of food engineering, one of the many goals is to employ modern tools, technology, and knowledge to develop new products and processes. Improving quality, safety, and security are also important areas in food engineering. New packaging materials and techniques are being developed to provide more protection for food, and novel preservation technology is emerging. Additionally, process control and automation are among the top priorities identified in food engineering.

Under the Special Program on FSCM-LDCs funded by the Japanese Ministry of Agriculture, Forestry and Fisheries, the APO has carried out a series of projects including workshops, training courses, and demonstration company projects for strengthening food supply chain management in Cambodia. This follow-up course is being organized based on experiences and lessons gained in those projects.

## **10. Scope and Methodology**

The tentative topics to be covered are:

- a. Concepts and principles of food engineering;
- b. Food engineering tools and techniques;
- c. Recent developments and innovations in food engineering;
- d. Issues and challenges of the food-processing industry in Cambodia and status of food engineering ;
- e. Food-processing techniques/tools and machinery
  - Techniques in dehydration
  - Thermal processing and nonthermal processing
  - Extrusion liquid food concentration
  - Membrane technology processes and applications in food processing;
- f. Modern food packaging technology and machinery; and
- g. Food engineering and food safety.

The training course will include resource paper presentations, group exercise, and field visits for on-site training.

The tentative program of the training course is given below:

<b>Date/Time</b>	<b>Activity</b>
Tuesday, 31 May	Arrival of expert and coordination meeting with the NPCC, training in food engineering and technology
Wednesday, 1 June	Training in food engineering and technology
Thursday, 2 June	Training in food engineering and technology
Friday, 3 June	Field visit for on-site training and departure of expert

## **11. Expert**

The APO Secretariat will assign an international expert who is experienced and competent in this subject to conduct the project.

## **12. Participants**

About 20 participants from food-processing SMEs, food manufacturers, academia, and government agencies working on food engineering will attend the project.

## **13. Financial Arrangements**

### **To be borne by the APO**

- a. All assignment costs of the APO expert, covering the honorarium, airfare, daily subsistence allowance, and overseas travel insurance.
- b. Local implementation costs such as for conference rooms, meeting package, conference facilities, interpretation fees, translation costs, material costs, local transportation costs for field visits, etc.
- c. The total amount of financial assistance from the APO for this national conference should not exceed USD3,171.00. Please see Attachment 1 for a detailed breakdown of the approved project cost.

### **To be borne by the NPCC**

- a. If the actual project cost exceeds USD3,171.00, the overrun should be covered by the NPCC.
- b. Other expenses not covered by the APO.

## **14. Procedures for Project Implementation**

- a. Remittance of a temporary advance (50% of the total estimated cost), if necessary.
- b. Implementation of the proposed project.
- c. Submission of a project report summarizing the implementation of the project and statement of expenses related to the project to the APO.
- d. Submission of receipts and settlement of accounts.
- e. The project is considered completed after the above stages.



Mari Amano  
Secretary-General

## PROJECT COST BREAKDOWN

<b>Project Title:</b>	Training Course on Food Engineering
<b>Duration:</b>	31 May - 3 June 2016 (4 days)
<b>Venue:</b>	Phnom Penh, Cambodia
<b>Implementing Organization:</b>	National Productivity Center of Cambodia (NPCC)
<b>No. of Participants:</b>	20

No.	Item	Detailed Breakdown (Please indicate the unit price, number of persons, and days.)	Unit Total (US\$)
<b>I. Local implementation costs</b>			
1	Meeting package	US\$23 × 20 persons × 2 days =	US\$920
2	Interpreter	US\$150 × 1 person × 2 days =	US\$300
3	Conference facilities cost (conference room, LCD rental fee, and backdrop)	US\$300 × 2 days =	US\$600
4	Translation cost of resource papers and materials for presentation	US\$10/per page × 100 pages =	US\$1,000
5	Training course materials	= a + b	US\$200
	a Files, pens and bags	US\$5 × 20 persons = US\$100	
	b Photocopying materials	US\$5 × 20 persons = US\$100	
	<b>Subtotal:</b>		US\$3,020
<b>II. Miscellaneous expenses (a lump-sum payment of miscellaneous expenses up to 5% of the above total)</b>			
	Miscellaneous expenses include 1) cost for certificates for participants, 2) stationery, 3) communication fees (telephone, fax, Internet), 4) banners, etc. No receipt submission is required.		US\$151
	<b>TOTAL</b>		<b>US\$3,171</b>