



PROJECT IMPLEMENTATION PLAN

1 September 2017

1. **Project Code** 17-IN-04-GE-DMP-C-4
2. **Title** Improving Farm Productivity by Using “Smart Farm Kit”
3. **Reference** Project Notification 17-IN-04-GE-DMP-C dated 12 December 2016
4. **Timing and Duration** The duration of the implementation of the project will be from 8 to 12 months, including the dissemination period. The commencement date is scheduled for September 2017. Tentative details of the implementation schedules will be given later.
5. **Implementing Organization** Thailand Productivity Institute (FTPI)
6. **Mission** The mission of an APO Productivity Demonstration Company is to convey success stories on the development and implementation of productivity improvement initiatives undertaken by all stakeholders.

7. Objectives

Under “Smart Farm Kit” pilot project, it is expected:

1. To promote new smart agriculture production systems in the APO member countries, particularly, smart rice farming systems that match the new lifestyle of farmers;
2. To attract youth to agriculture and productively engage aged farmers in farm activities;
3. To enhance water-use efficiency in rice farming; and
4. To increase rice productivity, and quality of rice produce.

8. Background

Fresh water is a limited and dwindling global resource. As agriculture accounts for around 70% of all water withdrawals globally, water use in agriculture is at the core of any discussion of water and food security. Competition for water resources is expected to increase in the future, with particular pressure on agriculture. Significant shifts of inter-sectoral water allocations will be required to support continued economic growth. Due to expanding population, urbanization and industrialization and climate change improved agricultural water-use efficiency will be needed. Development and adoption of water -efficient farming systems will be critical.

However, the most common farming system in the Asia-Pacific region is based on rice, which has very high water requirement. Since rice is the life-blood of the Asian people and will continue to play a key role in the regional food security and rural employment, there is need to introduce smart rice farming system, which can produce additional food to feed nine billion

people in 2050 but are resource-use efficient and convenient for the farm operators. Such systems are needed to enhance water and nutrient use efficiency. They can also facilitate aged farmers in farming operations and attract youth to adopt agriculture as a profession. This is needed to ensure sustainability in agriculture, and meet the future demand of agricultural and food products.

Digital technology is transforming different sectors of economy fast, and agriculture is no exception. There is need to mainstream digital tools and technologies in farming operations. for higher sustainable productivity and economic benefits.

Smart and low-cost sustainable agricultural technologies are always demanded by the farmers and the producers. To cater such demand, “Smart Farm Kit”, a smart low-cost farm equipment has been developed. This smart Kit can control the crop watering system connected with weather sensors, temperature and moisture measurement in the soil. For example, if the humidity in the soil comes to below 50%, the watering system will automatically be ordered. It can also be ordered through a smartphone, which will alert ready to display the weather in agricultural areas through notification on the smartphone of farmers for enhancing the efficiency and convenience in order to turn watering system to the desired crop.

9. Collaborating Partners

This project is to be implemented in close collaboration with the following parties:

- a. The APO Secretariat (hereafter referred to as the APO);
- b. Thailand Productivity Institute (FTPI) (hereafter referred to as the NPO); and
- c. Kon Gla Kuen Tin, Thailand (hereafter referred to as the demonstration farm).

10. Roles and Responsibilities

The collaborating parties will perform the following duties:

The APO

- a. Coordinate communication among the international expert(s), NPO, and demonstration farm to ensure smooth implementation of the project;
- b. Identify, select, and assign an appropriate international technical expert(s) to the demonstration farm to implement productivity improvement plans and activities aiming at setting up an effective performance management system; and
- c. Advise the NPO and demonstration farm on planning and organizing a dissemination workshop for local participants.

The NPO

- a. Appoint a coordinator from the NPO office/NPO branch office who will serve as the focal point for communication and coordinate the overall schedule for implementation of the project in the country;
- b. Provide, in addition to a coordinator, the necessary number of technical experts from the NPO/concerned organization to work as counterparts to the international expert(s) assigned by the APO;
- c. Monitor closely the process of implementation, particularly the key performance areas;
- d. Measure the productivity improvement progress at the demonstration farm using quantitative and qualitative data and analyses;
- e. Coordinate and supervise the company in the production of a multimedia record such as video/DVD demonstrating the experiences of the demonstration company;
- f. Assist and supervise the demonstration company in preparing an interim report and comprehensive final report for submission to the APO;
- g. Organize a dissemination workshop upon completion of the project to enable experience sharing and learning by the local public and/or international participants following the advice of the APO;
- h. Compile the overall activities of the project in a practical, easy-to-follow manual/guidelines so that similar exercises can be replicated by other organizations in the country; and
- i. Prepare a final report, stressing analyses of the impact of the demonstration project on NPO activities and productivity promotion in the region in general, as well as suggestions/recommendations for replication in the country with emphases on the utilization of local talent, local networks, and local resources.

The Demonstration Company

- a. Accept and facilitate consultancy services conducted by the expert(s) assigned by the APO and counterpart experts from the NPO;
- b. Designate a coordinator and necessary team members to work closely with the APO and NPO team of experts;
- c. Arrange all logistical requirements relating to the project (such as local transportation, discussion rooms, etc.) for both the APO expert(s) and counterpart experts from the NPO;
- d. Submit an interim report at midterm to review the progress of implementation and identify corrections and adjustments as necessary;
- e. Record on video from the start of the process of implementation activities to produce a multimedia record such as video/DVD upon completion of the project in association and consultation with the NPO;

- f. Announce, publicize, and prominently display the APO's presence and involvement in the demonstration company throughout the duration of the project;
- g. Share the experiences of the demonstration company with local and overseas parties who are interested in learning about productivity improvement;
- h. Present the experiences in a dissemination workshop to be organized upon completion of the project; and
- i. Prepare a comprehensive final report for submission to the APO explaining the initiatives and technical details of the projects, overall analyses of the benefits, impact of the established performance management system, and competitiveness gained by the demonstration company upon completion of the project.

11. Expense Sharing

The APO

- a. All expenses for assignment of the international expert(s), covering airfare, daily subsistence allowances, and overseas travel insurance;
- b. Expenses* for producing a practical manual for replication of the experience (to be prepared by the NPO) of up to USD2,000;
- c. Expenses* for the production of a multimedia record (to be prepared by the NPO) of up to USD3,000; and
- d. Expenses* for conducting a dissemination workshop for the local public (to be arranged by the NPO) of up to USD5,000.

*The disbursement of expenses will be made at the appropriate times corresponding with the specific activities undertaken and following submission of the necessary supporting documents under the applicable APO rules and regulations for disbursement of project expenses. Please also refer to clause 14-c of this document.

The NPO

- a. Expenses relating to the assignment of a coordinator and NPO expert(s) involved in this project.

The Demonstration Company

- a. Expenses for logistical arrangements related to the implementation of the project, including local travel costs of the APO international expert(s) and NPO experts for transportation between the demonstration company/sites and the NPO office/branch office;
- b. Costs associated with the purchase and installation of equipment and/or fixtures relating to the implementation of the project, if any; and

- c. All other expenses for the implementation of the project not covered by the APO and/or NPO.

12. Methodology

The project will be conducted in the following three stages:

- Planning;
- Implementation; and
- Dissemination.

The planning stage consists of a diagnostic survey regarding the application of Smart Farm Kit, which includes understanding the main activities and operations of the demonstration farm, identifying the challenges faced by it, understanding the key features and operations of the Smart Farm Kit, collecting data and information, and developing a plan for this project and the overall implementation of the application of Smart Farm Kit in the demonstration farm. This stage will also involve the capacity building of all stakeholders engaged in the implementation. It is expected to be completed within one to two months.

The implementation stage involves setting up dissemination framework. This refers to practical, action-oriented, on-site activities that engage international and local experts, the NPO, and all other stakeholders. This stage will be carried out by the demonstration farm with the guidance of the experts and is expected to be completed in eight to 9 months.

The dissemination stage evaluates the improvement efforts and initiatives implemented. It also extracts the main lessons learned to provide a practical guide and encourage other organizations to follow it in the future. Among the main activities expected in this stage are the finalization and production of a practical manual, a multimedia record, and the organization of a national dissemination workshop. This stage should be completed in two months.

13. Project Schedule

Activity	Y2017					Y2018				
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apl	
1. Project preparation	→									
2. Project meeting with FTPI, expert and demonstration farm		→								
3. Implementation and data collection			→	→	→	→	→			
4. Report provided by expert								→	→	

14. Accounting Procedures

- a. In regard to the expenses for the multimedia record and training manual production, 50% of the APO share can be advanced after the Project Implementation Plan is issued. The remaining 50% will be paid in exchange for the training manual, multimedia record, and final project report according to the proof of expense payment.

- b. If a local seminar/workshop is to be held, 50% of the APO share can be advanced before the seminar/workshop implementation and the remaining 50% will be paid after implementation according to the proof of expense payment.
- c. For the settlement of expenses, the NPO is requested to provide all necessary proof of payment to the APO after completion of the program. The proof of payment, such as bills, payment records, and receipts, should be issued by third parties and must be submitted to the APO altogether at one time. The proof of payment should be written in clear English or with an English translation if not originally in English. The final payment will be made based on the actual expenditure after the NPO submits the proof of payment, training manual, multimedia record, and the final project report. In general, internal evidence is not accepted as proof of payment and the expenses claimed by it will not be reimbursed.

15. Final Project Outputs

The Demonstration Company Project will be completed with the submission of the following:

- a. A final report prepared by NPO and demonstration company and endorsed by the NPO;
- b. Practical manual for replication (in soft copies and/or printed hard copies) prepared by the NPO and demonstration company; and
- c. A multimedia record such as video/DVD of the experiences of the demonstration company prepared by the demonstration company.

The APO will issue a certificate of completion to the demonstration company upon completion of the project.



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