PROJECT NOTIFICATION

PN Issue Date	19 April 2019
Project Code	19-RP-30-GE-RES-B
Title	Research on Smart Agricultural Transformation for APO Member Countries
Timing and Duration	September 2019 – April 2020 (eight months) Coordination Meeting: 30 September – 2 October 2019 (three days) Tokyo, Japan
Venue	APO Secretariat
Number of Overseas Experts	Two chief experts and up to five national experts from Bangladesh, India, Indonesia, Thailand, and Vietnam However, other member countries with special interest in this project may nominate national expert candidates upon consultation with the APO Secretariat. The selection of the national experts will be based on the criteria outlined in section 4 below.
Closing Date for Nominations for National Experts	26 July 2019

1. Objectives

a. To assess the readiness of selected member countries for the adoption of smart agricultural transformation (SAT);

b. To identify national institutional arrangements and mechanisms needed to reap the benefits from transforming into smart agriculture adopters; and

c. To generate set of strategies and policy recommendations to speed up SAT.

2. Background

Agriculture remains an important sector in most APO developing member countries. Although its share in the overall economy shows a declining trend, it has high potential for employment generation, food security, and poverty reduction. However, that potential has largely been left untapped, which is one factor responsible for the declining performance of agriculture and for its limited contribution to other sectors. Initiatives to transform agriculture in order to increase the quality and quantity of products and to improve innovation-led productivity in the sector are critical amid challenges such as population increases, declining cultivated land areas, and climate change. Transformation can be achieved through increasing agricultural mechanization and digitization, as promoted under the APO's SAT initiative.

Transforming a country's agriculture sector can create jobs, raise incomes, reduce malnutrition, and kickstart the economy. Many governments are seeking agricultural transformations that meet multiple goals simultaneously. In addition to traditional economic development and poverty reduction goals, governments are also focusing their agricultural transformation plans on the UN Sustainable Development Goals by considering, for example, climate-smart strategies, women's economic empowerment, and biodiversity. It is obvious that technologies will be critical to achieve those goals.

Applications of new-generation technologies like the Internet of Things, cloud computing, big data analytics, and artificial intelligence are expected to revolutionize the global agricultural landscape, making it more resource efficient, productive, and sustainable. Policymakers and planners, farmers, and businesses in the agriculture sector must embrace digital transformation trends. By using technology as a sustainable, scalable resource, agriculture can be transformed into a future-proof sector including productive, sustainable value chains.

Recognizing the unique needs of the agriculture sector, companies have developed software platforms and apps for crop yield management, resource management, livestock management, and crop monitoring, including addressing issues that impact crop quality, productivity, and, most importantly, cost. Successful digital transformation of agriculture in a country will require: 1) transformation readiness (institutional, governance, and political environment); 2) high-quality national agricultural development plans or strategies; and 3) sound delivery mechanisms to translate those plans into on-the-ground impact. The focus of SAT is promoting applications of advanced technologies, especially digital ones, in farming operations and agribusiness enterprises; sustainable management of resources such as land and water; identifying climate change-resilient farming models; and value-added agriculture.

The main objective of this research project is determining the readiness of selected APO member countries for SAT as well as to propose policy recommendations for its adoption and implementation. Although the recommendations or models proposed as results of the research will be specific to those selected countries, they will also be adaptable to circumstances in other APO members. The research aims to help member countries increase their readiness for SAT including increasing institutional capacity and improving institutional mechanisms for reaping the benefits of SAT in the form of more productive agriculture sectors. This will also contribute to the development of the APO's country-specific agricultural transformation frameworks.

3. Scope and Methodology

Scope

1. Coordination meeting of experts: A meeting will be held 30 September – 2 October 2019 in Tokyo, Japan. The tentative topics of discussion to be covered in the meeting are:

a. Research framework, methodology, and other arrangements such as time frame, follow-up activities, etc.;

b. Situational and agricultural transformation readiness analysis;

c. Prerequisites for SAT;

d. SAT strategies and policy responses;

e. Models for smart agriculture;

f.   Final report format; and

g.   Follow-up activities such as further studies, research dissemination, country-specific agricultural transformation frameworks, etc.

2.   Conducting in-country research: Each national expert will collect and analyze data under the guidance of the chief experts based on the agreed-upon research methodology and framework. The experts will be responsible for analyzing the data and preparing a report for review and acceptance by the chief experts and APO.

Methodology

The research will employ two chief experts who will lead the team of national experts in performing the research.

Chief experts' tasks:
a.   Assisting the APO in developing research guidelines and formulating the overall framework for the research;

b.   Presenting the research framework, methodology, and outline of the report structure and format during the coordination meeting;

c.   Providing support and advice to the national experts in conducting the research including data collection and analysis;

d.   Reviewing the drafts of the national experts' reports to ensure the quality of the work;

e.   Drafting (at least) one overview chapter in the report publication introducing the research and highlighting the primary findings;

f.   Providing guidelines for follow-up activities after research completion; and

g.   Preparing the final report and submitting it to the APO Secretariat by the deadline.

National experts' tasks:
a.   Data collection at national level following the methodology, framework, and timeline agreed upon during the coordination meeting;

b.   Writing country reports on the analyses and findings based on the data collected;

c.   Submitting the report following the agreed format to the chief experts and APO within the agreed time frame;

d.   Proposing ideas for national follow-up activities; and

e.   Cooperating with the chief experts to ensure the quality and consistency of the final report.

4.   Qualifications of National Experts

The national experts are expected to possess the following qualifications:

Present Position	Researchers, academics, and policy analysts who have sufficient background, working experience in, and knowledge of the adoption and/or application of digital and smart agriculture technology in farming operations.
Experience	At least five years of experience in the position described above.
Education	University degree or higher in the areas mentioned above or a related field from a recognized university/institution.
Language	Sufficient English proficiency to communicate with the APO Secretariat and chief expert on matters related to the research and excellent writing skills.
Health	Physically and mentally fit to commit him/herself to a one-year period of research.
Age	Candidates who fit the above profile are typically between 35 and 55 years of age.
Other	A strong commitment to undertaking and completing the research within the time frame is necessary; a good understanding of national agricultural policy as well as ICT policy and willingness to conduct field research including collecting primary data are desirable.

5. Qualifications of the Chief Experts

The APO will appoint two chief experts for this project to guide the group of national experts in undertaking the research. The APO-appointed chief experts must possess the following:

a. Extensive knowledge, research experience, and professional contributions related to applications of digital technologies in agriculture, agricultural transformation, smart farming, or other relevant areas with publications in English on the topic;

b. Excellent English writing and presentation skills, as the final report will be written in English; and

c. Strong commitment to undertaking and completing the research project within the given time frame and producing the consolidated analyses of all national reports.

6. Financial Arrangements

To be met by the APO

a. Honoraria for the chief and national experts to be paid upon completion of the final research report;

b. All assignment costs for the chief and national experts including daily subsistence allowances, miscellaneous expenses, and discount round-trip business-class international airfare by the most direct route between the international airport nearest to the experts' place of work and Tokyo, Japan, for attending the coordination meeting for the research; and

c. Local implementation costs for the meeting package including meeting room rental and required equipment.

To be met by experts or participating countries

a. Any expenses incurred by experts for extra stay at the venue before and/or after the official project period due to early arrival, late departure, or any other reason must be met by the experts attending the coordination meeting; and

b. All local implementation costs incurred by national experts when conducting the research and related activities at the national level.

7. Actions by Member Countries

a. Member countries included in the research are requested to submit appropriate nominations of national experts (preferably more than two for consideration) by 26 July 2019, in line with the provisions in section 4.

b. Each nomination should be accompanied by the candidate's biodata on the standard APO form in duplicate along with a passport-sized photograph. In addition to the standard APO form, nominees should also prepare a list of publications, research, and/or consulting projects they have undertaken in this field. A nomination lacking any of these documents will not be considered.

c. The selection of national experts will be based strictly upon their professional qualifications and experience, academic background, and commitment to this research.

8. Preparatory Work by National Experts

The selected national experts will be instructed to prepare a preliminary research report. The preliminary findings will be presented at the coordination meeting in Tokyo and will form the basis for further deliberations and development of the research framework. The detailed guidelines for the preliminary research reports will be provided later.

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