<u>**TERMS OF REFERENCE**</u>

CONSULTING SERVICES FOR EXTENSION AND ADVISORY SERVICES INFORMATION SYSTEM (EASIS)
(Phase 1: Identification of Scope of Work and Learning Modules Development)

A. INTRODUCTION

According to a study by the Agri Fisheries Alliance (AFA), a weak agriculture extension system in the Philippines was one of the reasons why the country's poverty incidence is worse than that of Vietnam, Thailand, and Indonesia (Ordoñez, 2018). The said problem was rooted in the devolution of some 17,000 extension workers to the local government units (LGUs), wherein under such arrangement, their functions became fragmented and dispersed (Flor, 2006). As a result, there is an apparent disconnect between the devolved extension workers and the farmers, their supposed main clients.

Agencies under the Department of Agriculture (DA) have contributed their fair share of extension and advisory services (EAS) to address the abovementioned gap. The Agricultural Training Institute (ATI) leads the DA agencies in this regard and has instituted various learning modalities for the benefit of both the extension workers and their clients (mainly farmers and fisher folks). Other national government agencies, state colleges and universities, nongovernment organizations, and private entities also serve as important players in EAS delivery. However, such a delivery system is complicated because of the plurality of EAS providers and information that flow from them until it reached the end-users. Under this scenario, there is also a tendency that the EAS being administered are mostly supply-oriented instead of demand-driven or need-based (Balamatti, 2017).

The use of **information and communication technologies** (ICTs) offers opportunities to bridge the information gap for rural farmers (Sanga, Mussa, Tumbo, Mlozi, Muhiche, & Haug, 2016) and at the same time facilitate models of demand-driven EAS (Richardson, 2006). In other words, ICT can be customized to consider whether an information is appropriate as defined by the farmer's own objectives, resources, local context, or agro-climatic conditions (Thirunavukkarasu & Mohan, 2009).

In the Philippines, a forerunner in the application of ICTs in EAS is the Open Academy for Philippine Agriculture (OPAPA). Hosted by the Philippine Rice Research Institute (PhilRice), it is a network of public and private institutions that "links policymakers, researchers, service providers, markets, business organizations, and farm communities using ICT and distance learning" (Flor, 2006). Since its inception in 2003 until its conclusion in 2011, OPAPA has

successfully led a host of ICT-based EAS modalities, which benefited many farming communities. However, most of such modalities were designed around the crop production sector, which is understandably so, as PhilRice is the lead agency. There is still a dearth in the application of ICTs in the Philippine livestock EAS, particularly those that cater large ruminant (carabao and cattle) raisers.

In other countries with rural economies like India, Kenya, Bangladesh, and Uganda, such is not the case, as they have already utilized ICTs in many of their EAS modalities in livestock and were proven effective in catering to the needs particularly of the smallholder livestock farmers. Take for example the Dairy Toolbox, Dairy Rationing System for the Tropics (DRASTIC), RAGACOVAS Touch Screen-Based Information Kiosk, Dairy Information System Kiosk or DISK (Thirunavukkarasu & Mohan, 2009), and interactive voice response or IVR (Kang'ethe & Dione, 2018). Similar ICT-based EAS modalities have vast application potentials in the Philippine livestock sector, wherein, current EAS practices are still largely anchored on the traditional Training & Visit approach and distribution of printed extension materials, where communication is mostly unidirectional or deterministic.

B. PROJECT OBJECTIVES

The project generally aims to develop an ICT-based EAS modality or an EAS Information system customized to the needs of the smallholder dairy buffalo farmers in the Philippines, as facilitated by a cohort and network of village-based knowledge brokers to be enrolled as part of the Philippine Carabao Center's "KBGAN" (Knowledge Brokerage, Guidance, and Advisory Network).

Specifically, the project aims to:

(1) Conduct scoping or situation analysis in the pilot area (Nueva Ecija) as regards priority issues or topics related to dairy buffalo production
(2) Develop EAS or learning modules based on the results of situation analysis
(3) Develop mobile application (smart phone or tablet-based) solutions that will operate the EAS or learning modules;
(4) Engage village-based knowledge brokers who will use the mobile EAS applications (or apps) in their respective communities; and
(5) Monitor and evaluate the effects of the said mobile EAS apps on target communities

C. SCOPE OF THE SERVICES/WORK

The PCC through its Knowledge Management Division (KMD) will engage the services of an **external collaborator or technical consultancy team** (TCT) in this project. The project shall be implemented in three phases namely:

> Phase 1: Identification of Scope of Work and Learning Modules Development
> Phase 2: Mobile EAS App Solution Implementation and Testing
> Phase 3: Farmer Profiling, Monitoring and Evaluation and Roll out of Mobile EAS App

For **Phase 1**, the TCT will perform the following:

(1) Focus Group Discussions (FGDs)

The TCT will conduct research with farmers to determine their awareness, constraints and other variables regarding active participation in the dairy buffalo value chain. This will identify market system efficiency gaps and inform the design of learning materials or subsequent interventions to close these gaps. The exercises will be composed of groups of at least six to eight (6-8) farmers. The objective is to gather insights that are not taken from published or existing survey outputs and to holistically understand the motivations and barriers that farmers face which numbers cannot sufficiently expound upon. A report will be accomplished and shared to various stakeholders.

(2) Human-Centered Design (HCD) Exercises

The TCT will implement a human-centered design approach to qualitative activities which will allow farmers, PCC staff, and extension officers to participate and provide their direct perspectives in all the steps of the problem-solving process. These qualitative activities will include but are not limited to key informant interviews, home or farm level visits, designing and testing of solutions, and identifying several process flows. Insights gathered will be presented to PCC's management team and key personnel to deepen the discussions on the operational and technological plan for solutions.

(3) Content Solution Development

The PCC management team and key personnel will leverage the skill set provided by the TCT to craft the first set of learning videos to be shared with the farmers. Experienced videographers will conduct field visits to capture on-site realities and get direct testimonies from the beneficiaries. The storyline of these materials will be crafted in collaboration with PCC's staff. Along with this, the TCT will support the digitization of existing research or carabao content and transform this to easily digestible mediums appropriate for learning.

(4) Prototyping of Solution

The goal is not only to empathize with the farmers but also to determine the best way to design and deliver the learning tools. Simple and quick prototypes will be created for testing and rolling-out of solutions to the target users or audience to gain their direct feedback. The information gathered will be integrated to improve the modules for delivery.

(5) Presentation of Analysis and Reports

Partner events and meetings will be conducted to turnover formal documentation and present the end of Phase 1 report. The objective is to identify and provide a readiness assessment for Phase 2 interventions. This will involve the recruitment of key personnel, a review of existing resources of PCC, a schedule of follow-ups and check-ins, and securing the final agreement for the interventions to be completed for Phase 2.

D. EXPECTED OUTPUTS/AND OR RESULTS OF THE PROPOSED CONTRACT

The collaboration between the TCT and PCC affirms their alignment to the strategic themes of fostering community empowerment, building a sustainable and resilient dairy product supply chain, and the convergence of agriculture-related programs at the local levels.

By the end of Phase 1, both the PCC and the TCT will be able to identify the key topics and themes for the learning modules, confirm the new use cases and design of tools, and agree on the resources needed for the full roll-out of the solution for Phase 2. The application of human-centered design principles will allow dairy buffalo farmers, PCC extension officers, and the village-based knowledge brokers to participate in the decision-making process. This, in return, will bring trust and confidence between each other, which may eventually contribute to an increase in income and productivity levels across the dairy buffalo value chain.

E. TEAM COMPOSITIONS AND SPECIFIC ROLES (OBLIGATIONS, DUTIES AND/OR FUNCTIONS OF THE CONSULTANT AND GOVERNMENT COUNTERPARTS AND STAFF, INCLUDING WORKING ARRANGEMENT BETWEEN THE CONSULTANT, ITS STAFF AND THE COUNTERPART STAFF)

(1) **Project Lead -** The Project Lead will provide strategic oversight and guidance to the whole team, monitor the overall project, and maintain the project budget in close coordination with the Chief of PCC's KMD who will serve as government lead counterpart. For Phase 1, the Project Lead will also closely coordinate with the KMD Chief for field schedules and activities. Part of the Project Lead's role is to manage the work of consultants and make sure that all administrative reports are delivered on time.

(2) Monitoring & Evaluation (M&E) Specialist - The M&E specialist will design and implement the project's monitoring, evaluation and learning strategies to ensure that it is consistent with the TCT's practices and standard indicators. This person will ensure that quality information and analysis is provided to measure and maximize project impact. For Phase 1 of the project, he/she will be leading the FGDs with dairy buffalo farmers and PCC's extension agents, and the writing and presentation of the final report.

(3) Software Developer - The Software Developer will provide key insights and timely recommendations on the technology tools and platforms needed for the Project. For Phase 1, he/she will oversee the prototyping and testing activities with the farmers, PCC staff and extension officers. This person will also be in-charge of training the stakeholders on the appropriate use of the technology.

(4) Content and Services Lead/Consultant - This person will direct and lead the development of the design and content of the high-impact digital training tool. He/she will place adult learning principles and human-centered design at the core of the Project. For Phase 1, his/her role includes conducting qualitative and quantitative desk research, and consolidating the existing technical concepts or PCC documents for learning material consideration. This person will work closely with the creative consultants and PCC's KMD to make sure that proper subject matter and themes are captured, aligned with PCC goals, in order to address the challenges of the stakeholders.

(5) Project Coordinator – This person will maintain partnerships and alliances with various stakeholders, ensure sound financial planning, and manage compliance with the laws of the Philippines. For Phase 1, he/she will serve as the main liaison with PCC and provide support to the Project Lead.

(6) Business Analyst - The Business Analyst will ensure financial management, oversight and reporting on the Project. For phase one, this person will monitor actual Project spending against budgets, and provide accurate as well as timely financial information necessary for reports and analysis.

(7) Technical Director - This person will provide technical guidance on agricultural practices and the use of digital tools for agriculture. For phase one, he/she will work closely with the Project Coordinator and Project Lead to ensure that the project's performance indicators and PCC goals are met. As part of the global leadership team, he/she will drive the discussion on the key thematic elements for effective project implementation.

(8) Consultant Services - In line with the creation of the learning modules, the TCT will leverage on the skillset provided by the following professionals: Photographer, Videographer, Video Editor, and Graphic Artist.

F. THE MINIMUM QUALIFICATIONS OF CONSULTANTS, SUCH AS TRACK RECORD

The TCT should have proven expertise, prior experience, and track record in the design, implementation, and M&E of a similar or related IT approach in providing EAS in rural communities preferably in the local settings.

G. THE SERVICES, FACILITIES AND DATA, IF ANY, TO BE PROVIDED TO THE CONSULTANTS

The PCC shall provide project-relevant primary or secondary data to the TCT e.g., demographic profiles of dairy buffalo farmers and cooperatives, village-based technicians, and PCC field personnel in the pilot site (Nueva Ecija), animal inventory and performance records, and other reference materials. The PCC shall also provide counterpart staff to provide technical and creative inputs in developing contents of learning materials and accompany the TCT during fieldworks, interviews, and focus group discussions.

H. BREAKDOWN OF COST (Phase 1)

Item No.	Description	Approved Budget for the Contract (PHP)
1	**Project Staff - Includes time for the following**: • Project Lead • Monitoring and Evaluation Specialist • Content and Services Lead • Software Developer • Coordinator • Business Analyst and Compliance • Technical Director	1,820,620.00
2	**Implementation and Project Support Costs:** • Research Activities 　➢ *Human Centered Design Exercises* 　➢ *Focused Group Discussions* • Local Travel and Accommodation • Partner Events and Meetings • Content Development and Documentation • Consultant Professional Fees • Computer/Equipment • Office Printing and Supplies • Partner Events and Meetings	439,295.00
3	**Indirect Costs**	338,987.25
	TOTAL APPROVED BUDGET FOR THE CONTRACT	**P 2,598,902.25**

I. TIME SCHEDULE/CONTRACT DURATION AND REPORTS

The Phase 1 of the Project shall be implemented for Six (6) months upon acceptance of the Notice to Proceed. The frequency of reporting in the payment of services and shall be done upon successful accomplishment of specific milestones and the specific provider's submission of progress billing to the PCC as follows:

1	Advance Payment	15%	Upon submission of an irrevocable letter of credit or bank guarantee issued by a Universal or Commercial Bank, advance payment not to exceed fifteen percent (15%) of the contract amount shall be allowed and paid within sixty (60) calendar days from signing of the contract. The irrevocable letter of credit or bank guarantee must be for an equivalent amount, shall remain valid until the goods are delivered, and accompanied by a claim for advance payment.
2	First Tranche	40%	Upon submission of Inception Report
3	Second Tranche	30%	Upon submission of Progress Report
4	Third Tranche	10%	Upon submission of Draft of Final Report
5	Fourth Tranche	5%	Upon submission of Final Report
		100%	

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