



**ICT Virtual Organization of ASEAN Institutes and  
NICT  
(ASEAN IVO)**

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**Appendix 4.2**

**SMART AQUAFARM FEEDER AND MONITORING SYSTEM IN HIGHLY TURBID  
CONDITIONS  
ONSITE PROJECT UPDATE MEETING WITH ASEAN IVO SAqFeeder Team Partner  
Institutions  
Report/Minutes Form**

**I. Organizer:**

<b>Name:</b>	Gregorio Crisostomo
<b>Position:</b>	Project Member
<b>Institution:</b>	TUP Visayas

**II. Program:**

**Date:** 29-30 October 2025

**Venue:**

**October 29, 2025:**

**Morning Session** – May's Garden, Bacolod City

**Afternoon Session** – Park Inn by Radisson

**October 30, 2025:**

**Morning Session** – May's Garden, Bacolod City

**Afternoon Session** - Siason Ditching Agro Industrial Farm

**Program Agenda:**

***(Note: describe the final program here)***

**III. Participants:**

29 October 2025

<b>No.</b>	<b>Name</b>	<b>Organization</b>
1	Engr. Eduardo D. Piedad Jr.	DOST - ASTI
2	Dr. Franz A. de Leon	DOST - ASTI
3	Mr. Gerwin P. Guba	DOST - ASTI
4	Dr. Meryl Regine P. Algodon	DOST - ASTI
5	Mr. Chan Vei Siang	UTM
6	Dr. Farhan Bin Mohamed	UTM
7	Engr. Ace Zander C. Antonio	TUPV
8	Engr. Gregorio Crisostomo	TUPV
9	Dr. Lim Tiong Hoo	UTB



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10	Dr. Nurun Najeebah Az-Zahra binti Pg Dato Seri Setia H Tashim	UTB
11	Engr. Gershom A. Defe	TUPV
12	Dr. Eric A. Malo-oy	TUPV
13	Gregorio Crisostomo	TUPV
14	Elisa C. Espares	DOST - ASTI
15	Engr. Reynaldo Ted Penas	DOST - ASTI
16	John Frederick M. Majan	DOST - ASTI
17	Kezia Celayne I. Bayona	DOST - ASTI
18	Atty. Gilbert A. Arbon	DOST - NIR

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10	Engr. Gershom A. Defe	TUPV
11	Dr. Eric A. Malo-oy	TUPV
12	Gregorio Crisostomo	TUPV
13	Ratchel Pabalinas	TUPV
14	Elisa C. Espares	DOST - ASTI
15	Engr. Reynaldo Ted Penas	DOST - ASTI
16	John Frederick M. Majan	DOST - ASTI
17	Kezia Celayne I. Bayona	DOST - ASTI

**IV. Summary of the activities corresponding to the objectives.**

**Program Agenda:**

A four-day collaborative session was held from October 28 to 31, 2025, involving expert technical staff alongside international academic partners, aiming to refine requirements and testing protocols for the Smart Aquafarm Feeder and Monitoring System initiative. The collaboration sought to develop a continuous, accurate monitoring solution for key aquaculture water quality indicators while addressing practical



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challenges such as inadequate manual reporting, infrequent measurements, and inefficient feed management. The finalized system is intended to offer real-time alerts, accommodate multiple users on mobile platforms, and present clear, actionable data to stakeholders. A significant site visit to Siason Ditching Agro Industrial Farm culminated efforts by establishing rigorous validation methodologies comparing the custom SaqFeeder device to industry-standard equipment under challenging turbid water conditions.

The **primary objectives** of the event were:

- Review and optimize budget management and procurement plans to ensure efficient use of funds and readiness for upcoming project phases as outlined in meeting deliberations.
- Conduct and validate prototype testing protocols on-site, ensuring benchmarking methods and dashboard specifications meet the practical needs identified during the farm visit.
- Plan follow-up actions and continued coordination, including data analysis, system enhancements, and scheduling of future meetings and presentations, to sustain project momentum post-session.
- Strengthen collaboration and coordination among DOST-ASTI, international academic partners, and industry stakeholders through effective communication and formal agreements established during the session.

**Day 1 (Oct 29, 2025):**

### **Activities Corresponding to the Objectives:**

The core discussions occurred at May's Garden Hotel, where project update presentations and budget monitoring by project leads and international collaborators were laid out to optimize the use of the remaining funds under ASEAN IVO. Key topics related to the project, such as essential water quality measurement parameters and user requirements, were also discussed.

- Identification of crucial indicators: Calcium & Magnesium, pH, Dissolved Oxygen, Water Temperature, Ammonia, and Salinity were agreed upon as essential to monitor shrimp farm conditions.
- Challenges included the unreliability of manual anomaly reports and insufficient monitoring frequencies, prompting a need for a transparent, automated system with real-time data and instant anomaly notifications accessible to all stakeholders.



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- The project aimed to optimize feed costs by integrating cost-effective sensors with accurate shrimp population estimation techniques to enable precision feeding strategies.
- Drawing inspiration from existing successful dashboards in disaster monitoring and agriculture allowed the team to conceptualize a multi-user, mobile-friendly dashboard with real-time data visualization.

The afternoon session marks a significant milestone as Memorandum of Agreement was signed, solidifying cooperation between DOST-ASTI, MARMI Agricultural Corporation, and DOST-NIR to jointly advance the SaqFeeder deployment and affirming a collaborative partnership support between the said parties.

### **Day 2 (Oct 30, 2025):**

#### **Activities Corresponding to the Objectives:**

The morning session was largely dedicated to continuing discussions on budget management, with a focus on updating financial records and refining budget estimates to improve procurement planning and ensure responsible fiscal management. The team also proposed holding next year's project meetings consecutively in Brunei and Malaysia by the end of January. Preparations for these meetings have begun, including obtaining quotations and drafting budget requests for approval. Afterwards, the team moved to Siason Ditching Agro Industrial Farm to execute hands-on prototype testing and finalize a validation framework. The methodology involves simultaneous data acquisition using the SaqFeeder prototype and established In-Situ commercial equipment for benchmarking measurements related to Ammonia, pH, Dissolved Oxygen, Turbidity, and Salinity. The visit confirmed critical dashboard specifications: live data updates, detailed multi-parameter visualization, alert systems for irregularities, and easy multi-user access on mobile devices. The groundwork was laid for prompt analysis of validation results and subsequent system enhancements before broader operational rollout.

### **V. Documentation**



*Figure 1. SAqFeeder Team with DOST NIR Assistant Regional Director, Atty Gilbert Arbon at May's Garden, Bacolod City.*



*Figure 2. Discussion of Agenda for October 29-30 led by Dr. Gregorio Crisostomo from TUP Visayas.*



*Figure 3. Tri-party MOU Signing with DOST ASTI x MARMI Agricultural Corporation x DOST NIR.*



*Figure 4. Open dialogue with Mr. Marty Trebol from MARMI with Dr. Lim Tiong Hoo from Universiti Teknologi Brunei regarding the status of the aquafarm.*



*Figure 5. Photo ops for a morning session at May's Garden.*



*Figure 6. Engr. Piedad and Engr. Guba led the setup of data collector and multiparameter sensor.*



*Figure 7. Simultaneous prototype testing and data collection of industry grade multiparameter sensor and manual data collector of ASTI SAqFeeder at Siason Ditching Agro Industrial Corporation at Taloc, Bago City.*



*Figure 8. Open forum and discussion with Siason Farm Owner.*



*Figure 9. Photo ops for Day 2: SAqFeeder Team with Siason Ditching Farm Personnel.*