

- Japan SDGs Innovation Challenge for UNDP Accelerator Labs -

Identified SDGs issues and expertise/technologies expected from Japanese private sector partners

UNDP Accelerator Lab Philippines (ALab PH)

Identified SDGs issues by UNDP Accelerator Lab



The 2021 United Nations Food Systems Summit posits that addressing the food systems can pave the way for the attainment of all the Sustainable Development Goals. It is in this context that ALab PH has responded to the invitation of the Local Government of Malay to collaborate in building models of food security and livelihood resilience.

Boracay Island in Malay, which is located in the province of Aklan, is a tourist paradise rivaling other global destinations. The island was closed for almost three (3) years, which hurt not just the tourist industry but more importantly the more than **17,000 workers on the island**. Food has been a source of vulnerability for the island, which is entirely dependent on agricultural shipments from other neighboring provinces and regions. Boosting local supply and connecting local producers to the Boracay market may be a way to not only ensure food security but also provide alternative and quality incomes to locals: tourist workers, who went back to farming and fishing to survive the closures.

As Malay bounces back, it has become clear to policymakers, business owners, and citizens that tourism will and should never be the same as before: where dependence to single-economy made it vulnerable to shocks and can paralyze or shut down the food supply chains and livelihood sources of both the locals and businesses. The collaboration opens the opportunity to pilot governance models and establish sustainable and resilient food production practices that enable policy harmonization and implementing innovations on food systems.



Identified SDGs issues by UNDP Accelerator Lab



Potential beneficiaries/customers

The sustainable food production farm aims to **demonstrate a model of producing food sustainably and resiliently**, which can impact the farming practices and livelihood of around **160 smallholding farmers** and their families spread out in **15 barangays** (villages) in Malay. These farmers own land of less than 1 hectare in size located mostly in less favorable areas (i.e., mountainous, sloping, etc.), thus must be set up for climate resilience and utilized at the most optimal level to maximize food production.

Ramping up the local food production will also benefit the private sector (market), specifically the food businesses, through a shortened supply chain of sourcing their agriculture product requirements while helping the Malay food producers and also the economic performance of the municipality.

The Malay LGU also benefits from the technological solutions and governance model that will be developed, guiding a more robust and responsive policymaking process, policies, and programs.



The ALab PH team conducted scoping of the issues, field research, and facilitated the co-design workshop. A portfolio of solutions was developed that guided the following experiments.

- Food demand survey among Boracay restaurants to determine vegetables and supplier requirements and scoping of available data from local government partners
- Service design for Malay Quarantine Office as a data source of Boracay's demand situation
- Preparation for establishing the multistakeholder governance platform for validation with key stakeholders.

This opportunity presents leverage to utilize technological innovations to bridge national policymaking with local implementation through:

- Smart agriculture practices with data capability to better inform food systems interventions
- Experimentation on building mechanisms to promote inclusive and resilient agriculture supply chains.



Malay Food Systems Innovation Solutions Portfolio





Food Demand Survey Pilot Results

- Respondents: 4 Restaurants
- Desired Quality: Fresh and Correct Size



- Requirements for their vegetable suppliers:
 - Can consistently supply on schedule
 - Able to issue official receipts
 - Accepts cash and credit for payment

 In addition to the demand survey, the team is also scoping available data from partner local government offices and putting them is visual format:



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These are production data of Malay from the Provincial Agriculture Office that shows the vegetables being produced in the municipality and the monthly volume produced.



Insights from the demand survey and scoping of available data:

On matching Malay's production with the market demand:

- Vegetable production in Malay will not be able to match the total market demand. The farmers are not producing the vegetables with high demand. Factors: high demand vegetables (cabbage, carrots) are not growing in Malay and they do not know the market demand opportunity.
- The market retailers are the biggest receivers of agricultural products going to Boracay. In the pretesting conducted for the Malay Food Demand Survey, the food businesses' usual practice is to buy from market retailers for convenience and less need for storage. This makes the market retailers the potential target market for the Malay farmers.

On data as a key factor to improving the food production:

- o Available data are not comparable because these have different timeframes
- Critical to set up with partner local governments the mindset and capacities of being data-driven in their processes to better inform their policy and program interventions.



<u>Challenge 1:</u> cutting-edge, low-cost technology with data capability that can be used to boost vegetable production but efficiently using the limited land and water resources in Malay?

The innovation and expertise sought involves:

- Design of a sustainable demonstration farm with the use of IoT devices for efficient food production
- Effective data presentation to government decisionmakers and open data access to stakeholders

Anticipated benefits of the innovation:

- Standardize unit of measure to help forecast and report the supply situation of the local government, thus informing agriculture support
- 2. The innovation will help food producers improve their farming practices and productivity
- The innovation as a model to other LGUs and communities interested building future-ready food
 production



Source:

https://www.japan.go.jp/technology/innovation/digitalfarming.html



Amount (USD)

26,776.15

Indicative budget from the Aklan Provincial Agriculture Office, which is one of the partner stakeholders, for **one (1) unit of a greenhouse with hydroponics** as a vegetable production facility:

INCLUSIONS

One (1) unit of top vent greenhouse

- Dimension: 23.2 meters X 30 meters
- Greenhouse area: 348 square meters
- With hydroponic floating raft system
- With Inside shading system
- With Recycle tank and cooling system
- Labor for construction, set-up, and installation

The current facility does not have IoT and smart agriculture solutions yet.

The Malay LGU has 0.5 hectares of land that can be utilized for setting up a demonstration farm for the project.











Spread Co's vertical farms

AeroFarms

Source:

<u>https://www.scmp.com/magazines/style/travel-food/article/2094791/future-farming-japan-goes-vertical-and-moves-indoors?module=hard_link&pgtype=article</u>



Film farming is the brainchild of Yuichi Mori (pictured), the chemical physicist who founded Mebiol in 1995.

Source:

https://www.scmp.com/magazines/style/leisure/article/2094 426/farming-without-soil-new-japanese-tech-makes-growingfruit?module=perpetual_scroll_1&pgtype=article&campaign= 2094426



<u>Challenge 2</u>: Governance platforms that consolidates production supply and demand data in response to the agriculture supply chain needs and related activities to get the food from the source up to the end-users and consumers.

The innovation and expertise sought involves:

- Design/prototyping of a platform to match demand and supply data
- Business case development, including cost-benefit analysis and business planning for potential scaling

Anticipated benefits of the innovation:

- 1. Benefit to producers guaranteed market and income for their products, participation in the supply chain
- 2. Benefits to businesses shorter supply chain, contribution to local economic development
- 3. Benefit to government robust and responsive food systems policies and interventions
- Benefit to society localized supply chains builds resilience to shocks; promotes sustainability and shared prosperity

Al can optimize matching between farmers and wholesalers, with:

- better forecast of supply and demand,
- less food loss and waste, and,
- maximize producer's profit.



Source:

https://www.maff.go.jp/e/policies/env/env_policy/attach/pdf/meadri-4.pdf



ALab PH team and Malay LGU team are preparing to **pilot a market-matching experiment** wherein Malay farmers will produce and sell their vegetables to Boracay market retailers ("talipapa") according to the agreed volume and delivery schedule.

The Malay LGU will be facilitating the entire process with support from ALab PH and the Aklan Provincial Office. This is for implementation in the 4th quarter of 2022.



Other available platforms of the National Government where farmers can sell produce to more markets:

- 1. <u>E-Kadiwa ni Ani at Kita online store</u> (Department of Agriculture)
- 2. <u>Deliver-E</u>
- 3. <u>Digi-palengke</u>



ALab PH has been working with the **Malay LGU (Local Government Unit)** in scoping the food systems challenges and opportunities of the locality. Through exploration initiatives, field ethnography, and facilitated processes of systemic design and foresight with multiple key stakeholders from the government, private sector, and civil society organizations, insights were gathered that guided the learning actions for experimentation. The stakeholders may be tapped for data, current practices, and resources needed in the implementation.

The team is also in close coordination with the Climate and Biodiversity team for thematic expertise and alignment with national directives. The **UN Country Teams FAO, UNIDO, and IFAD** are also consulted for synergies and areas for collaboration on food systems initiatives.

In summary:

- 1. **Research, reports, and data** from: i) rapid ethnography and co-design workshop with local stakeholders; ii) agriculture production data provided by field partners; iii) results of data experiments that will be conducted.
- 2. Human resources: in-house capability through the Accelerator Lab (innovation specialists), Climate Action Team (domain experts), and Pintig Lab (in-house advanced analytics lab); ii) networked capability through rosters of consultants and long-term agreements with data science firms.

3. Access to networks and local and multiple sector partners



What is Systemic Design & Foresight?

• The Co-Design Workshop facilitated by the Accelerator Lab is a social innovation approach that combines Design Thinking, Systems Thinking, and Futures Thinking. The process allows for a multi-stakeholder group of participants to participate in a design workshop with the objective of understanding the context and the desired system state in order to ideate new solutions for the future. The resulting output is the Portfolio of Interventions that targets key points in the system to ensure system change.





Stakeholders of the project: Government

The **Malay LGU** is the frontliner of the Malay Food Systems Innovation implementation in collaboration with UNDP ALab PH. Within the LGU, the following departments are directly involved in the project:

- Office of the Municipal Mayor that leads the initiative and designated a Focal Coordinator for the project
- Municipal Agriculture Office for the production initiatives and support to local food producers
- Municipal Economic and Enterprise Development for the livelihood enterprise platforms to be implemented
- Municipal Cooperative Development for developing the capacities of food producers as cooperatives
- Municipal Tourism Office for advocacy campaigns on sustainable food systems and tourism

Given the rapid timeframe for this pilot, the Office of the Municipal Mayor and Agriculture will be tapped directly for implementation initiatives.

Other government collaborators for the Malay Food Systems Innovation are the Aklan Provincial Agriculture Office and the Department of Agriculture – Regional Field Office 6 (DA-RFO 6) that can provide policy and scale directions and resources moving forward.



A Memorandum of Understanding (MOU) is being developed for the Malay Food Systems Innovation for the signing of the Malay LGU, Aklan Provincial Government, and UNDP ALab PH.



Stakeholders of the project: Private sector and Civil Society

The following sectors will also be involved in the project:

- Private Sector
 - Food businesses in Boracay
 - Groups: Philippine Chamber of Commerce and Industry – Aklan Chapter, Compliance Association of Boracay
- Civil society, non-government organizations
 - UN Country Teams: FAO, UNIDO, and IFAD
 - Boracay Women Producers Cooperative







Planned activities and timeline of the project (JIN)

	2022		2023					
	November	December	Q1 Q2	July-August				
	 ✓ Selection of a partner company ✓ Contracting ✓ Project kick-off 	 ✓ Concept creation 	 ✓ Concept creation ✓ Concept validation ✓ Concept validation 	 ✓ Concept validation 				
UNDP ALab PH	 ✓ Stakeholder consultation with Malay LGU and food producers ✓ Field visit and conduct of desktop research 	 ✓ Stakeholder coordination ✓ Co-design and co- creation of concept ✓ Procurement of materials (if applicable) 	 ✓ Collaborate to design experiments, including implementa tion and M&E Plan ✓ Execution of Experiment with embedded M&E for learning 	 ✓ Submission of Final Experiment Report with recommendations for 				
Japanese partner company	 ✓ Submission of an application ✓ Contracting and inception talks 	 ✓ Presentation and discussion of initial solutions for consideration ✓ Co-design and co- creation of concept 	 ✓ Field visits and coordination 	scale				



Planned activities and timeline of the project (Malay Food Systems Innovation)

2022	2023							
 February: Co-design mission March to April: Portfolio valida May to June: Designing data ex multistakeholder group platfor June: Resource alignment with of demand survey 	ation, data map xperiments and rm n local partners	ping d the , pretest	 Q1 to Q2 Iteration of experiment design Implementation of advocacy initiatives Q3 to Q4 Scaling out to other areas 					
 Q3 Partnership MOU Iteration of experiments Market matching design 	November	December Concept creation Stakeholder.	Q1 ✓ Concept creation ✓ Concept validation	Q2	July-August			
 Q4 Experimentation phase Review, scaling 	PH consultation with Malay LGU and food producers Field visit and conduct of desktop research Japanese partner application company Contracting and	 coordination Co-design and co- creation of concept Procurement of materials (if applicable) Presentation and discussion of initial solutions for 	 Collaborate to design experiments, including implement ation and M&E Plan 	 ✓ Execution of Experiment with embedded M&E for learning ✓ Field visits and coordination 	✓ Submission of Final Experiment Report with recommendations for scale			
	inception talks	 consideration ✓ Co-design and co- creation of concept 						
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Expected outcomes and follow-up activities to the project

To showcase the outcomes of the project:

- Presentation of experiment results to the Department of Agriculture and its regional offices, the Provincial Government of Aklan, the Malay LGU, and other national agencies and LGUs that have an interest in the project.
- At the CO level, presentation to the UN Country Teams with food systems initiatives (FAO, UNIDO, and IFAD) and Programme teams Climate and Biodiversity for portfolio integration
- Tapping the LGU's information arm that utilizes mass media platforms (radio, TV, and print) for wide citizen awareness and campaign
- Webinar, podcasts, blogs, and social media to reach a broader network at the local and global level

Activities after the project period (April 2023 onwards)

- Feed into the Malay's local policymaking body to institutionalize support for food systems and other related social responsibility campaigns
- Offer the solutions for the possible adoption of other municipalities within the Aklan province]
- Scale the business model and set up to other small tourist islands with similar contexts, such as Siargao, Palawan, and Samal, through the UNDP Climate and Biodiversity team's project sites (see next slide)
- Documentation and codifying of the project process through publication of the project work



Expected outcomes and follow-up activities to the project



