

Smart Food Value Chain

Updated as of 15 February 2024

Food Security and Sustainability

- Accessible, sufficient, safe, and nutritious food
- Waste Management and Recovery

Smart / Innovative Technologies in the Value Chain

- Accessible, sufficient, safe, and nutritious food
- Waste Management and Recovery

Supply Chain Management System

- Database, AI, Data Analytics, information from each chain are collected, analyzed, feedback to the chain

Current situation

- Difficulty in the movement of goods from the farms to the consumers during pandemic
- Double burden in supplies and raw materials - wastage and surpluses of produce that cause losses for the farmers

366M

- Enhancing the Agri-Aqua Food Value Chain through Smart Technologies and Partnerships towards Food Resiliency in the New Normal (c/o PCAARRD)
- Upgrading of Selected Food Innovation Centers and Processing Facilities of the SUCs as Toll Processing Facilities
- Development and Rollout of Food Products in Complementary Food Processing Facilities
- Mobile Food Processing Facility
- Upgrading the Capability of Existing Distribution Centers/Trading Posts in the Delivery of Fresh and Semi-Processed Vegetables in the Supply Chain: Focusing on Packaging Technology and Logistics
- Enhancing the Food Supply and Resource Management System

2021-2022

- Upgraded food processing centers as toll processing facilities
- Developed smart modular mobile food processing facility
- Upgraded distribution centers and/or trading posts of fresh and semi-processed vegetables in the supply chain

POSSIBLE SOLUTIONS

15M

Food Security and Sustainability

- Accessible, sufficient, safe, and nutritious food
- Waste Management and Recovery

2023-2024

- Processing technologies developed addressing surpluses and wastage in of produce into value-added products with longer shelf-life
- Trainings developed and deployed in the Regions for new innovative food processing technologies
- Systems developed for the distribution centers
- Smart packaging established for delivery of takeout food, in accordance to food safety guidelines
- Partnerships / linkages with stakeholders

18M

Smart / Innovative Technologies in the Value Chain

- Accessible, sufficient, safe, and nutritious food
- Waste Management and Recovery

2025-2026

- Technologies using AI for efficient transfer and delivery of supplies and food products
- Database completed for resource tracking, in collaboration with partner agencies
- Established network system that allows direct linkages from farmers to consumers
- Partnerships / linkages with stakeholders

MILESTONES

22M

Supply Chain Management System

Database, AI, Data Analytics, information from each chain are collected, analyzed, feedback to the chain

2027-2028

- Automated Processes, Logistics and Distribution for both raw materials and final products
- Supply and raw materials resource and volume tracker through Data Analytics
- Partnerships / linkages with stakeholders

VISION

Local food sufficiency for the new normal through smart and innovative technologies throughout the value chain

DIFFERENTIATION

Collaborative efforts among government, academe, and industry stakeholders toward sustainable food value chain.



Republic of the Philippines

DEPARTMENT OF SCIENCE AND TECHNOLOGY

PHILIPPINE COUNCIL FOR INDUSTRY, ENERGY AND
EMERGING TECHNOLOGY RESEARCH AND DEVELOPMENT

OneDOST4U



BAGONG PILIPINAS

List of Projects – Smart Food Value Chain

R&D Technologies	Project Title	Budget Allocation ('000)							Status
		2022	2023	2024	2025	2026	2027	2028	
Vacuum Frying Spray Drying Thermal Processing	Development and Deployment of a Smart Toll Processing System for Vacuum-Fried Mixed Chips, Spray-dried Buko Powder and Thermally Processed Tuna Congee		-	-	-	-	-	-	Completed
Vacuum Frying	Leveling-Up of Quezon's Bagsakan Center Agri-Processing Capabilities through Adoption of the Smart Food Value Chain Framework	985	-	-					Ongoing
Vacuum Frying	Upgrading of the Vacuum-Fried Fruits and Vegetables Production in the Western Visayas Food Innovation Center	507	-						Ongoing
Packaging	Upgrading the Capability of Existing Distribution Centers /Trading Posts in the Delivery of Fresh and Semi-Processed Agricultural Products in the Supply Chain: Focusing on Packaging Technology and Logistics	9,192	-						Ongoing
Vacuum Frying Thermal Processing Aseptic Processing	Development of Mobile Modular Food Processing Facility (MMFPF)	10,989	-	-					Ongoing

Smart Food Value Chain 2023

Target Projects: 4
Target Budget: Php 35 M

On-going: 4
(Quezon Bagsakan, Distribution Centers, MMFPF, WVFIC)

Completed: 1
(Davao FPIC)



Roadmap Assessment

OVERALL ASSESSMENT

HIGHLIGHTS

- 5 projects implemented 2018-2023: 3 Upgrading of Processing Centers and Rollout of Technologies, MMFPF, Distribution Centers
 - Patents/IP: 2 patents and 3 UM filed; 2 approved trademarks
 - Products: 6 (VF banana, green mango, sweet potato, mixed vegetables; coconut powder; tuna congee)
 - Places: 3 upgraded processing centers, 3 upgraded distribution centers
 - Partnerships: 14 MOU among HEIs, distribution centers, LGUs, and industry

CHALLENGES

- No proposals received under the program
- Delays in equipment procurement, Changes in project sites, acquisition of FDA LTO

RECOMMENDATIONS / WAY FORWARD

- Program review with DOST agencies
- Presentation of accomplishments, consultation, and enhanced linkage with stakeholders (industry, DA, DILG, DOH, LGUs)
- Pre-engagement activities to encourage new researchers
- Awareness campaign on food systems approach to address gaps and future shocks in the food supply

