

Updated as of 15 February 2024

POSSIBLE SOLUTIONS

Integrated Food Safety R&D Program

- R&D to Support Risk Assessment in Philippine Food
- R&D in Support to Food Industry (Informal Sectors, Food Manufacturers, Food Service)
- R&D to Support Food Testing of Microbiological & Chemical Hazards
- Establishment of Food Safety R&D Hubs

Problems/Concerns:

- Food-borne diseases
- Product detentions
- Inadequate technical support for MSMEs
- Knowledge gap on food safety of Philippine Food Supply
- Lack of science-based evidence for food safety policies and guidelines

P 196.7 M

- Standards Development to Ensure Safety of Priority Products
- Development of MSMEs' Traceability Systems
- Establishment of Safety Protocols in the Delivery of Freshly Cooked Foods and Fresh Salads and Cut Fruits
- Food packaging hazard migration studies
- Study on Chilled Ready to Heat and Ready to Eat Foods Sold in Convenience Stores
- Food Safety Risk Profiling
- Food Safety Guidelines
- Philippine Total Diet Study
- Food Safety Web App
- Food Authenticity and Traceability Study Using Nuclear Techniques (Cacao, Coffee, Mango, Halal, Heirloom Rice)

- Draft PNS and RCP for priority products
- MSMEs Traceability System
- Policy measure on the delivery of freshly cooked foods and fresh salads and cut fruits
- Food Safety Risk Profiles
- Risk assessment for AMR emergence and spread
- Nuclear and Isotope based technologies developed

P114 M

- Philippine Total Diet Study Program : Artificial sweeteners
- Exposure assessment study: *L. monocytogenes*
- Hazard contamination assessment: Microplastics
- Food packaging hazard migration studies

2024

- Dietary exposure estimates and prevalence data on the selected hazards
- Data on level of microplastic contamination
- Scientific data on food packaging contaminants
- Draft PNS and RCP endorsed to BPS for adoption
- Proposed policy measures in handling and storage of chilled RTH/RTE foods
- Food Safety Risk Profiles
- Risk assessment for AMR emergence and spread

P90 M

- Philippine Total Diet Study Program : Veterinary drug residues
- Exposure assessment study: *L. monocytogenes*
- Development of Guidance Manual on Safety Aspects of Food Processing Equipment

2025

- Dietary exposure estimates and prevalence data on the selected hazards
- Scientific data on food packaging contaminants
- Draft PNS and RCP endorsed to BPS for adoption
- Data on local fabricators' current practices on food processing equipment
- Rapid test kits developed
- Established Risk Profiling Center
- Established database on AMR occurrence

P47.5 M

- Philippine Total Diet Study Program Vet. Drug residues
- Exposure assessment study: *E. coli*

2026

- Dietary exposure estimates and prevalence data on the selected hazards
- Scientific data on food packaging contaminants
- Food Safety guidance manual for food processing equipment
- Draft PNS and RCP endorsed to BPS for adoption

P75 M

- Philippine Total Diet Study Program : Pesticide residues
- Exposure assessment study: *E. coli*
- R&D studies on Predictive microbiology

2027-2028

- Dietary exposure estimates and prevalence data on the selected hazards
- Scientific data on food packaging contaminants
- Validated Predictive Microbiology Statistical software
- Draft PNS and RCP endorsed to BPS for adoption

MILESTONES

Program Objectives:

1. To conduct risk assessment studies to support national risk management
2. To conduct R&D to facilitate the compliance of the food manufacturers, food service and informal sectors to food safety guidelines and regulations
3. To conduct R&D to support food testing of priority chemicals and microbiological hazards including emerging pathogens
4. To establish R&D Hubs to support food safety R&D activities

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DOST Food Safety Program – S&T Services

Updated as of 15 February 2024

S&T Services on Food Safety

– ACTION TRACKS

- Enhancement of testing capabilities (chemical and microbiological) for new food safety parameters to address market and regulatory requirement
- Development of proficiency testing materials for food safety
- Development and implementation of systems and procedures for new food safety related parameters
- Integration and promotion of new food safety related parameters to customers under the OneLab network

Problems/Concerns:

- Food-borne diseases
- Product detentions
- Inadequate technical support for MSMEs
- Knowledge gap on food safety of Philippine Food Supply
- Lack of science-based evidence for food safety policies and guidelines

POSSIBLE SOLUTIONS

P 517.88 M

- Application of globally-accepted methods for food safety parameters: validation and standardization - Allergens, Preservatives & Stabilizers
- Establishment of nuclear and isotope-based technology for food safety
- Development of Quality Control Material and Provision of PT Scheme for Food Microbiological Laboratories in Meat Products
- Enhancement of shelf-life testing in the regions – chips, dried fruits using moisture accelerated method
- Enhancement of food packaging materials testing in the regions: overall migration
- Detection of food pathogens using molecular method: *Salmonella*

- DOST Methods for Food Safety Testing
- Regional laboratories capable of testing food packaging materials for overall migration
- Molecular detection of food pathogens established among the regions
- Proficiency testing provided: meat product (micro)
- Nuclear and isotope-based technologies established

P335.86 M

- Application of globally-accepted methods for food safety parameters: validation and standardization - Allergens, Preservatives & Stabilizers
- Harmonization of methods for food safety parameters: artificial sweeteners
- Provision of analytical testing services for quality assessment of local products: histamine testing for local and export food products
- Food irradiation for food bioburden reduction
- Enhancement of shelf-life testing in the regions – juice and beverages using direct method and temperature accelerated method
- Enhancement of food packaging materials testing in the regions: overall migration: Bisphenol A
- Detection of food pathogens using molecular method: *Listeria*
- Development of Quality Control Material and Provision of PT Scheme for Food Microbiological Laboratories in Meat Products

2024

- DOST Methods for Food Safety Testing
- Methods for detection of irradiated foods
- Shelf-life method established in the regions
- Regional laboratories capable of testing food packaging materials
- Proficiency testing provided: artificial sweeteners

P258.11 M

- Application of globally-accepted methods for food safety parameters: validation and standardization - Allergens, Preservatives & Stabilizers; validation and verification- commercial sterility
- Harmonization of methods for food safety parameters: allergens
- Provision of analytical testing services for quality assessment of local products: histamine testing for local and export food products
- Roll-out of nuclear techniques to test food authenticity and traceability
- Detection of toxins and adulterants using radioassays
- Enhancement of shelf-life testing in the regions – food supplements using direct method
- Enhancement of food packaging materials testing in the regions: acetaldehyde
- Detection of food pathogens using molecular method: *E. coli*
- Development of Quality Control Material and Provision of PT Scheme for Food Microbiological Laboratories in Meat Products; Dairy Products

2025

- DOST Methods for Food Safety Testing
- AOAC Southeast Asia- harmonized method (allergens)
- MSMEs assisted with histamine testing
- Nuclear-based analytical techniques developed
- Radio assay methods for detection of toxins and adulterants
- Molecular detection of food pathogens established among the regions
- Shelf-life method established in the regions
- Regional laboratories capable of testing food packaging materials
- Proficiency testing provided: meat product (micro); trans-fat

P 228.86 M

- Application of globally-accepted methods for food safety parameters: validation and standardization - trans-fat, artificial and nutritive sweeteners, heavy metals, histamine, antibiotic residues, heavy metals speciation, ethylene oxide & 2-chloroethanol; validation and verification- commercial sterility
- Harmonization of methods for food safety parameters: preservative
- Provision of analytical testing services for quality assessment of local products: methanol in lambanog; Shelf-life testing of VCO; Bacterial profile of street-vended foods
- Enhancement of shelf-life testing in the regions- food supplements using temperature accelerated method
- Enhancing calibration services in support to food safety
- Enhancement of food packaging materials testing in the regions: benzophenone
- Detection of food pathogens using molecular method: *Campylobacter*
- Development of Quality Control Material and Provision of PT Scheme for Food Microbiological Laboratories in Dairy Products; Drinking Water

2026

- DOST Methods for Food Safety Testing
- New calibration services of food processing tools and equipment offered
- Improved quality in lambanog and distilled spirits with safe level or zero content of methanol
- AOAC Southeast Asia- harmonized method (preservative)
- LGUs/street vendors assisted
- Regional laboratories capable of testing food packaging materials
- Shelf-life method established in the regions
- Molecular detection of food pathogens established among the regions
- Proficiency testing provided: dairy product (micro); artificial colorant

P159.75 M

- Application of globally-accepted methods for food safety parameters: validation and standardization - preservatives, synthetic dyes, pesticide residues
- Harmonization of methods for food safety parameters: artificial colorant
- Provision of analytical testing services for quality assessment of local products: antibiotic levels in dairy products
- Enhancing calibration services in the region
- Enhancement of food packaging materials testing in the regions: phthalates
- Detection of food pathogens using molecular method: *Cronobacter*
- Development of Food Reference Materials
- Development of Quality Control Material and Provision of PT Scheme for Food Microbiological Laboratories in Drinking Water

2027-2028

- DOST Methods for Food Safety Testing: pesticide residues, antibiotic residues, *B. cereus*
- Food RMs developed (fish muscle for selected minerals and heavy metals)
- AOAC Southeast Asia- harmonized method (artificial colorant)
- Local dairy products tested for antibiotics
- Calibration services rendered to MSMEs
- Accreditation of FNRI-RMP to ISO 17034 and DOST-ITDI to ISO 17043
- Molecular detection of food pathogens established among the regions
- Proficiency testing provided: drinking water (micro)

MILESTONES

Program Objectives:

1. To enhance the chemical and microbiological testing capabilities for new food safety parameters to address market and regulatory requirements
2. To develop food safety related proficiency testing reference materials
3. To develop and implement effective systems, processes and protocols on food safety

Legend

New/ Ongoing	Completed	Target
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DOST Food Safety Program – HRD

Updated as of 15 February 2024

DOST Human Resource Development Program on Food Safety

- Competency-based Training Program for DOST (& non-DOST) Food Safety Team members, R&D personnel, Lab analysts, and LGUs
- Development of Food Safety Training Modules
- Development of Massive Open-Online Course on Food Safety
- Food Safety In Disaster Management

Problems/Concerns:

- Food-borne diseases
- Product detentions
- Inadequate technical support for MSMEs
- Knowledge gap on food safety of Philippine Food Supply
- Lack of science-based evidence for food safety policies and guidelines

Legend

New/Ongoing	Completed	Target
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POSSIBLE SOLUTIONS

P18.7 M

- Development of Competency-based Evaluation Criteria and Training Plan
- Competency-based Human Resource Development Project
- Updating and Development of Food Safety Training Modules
- Development of Massive Open-Online Course on Food Safety
- Food Safety in Disaster Management
- FSRCB Committee on Food Safety Education, Trainings and Advocacies

2022-2023

- Developed Competency evaluation rubric
- Training Plan for DOST (and non-DOST) Food Safety workforce
- Trained DOST (and non-DOST) workforce and LGUs on Food Safety during disaster management
- Guidelines in recognition of food safety training institutions and/or providers

2024

- Trained and competent DOST (and non-DOST) Food Safety workforce
- Updated Food Safety training modules
- Food Safety massive open online course launched
- Guidelines on food safety during disaster management
- Harmonized Food Safety Training Curriculum / Training Programs/Courses
- Developed Guidelines in recognition of food safety training institutions and/or providers
- Harmonized Food Safety Training Curriculum / Training Programs/Courses

P14.5 M

- Competency-based Human Resource Development Project
- Updating and Development of Food Safety Training Modules

2025

- Trained and competent DOST (and non-DOST) Food Safety workforce
- Developed unified Food Safety Training modules
- Food Safety training modules endorsed to FSRCB
- FSRCB-approved guidelines on food safety management during disaster operations
- Launched and deployed one model kitchen/facility for disaster relief operations
- Developed Guidelines in recognition of food safety training institutions and/or providers adopted and implemented
- Harmonized Food Safety Training Curriculum / Training Programs/Courses adopted and implemented

P10.5M

- Competency-based Human Resource Development Project
- Development of Food Safety Training Modules

2026

- Trained and competent DOST (and non-DOST) Food Safety workforce
- Launched and deployed training modules
- Training modules recognized by FSRCB
- Food Safety Training Impact assessment report

P4.5 M

- Competency-based Human Resource Development Project
- Food Safety Training Impact Assessment

P4 M

- Competency-based Human Resource Development Project
- Food Safety Training Impact Assessment

2027-2028

- Trained and competent DOST (and non-DOST) Food Safety workforce
- Food Safety Training Impact assessment report

MILESTONES

Program Objective: To further capacitate and expand the Food Safety Team members from DOST and other stakeholders

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DOST Food Safety Program – Knowledge & Technology Transfer

Updated as of 15 February 2024

Knowledge and Technology Program on Food Safety

- Food Safety Technology Transfer Program (Action Track 1: Access to safe nutritious food for all)
- Food Safety Technology Transfer Program (Action Track 5: Build resilience to vulnerabilities, shocks and stress)

Problems/Concerns:

- Food-borne diseases
- Product detentions
- Inadequate technical support for MSMEs
- Knowledge gap on food safety of Philippine Food Supply
- Lack of science-based evidence for food safety policies and guidelines

POSSIBLE SOLUTIONS

P 90 M

- OneDOST Food Safety Website (Maintenance 2023 onwards)
- TQM Knowledge Transfer
- DOST Food Safety Fora and Summit
- Deployment of Harmonized Food Safety Modules
- Forum on Determination of Technology Readiness Level of Food Safety Technologies
- Support for Commercialization of Food Safety Technologies in the Regions
- Food Safety Month Celebration

- Nation-wide and Regional Food Safety Summit conducted
- Food Safety modules deployed
- Technology Readiness Level and Inventory of Technologies
- Assistance for commercialization of Food Safety Technologies

P45 M

- DOST Food Safety Fora and Summit
- Deployment of Food Safety Modules
- Support for Commercialization of Food Safety Technologies
- Food Safety Month Celebration

P45 M

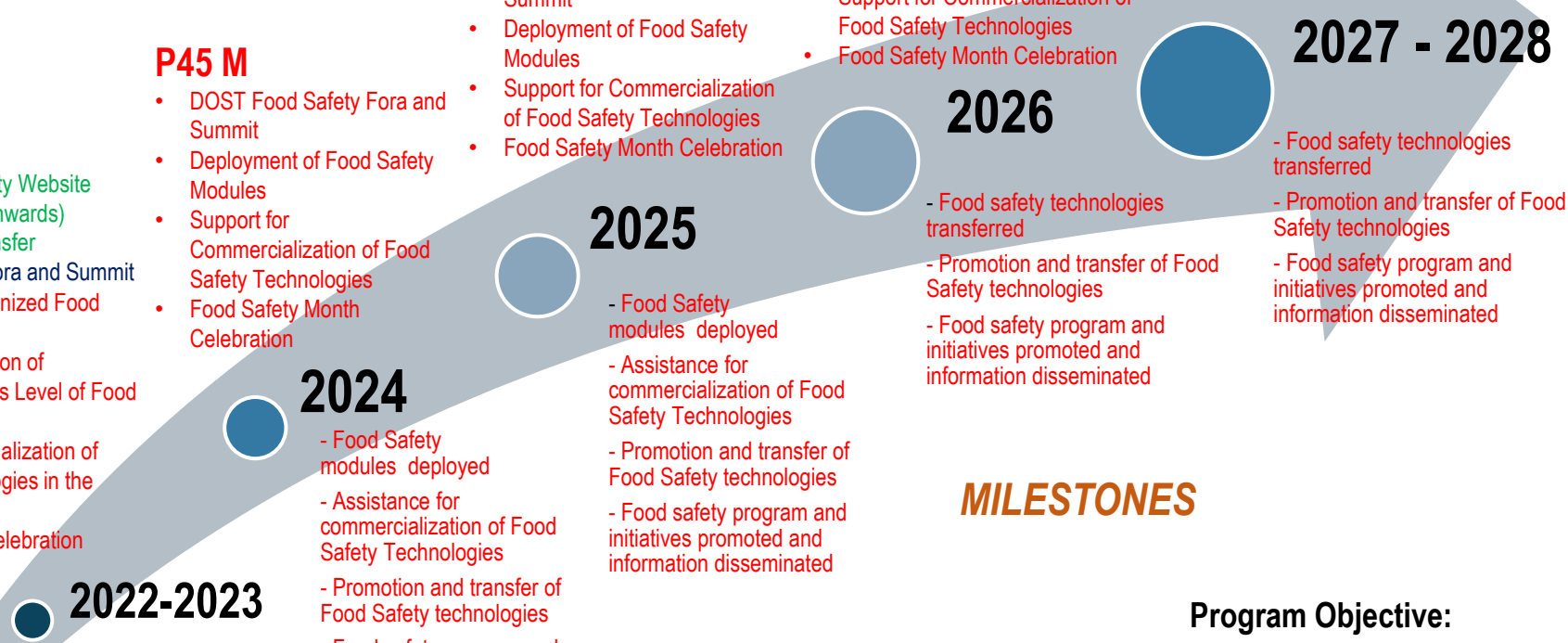
- DOST Food Safety Fora and Summit
- Deployment of Food Safety Modules
- Support for Commercialization of Food Safety Technologies
- Food Safety Month Celebration

P45 M

- DOST Food Safety Fora and Summit
- Deployment of Food Safety Modules
- Support for Commercialization of Food Safety Technologies
- Food Safety Month Celebration

P45 M

- DOST Food Safety Fora and Summit
- Deployment of FS Modules
- Support for Commercialization of Food Safety Technologies
- Food Safety Month Celebration



2022-2023

2024

2025

2026

2027 - 2028

MILESTONES

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Program Objective:

To promote, support, and facilitate the transfer of knowledge and technologies on food safety developed by DOST institutions and/or by DOST-funded/assisted programs.

DOST Food Safety Program – Policy Advocacy: PAGKAINgat

Updated as of 15 February 2024

Legend	New/ Ongoing	Completed	Target
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- Issues/Concerns**
- Lack of science-based safety policies and guidelines
 - Outdated food safety-related policies/laws
 - Lack of FS champions in various levels of governance
 - Lack of participation of business associations, MSMEs and chambers of commerce in the FS policymaking environment

POSSIBLE SOLUTIONS

P 21 M

- Review of the Food Safety policymaking environment
- Development of policies as a result of R&D
- Dissemination and adoption of science-based policy recommendations
- Engagement of FS champions at all governance levels and in the business sector/MSMEs
- Review of existing policies or laws
- Engagement meetings with RDCs, MSMEs associations, chambers of commerce & LGUs to identify FS gaps
- Partnership with RRDICs (e.g. creation of an FS unit and as conduit of FS policies for RDC approval)
- Identification of policy implications from completed R&D projects
- Identification of FS policy champions at all levels of governance
- Dissemination of drafted policies through various platforms
- Crafting of M&E tools for various policy advocacy platforms

P24 M

- Development of policies as a result of R&D
- Dissemination and adoption of science-based policy recommendations; all platforms
- Engagement of FS champions at all governance levels and in the business sector/MSMEs
- Monitoring and evaluation of Policy Advocacy Campaign

P29 M

- Development of Policies as a result of R&D
- Dissemination and Adoption of Science based policy recommendations, all platforms
- Engagement of FS champions at all governance levels and in the business sector/MSMEs
- Monitoring and Evaluation of Policy Advocacy Campaign

P34 M

- Development of Policies as a result of R&D
- Dissemination and Adoption of Science based policy recommendations, all platforms
- Engagement of FS champions at all governance levels and in the business sector/MSMEs
- Monitoring and Evaluation of Policy Advocacy Campaign

P40 M

- Development of Policies as a result of R&D
- Dissemination and Adoption of Science based policy recommendations, all platforms
- Engagement of FS champions at all governance levels and in the business sector/MSMEs
- Monitoring and Evaluation of Policy Advocacy Campaign

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2022-2023

2024

2025

2026

2027 - 2028

<ul style="list-style-type: none"> Analysis of policymaking environment Policy statements/policy briefs generated from completed research M&E tools: various policy advocacy platforms List of FS champions at all governance levels and in the business sector/MSMEs FS committee in the RRDICs created 	<p>Year 1 plus:</p> <ul style="list-style-type: none"> Policy statements/policy briefs accepted/used by policymakers (national and local levels) M&E tools used by FS program implementers FS champions engaged in policy advocacy and campaign (national/local; formal/informal business sector; MSMEs) 	<p>Years 1 and 2 plus:</p> <ul style="list-style-type: none"> Amendment to policies/laws FS policies included in LGU investment and development plans FS policy advocacy included in Regional Development Agenda M&E tools used and results analyzed 	<p>Larger scale/nation-wide:</p> <ul style="list-style-type: none"> Policy statements/policy briefs accepted/used by policymakers Inclusion of FS policies in regional agenda and local investment plans FS champions engaged in policy advocacy and campaign (national/local; formal/informal business sector; MSMEs) M&E tools used by FS program implementers Action based on results of the Impact assessment
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MILESTONES/ OUTPUTS

List of Projects - Food Safety

Components	Project Title	Budget Allocation ('000)							Status
		2022	2023	2024	2025	2026	2027	2028	
R&D									
	Development of Food Safety Guidelines for the Food Service Sectors	-	-	-	-	-	-	-	Completed
	Development of Grading System for Adoption of Food Establishments in the Philippines	-	-	-	-	-	-	-	Completed
	Risk Profiling of Hazards in Philippine Food to Support National Risk Management	11,728	-	-	-	-	-	-	Completed
	Exposure Assessment of Food Chemical Contamination in Metro Manila: A Pilot Total Diet Study Approach	12,206	-	-	-	-	-	-	Completed
	Establishment of DOST Food Safety Web Application	3,099	-	-	-	-	-	-	Completed
	Development of Draft Standards and Recommended Code of Practice for Processing of Peanut Butter	870	-	-	-	-	-	-	Completed
	Organic Contaminants Migrating from Plastic and Paper Food Contact Materials and Articles	-	5,900	3,300	-	-	-	-	New
	Inorganic Contaminants Migrating from Plastic and Paper Food Contact Materials and Articles	-	7,100	3,300	-	-	-	-	New

Food Safety Program R&D 2023

Target Projects: 5
Target Budget: Php 121 M

New: 2
Budget: 19.7 M
(Migration studies – Organic and Inorganic)

Completed Projects: 6
(Peanut Butter PNS, Risk Profiling, FS Grading System, FS guidelines, Total Diet Study, FS Web App)

List of Projects - Food Safety

Components	Project Title	Budget Allocation ('000)							Status
		2022	2023	2024	2025	2026	2027	2028	
S&T									
	Standardization and Validation of Chemical Test Methods on Allergen and Preservatives Food Safety Parameters among DOST Laboratories	61,119	9,819	8,086	-	-	-	-	Ongoing
	Complementing Conventional Techniques with Isotope Techniques to Detect Inorganic Fertilizer Application and Haram Ingredients in Food Production	4,170	3,902						Ongoing
	Adulteration Detection and Fingerprinting of Philippine Honey Using Stable Isotopes (Phase 2)	9,134	4,309						Ongoing
	Tracing the Geographic Origin of Philippine Carabao Mango Through Chemoisotopic Fingerprinting	14,253	3,533						Ongoing
	Stable Isotope and Multi-Elemental Profiling of Coffee and Cacao Beans in the Philippines by IRMS and XRF for Origin Identification	4,408	4,383						Ongoing

Food Safety Program S&T 2023

Target Projects: 4
Target Budget: Php 88 M

On-going: 5
Budget: Php 35M
(FATS Program, Allergens)



List of Projects - Food Safety

Components	Project Title	Budget Allocation ('000)						Status
		2022	2023	2024	2025	2026	2027	
Knowledge/Tech Transfer								
	Knowledge Transfer to DOST Technical Staff: Catalyst to MSMEs Gaining PQA for SMEs	3,317	-	-				Ongoing

Food Safety Program K&T 2023

Target Projects: 1
Target Budget: Php 10M

On-going Projects: 1
(PQA Knowledge Transfer)
Budget: Php 7M

