FY 2017 PCAARRD LIST OF GRANTS-IN-AID PROGRAMS/PROJECTS

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
											734,134,395
Application of Genomic Information in Dairy Buffalo Breeding Program	Genotyping the Philippine Water Buffaloes Using Medium Density 90K Buffalo SNP panel	Rapid, inclusive and sustained economic growth	The proposed R&D project aims to improve milk production efficiency and rate of genetic gain of the Philippine dairy buffaloes through the use of genomic information in breeding and selection.	900 buffaloes sampled; 900 buffaloes genotyped using 90K SNP panel; local riverine population is known; Eight (8) young bulls nominated/selected for breeding based on BLUP breeding values and genotype information on the significant SNP markers; model for estimating genomic breeding values of animals in the information nucleus is derived; 8 young bulls nominated/selected for breeding based on BLUP breeding values and genomic breeding values	PCC, CMU	PCC nucleus and multiplier farms Local dairy buffalo industry in general Researchers from the industry and academe	01-Feb-15	31-Jul-18	ONGOING	23,301,755	2,875,633
Assessing the Status of Giant Clams and Advancing Culture Techniques	Project 1. Evaluating the status of giant clams in Luzon and Visayas	Rapid, inclusive and sustained economic growth	The main of objectives of the project are to examine the status of giant clam restocking efforts, especially on replenishing local stocks, and assess the adaptation of reseeded and naturally occurring giant clams to environmental changes The specific objectives are to: 1. Survey giant clam recruitment in selected restocking sites 2. Assess giant clam biodiversity in selected sites in selected Philippine biogeographic regions differentially impacted by climate change induced thermal stress 3. Examine the zooxanthellae composition of wild and restocked giant clams in selected biogeographic regions 4. Conduct information dissemination activity to coastal communities and other stakeholders	End of the project deliverables/outputs 1) Biodiversity of giant clams in selected sites in selected Philippine biogeographic regions differentially impacted by climate change induced thermal stress 2) Status of giant clams especially on giant clam recruitment 3) Zooxanthellae clades in Tridacna gigas and T. crocea or T. squamosa identified and mapped against thermal regimes of selected biogeographic regions 4) Information, Education, and Communication (IEC) materials distributed and biodiversity and climate change knowledge of communities enhanced 5) Online updates and press releases about project activities and outputs 6) Training workshop on biodiversity survey and thermal stress impact assessment and information dissemination activity (at least one at each of the twelve sites) to coastal community 7) Trained at least two staff in molecular techniques 8) Training and thesis support for at least one (1) MSc or PhD graduate student 9) At least one (1) manuscript prepared for publication on giant clam restocking and impact of thermal stress on giant clams 10) Manual on monitoring of giant clam populations and identification of zooxanthellae clades 11) Video production summarizing the output of the Program 12) Policy recommendations for giant clam aquaculture approaches and giant clam conservation policies in the Philippines that may be utilized by other government agencies, such as DENR and BFAR End of the project deliverables/outputs by 6Ps Publications ISI Publication ? Biodiversity of giant clams in selected sites representing Philippine biogeographic regions differentially impacted by climate change induced thermal stress ? Impact of past giant clam restocking efforts especially on giant clam recruitment ? Zooxanthellae clades in Tridacna gigas and T. crocea identified and mapped against thermal regimes of selected biogeographic regions Non-ISI Publications Primer ? Giant clam restocking and impact of thermal stress on giant clams Manual ? Manual on monitoring of giant clam populations and identification of zooxanthellae clades Video Production ? Video production summarizing the output of the Program ? Press releases about project activities and outputs Products Knowledge ? Giant clam populations ? Biodiversity of giant clams as differentially impacted by climate change induced thermal stress ? Giant clam populations and zooxanthellae clades People and Services ? Graduate student research supported ? Biodiversity and thermal stress ? Impact of restocking on recruitment ? Zooxanthellae in giant clams (identification and mapping against thermal stress) ? Biodiversity survey ? 2 Graduate students trained on molecular techniques ? Training ? Training and information dissemination on biodiversity survey and thermal stress	UPD	1. Local communities including the local government units (LGUs) that will be involved in the monitoring and conservation efforts. The results of the proposed project will be disseminated through information, education and communication (IEC) materials to help promote giant clam restocking, monitoring and conservation efforts to relevant coastal communities and government agencies. 2. Fishers and other direct users of goods from coral reef ecosystems: giant clams contribute to reef restoration and will in the long-term contribute to the delivery of valuable goods and ecosystem services. 3. Research/scientific community: data obtained from these studies will provide further avenues for research related to understanding the biodiversity and growth of giant clams 4. Students: the project will support graduate student research and serve as a platform for the training of students in giant clam culture techniques and transcriptome data generation and analysis	15-Nov-17	14-Nov-20	NEW	19,161,341	3,446,333
Assessing the Status of Giant Clams and Advancing Culture Techniques	Project 2. Evaluating the status of giant clams in Palawan	Rapid, inclusive and sustained economic growth	The main of objectives of the project are to examine the status of giant clam restocking efforts, especially on replenishing local stocks, and assess the adaptation of reseeded and naturally occurring giant clams to environmental changes The specific objectives are to: 1. Survey of giant clam recruitment in selected restocking sites 2. Assess giant clam biodiversity in selected sites in Palawan 3. Conduct information dissemination activity to coastal communities and other stakeholders	End of the project deliverables/outputs 1) Biodiversity of giant clams in selected sites in selected Philippine biogeographic regions differentially impacted by climate change induced thermal stress (in connection with project 1) 2) Status of giant clams especially on giant clam recruitment 3) Information, Education, and Communication (IEC) materials distributed and biodiversity and climate change knowledge of communities enhanced 4) Online updates and press releases about project activities and outputs 5) Training workshop on biodiversity survey and thermal stress impact assessment and information dissemination activity to coastal community 6) Training and thesis support for at least one (1) undergraduate or MSc or PhD graduate student 7) Video production summarizing the output of the Program (in connection with Project 1) 8) Policy recommendations for giant clam aquaculture approaches and giant clam conservation policies in the Philippines that may be utilized by other government agencies, such as DENR and BFAR End of the project deliverables/outputs by 6Ps Publications ISI Publication ? Biodiversity of giant clams in selected sites representing Philippine biogeographic regions differentially impacted by climate change induced thermal stress (in connection with Project 1) Non-ISI Publications Primer ? Giant clam restocking and impact of thermal stress on giant clams Manual ? Manual on monitoring of giant clam populations and identification of zooxanthellae clades (in connection with Project 1) Video Production ? Video production summarizing the output of the Program ? Press releases about project activities and outputs Products Knowledge ? Giant clam populations ? Biodiversity of giant clams as differentially impacted by climate change induced thermal stress (in connection with Project 1) People and Services ? Undergraduate/Graduate student research supported ? Biodiversity and thermal stress ? Impact of restocking on recruitment ? Biodiversity survey ? Training ? Training and information dissemination on biodiversity survey and thermal stress impact assessment to communities Places and partnerships ? Partner institutions and collaborating partners ? Institutions and partners of the twelve project sites will be established ? Project sites ? Twelve project sites will be established for biodiversity monitoring Policy ? Inputs to Policy recommendations for giant clam aquaculture approaches and giant clam conservation policies in the Philippines that may be utilized by other government agencies, such as DENR and BFAR ? Biodiversity of giant clams as differentially impacted by climate change induced thermal stress ? Impact of giant clam restocking on recruitment	WPU	1. Local communities including the local government units (LGUs) that will be involved in the monitoring and conservation efforts. The results of the proposed project will be disseminated through information, education and communication (IEC) materials to help promote giant clam restocking, monitoring and conservation efforts to relevant coastal communities and government agencies. 2. Fishers and other direct users of goods from coral reef ecosystems: giant clams contribute to reef restoration and will in the long-term contribute to the delivery of valuable goods and ecosystem services. 3. Research/scientific community: data obtained from these studies will provide further avenues for research related to understanding the biodiversity and growth of giant clams 4. Students: the project will support graduate student research and serve as a platform for the training of students in giant clam culture techniques and transcriptome data generation and analysis	15-Nov-17	14-Nov-20	NEW	3,803,277	900,543

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Assessing the Status of Giant Clams and Advancing Culture Techniques	Project 3. Evaluating the status of giant clams in Mindanao	Rapid, inclusive and sustained economic growth	The main of objectives of the project are to examine the status of giant clam restocking efforts, especially on replenishing local stocks, and assess the adaptation of reseeded and naturally occurring giant clams to environmental changes The specific objectives are to: 1. Survey giant clam recruitment in selected restocking sites 2. Assess giant clam biodiversity in selected sites in Mindanao 3. Conduct information dissemination activity to coastal communities and other stakeholders	End of the project deliverables/outputs 1) Biodiversity of giant clams in selected sites in three sites in Mindanao differentially impacted by climate change induced thermal stress (in connection with project 1) 2) Status of giant clams especially on giant clam recruitment 3) Information, Education, and Communication (IEC) materials produced/utilized and biodiversity and climate change knowledge of communities enhanced 4) Online updates and press releases about project activities and outputs 5) Training workshop on biodiversity survey and thermal stress impact assessment and information dissemination activity (at least one at each of the three sites) to coastal community 6) Establishment of Biodiversity Monitoring 7) Training or thesis support for at least one (1) MSc or PhD graduate student 8) Video production summarizing the output of the Program 9) Policy recommendations for giant clam aquaculture approaches or giant clam conservation policies in the Philippines that may be utilized by other government agencies, such as DENR and BFAR End of the project deliverables/outputs by 6Ps Publications ISI Publication Biodiversity of giant clams in selected sites representing Philippine biogeographic regions differentially impacted by climate change induced thermal stress (in connection with Project 1) Non-ISI Publications Primer Giant clam restocking and impact of thermal stress on giant clams Manual Manual on monitoring of giant clam populations and identification of zooxanthellae clades (in connection with Project 1) Video Production Video production summarizing the output of the Program Press releases about project activities and outputs Products Knowledge Giant clam populations Biodiversity of giant clams as differentially impacted by climate change induced thermal stress (in connection with Project 1) People and Services Graduate student research supported Biodiversity and thermal stress Impact of restocking on recruitment Biodiversity survey Training Training and information dissemination on biodiversity survey and thermal stress impact assessment to communities Places and partnerships Partner institutions and collaborating partners Institutions and partners of the three project sites will be established Project sites Project sites will be established for biodiversity monitoring Policy Inputs to Policy recommendations for giant clam aquaculture approaches or giant clam conservation policies in the Philippines that may be utilized by other government agencies, such as DENR and BFAR Biodiversity of giant clams as differentially impacted by climate change	DNSC	1. Local communities including the local government units (LGUs) that will be involved in the monitoring and conservation efforts. The results of the proposed project will be disseminated through information, education and communication (IEC) materials to help promote giant clam restocking, monitoring and conservation efforts to relevant coastal communities and government agencies. 2. Fishers and other direct users of goods from coral reef ecosystems: giant clams contribute to reef restoration and will in the long-term contribute to the delivery of valuable goods and ecosystem services. 3. Research/scientific community: data obtained from these studies will provide further avenues for research related to understanding the biodiversity and growth of giant clams. 4. Students: the project will support graduate student research and serve as a platform for the training of students in giant clam culture techniques and transcriptome data generation and analysis.	15-Nov-17	14-Nov-20	NEW	6,653,102	1,167,043
Assessing the Status of Giant Clams and Advancing Culture Techniques	Project 4. Development of molecular resources for enhancement of culture and rearing techniques	Rapid, inclusive and sustained economic growth	The general objective of the project is to examine genetic diversity and reveal the molecular mechanisms underlying the growth and development of giant clams, to enhance giant clam restocking and conservation efforts. The specific objectives of the project are as follows: 1. Develop transcriptome sequence resources for two (2) species of giant clams (Tridacna gigas and T. crocea or T. squamosa). 2. Compare the gene complement and gene expression profiles of two (2) species of giant clams representing different phenotypes. 3. Identify genes for giant clam development, growth, symbiosis, biomineralization, and stress response.	End of the project deliverables/outputs 1. Establishment of database for molecular resources for two giant clam species 2. Comparison of the gene content and gene expression profiles for two giant clam species representing different growth phenotypes 3. Identification of genes important for giant clam development, growth, symbiosis, biomineralization, and response to stress 4. Training and thesis support for at least one (1) MSc or PhD graduate student 5. Training of at least two (2) students in giant clam culture and transcriptome analysis 6. At least one (1) manuscript prepared for publication 7. Recommendations for giant clam aquaculture approaches and giant clam conservation policies in the Philippines End of the project deliverables/outputs by 6Ps Publications ISI Publication Comparison of the first reference transcriptomes of 2 giant clam species Developmental transcriptome for identification of genes relevant to giant clam growth, development, biomineralization, symbiosis and stress response Video Production Video production summarizing the output of the Program Products Knowledge Optimized protocols for total RNA extraction Giant clam genetics Genetic responses to stress Database Sequence database for 2 giant clam species People and Services Graduate student research supported De novo reference transcriptome assembly and comparative analysis Developmental transcriptome analysis 2 graduate students trained in giant clam culture and transcriptome analysis Training Training and information dissemination on biodiversity survey and molecular mechanism of response to thermal stress Policy Inputs to Policy recommendations for giant clam aquaculture approaches and giant clam conservation policies in the Philippines Genetic resources	UPD	1. Fishers and other direct users of goods from coral reef ecosystems: giant clams contribute to reef restoration and will in the long-term contribute to the delivery of valuable goods and ecosystem services. 2. Research/scientific community: data obtained from these studies will provide further avenues for research related to understanding the biodiversity and growth of giant clams 3. Students: the project will support graduate student research and serve as a platform for the training of students in giant clam culture techniques and transcriptome data generation and analysis	15-Nov-17	14-Nov-20	NEW	16,971,166	2,475,389
BOOSTING THE SUGARCANE INDUSTRY THROUGH SMART FARMING TECHNIQUES	Project 3. Development of Nanofertilizers for Sugarcane Production	Rapid, inclusive and sustained economic growth	Make sugarcane production more profitable as nanofertilizers could enhance the efficiency of nutrient absorption and resistance to pests and diseases.	Nanofertilizer formulations containing N, P, K, and a combination of N, P, and K (complete) Optimized procedure in the formulation of nanofertilizers for sugarcane Appropriate method and rate of application of the developed nanofertilizers Quantified economic benefits of using the nanofertilizers technology An intellectual property (IP) from the results of the project A scientific publication on the results of the research project	UPLB	Sugarcane farmers, researchers, students, entrepreneurs	01-Jul-14	31-Dec-17	ONGOING	7,694,428	819,035
Cacao Pest Management Program: Biological-Based Approaches	Project 1. Extraction and Evaluation of Pheromones and Kairomones as Potential Monitoring and Managing Tool Against Cacao Insect Pests: Pod Borer and Mirid Bug	Rapid, inclusive and sustained economic growth	1. To extract and identify the sex pheromone from CPB and CMB and kairomone from cacao pod 2. To purify and synthesis sex pheromone and kairomone compounds 3. To evaluate the biological activity of sex pheromone and kairomone on CPB and CMB in the laboratory 4. To develop pheromone lures and traps from field testing of sex pheromone and kairomones in catching CPB and CMB	Develop effective composition and formulation of sex pheromone and kairomone for monitoring and managing CPB and CMB Mass production of purified and synthesize composition of sex pheromone and kairomone for commercialization An offer to growers in the rapidly expanding organic products sector that will be provided by the naturally derived pest control materials major insect pests and diseases using sex pheromone and kairomone for pest monitoring and management. Primary investment opportunity in the commercialization and marketing of unique insect traps using sex pheromone and kairomone Increase the country's competitiveness on good quality cacao beans for local and international markets Output will be documented in the form of reports, extension materials, and journal articles.	DLSU	The Biologically-Bassed IPM program to be developed by this proposed program will target 80-90% efficiency compared to the existing farmers practice of chemical control and sleeving. Chemical Control commands high management input translated to lower income for the farmers. Additionally, it is not environment friendly. Sleeving is a good alternative to chemical control especially for pests attacking cacao pods, however it is very laborious and even more time consuming because cacao trees continuous to produce pods practically everyday when it reached reproductive stage. Currently, not all farmers use sleeving because of time constraint and the cost of the plastic sleeves. Chemical control and sleeving are not for long term control of the pests. In this proposed program, all control measures to be developed are biologically based and therefore more of a long term solution to pest control with no negative impact to the environment. Additionally, this proposed program will make cacao farmers and agricultural technicians more technically efficient. Farmers will generate more income using the biologically-based IPM program. Cacao beans that will be produced using this system will be of good quality and therefore will be highly competitive in the international market.	01-Feb-16	31-Jan-18	ONGOING	3,277,015	1,103,611

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Cacao Pest Management Program: Biological-Based Approaches	Project 2. Exploration, Identification, Mass Rearing and Field Release of the biological Control Agents Against Cacao Pod Borer and Cacao Mirid Bug	Rapid, inclusive and sustained economic growth	1. To survey biological control agents with direct association with CPB and CMB 2. To retrieve the cacao pod borer egg parasite Trichogrammatoid ea cojuangcoi found in Mindanao and the entomopathogens Beauveria bassiana previously found infecting cacao mirid bug in Luzon 3.To test the efficiency of the biological control agents with confirmed association with cacao pod borer and mired bug 4.Develop mass rearing procedures for the selected efficient biological control agents 5. To develop efficient release strategy for the mass reared biological control agents	Identify and record potential biological control agents of CPB and CMB Confirmation of biological control agents for mass production Develop field release strategy and distribution method for mass reared biological control agents Develop mass rearing manual for small scale (farmers' level) and commercial scale (for biological control industry) Primary Investment opportunity in the commercialization and marketing of biological control agents Increase the country's competitiveness on good quality cacao beans for local and international markets Output will be documented in the form of reports, extension materials, and journal articles	DLSU	The Biologically-Bassed IPM program to be developed by this proposed program will target 80-90% efficiency compared to the existing farmers practice of chemical control and sleeving. Chemical Control commands high management input translated to lower income for the farmers. Additionally, it is not environment friendly. Sleeving is a good alternative to chemical control especially for pests attacking cacao pods, however it is very laborious and even more time consuming because cacao trees continuous to produce pods practically everyday when it reached reproductive stage. Currently, not all farmers use sleeving because of time constraint and the cost of the plastic sleeves. Chemical control and sleeving are not for long term control of the pests. In this proposed program, all control measures to be developed are biologically based and therefore more of a long term solution to pest control with no negative impact to the environment. Additionally, this proposed program will make cacao farmers and agricultural technicians more technically efficient. Farmers will generate more income using the biologically-based IPM program. Cacao beans that will be produced using this system will be of good quality and therefore will be highly competitive in the international market.	01-Feb-16	31-Jan-18	ONGOING	3,292,503	1,199,579
Cacao Pest Management Program: Biological-Based Approaches	Project 3. Biological Control and Development of Nano-BioSensor for Fungal Diseases of Cacao	Rapid, inclusive and sustained economic growth	To develop a Biological-based Pest Management Program for the control of the major insect pests and diseases of cacao, namely: cacao pod borer, cacao mirid bug, cacao pod rot, and vascular streak disease 1. To develop monitoring and managing tool against insect pests of cacao using pheromone and kairomone traps 2. To mass produce efficiently biological control agents of insect pests and diseases of cacao for inoculative release in cacao farms 3. To establish biosensor system for early detection of vascular streak disease and black pod rot using nanotechnology 4. To utilize efficiently naturally occurring particle film materials as biocoating agents to control pests attacking cacao pods	Describe the isolation, identification, possible mode of action, and evaluation of mycoparasitic isolates of bacteria and fungi with potential for biological control of VSD and BPR. Available nanobio-sensory system for early detection and rapid response to manage the diseases Primary investment opportunity in the commercialization and marketing of biological control agents Increase the country's competitiveness on good quality cacao beans for local and international markets	UPLB, PhilMech	"The Biologically-Bassed IPM program to be developed by this proposed program will target 80-90% efficiency compared to the existing farmers practice of chemical control and sleeving. Chemical Control commands high management input translated to lower income for the farmers. Additionally, it is not environment friendly. Sleeving is a good alternative to chemical control especially for pests attacking cacao pods, however it is very laborious and even more time consuming because cacao trees continuous to produce pods practically everyday when it reached reproductive stage. Currently, not all farmers use sleeving because of time constraint and the cost of the plastic sleeves. Chemical control and sleeving are not for long term control of the pests. In this proposed program, all control measures to be developed are biologically based and therefore more of a long term solution to pest control with no negative impact to the environment. Additionally, this proposed program will make cacao farmers and agricultural technicians more technically efficient. Farmers will generate more income using the biologically-based IPM program. Cacao beans that will be produced using this system will be of good quality and therefore will be highly competitive in the international market."	01-Apr-16	31-Mar-18	ONGOING	4,794,882	1,493,561
Cacao Pest Management Program: Biological-Based Approaches	Project 4. Particle Film Technology as Coating Agent and Carrier of Mycoparasites for the Control of Insect Pests and Diseases Attacking Cacao Pods	Rapid, inclusive and sustained economic growth	To utilize efficiently naturally occurring particle film materials as biocoating agents to control pests attacking cacao pods	Identification of best clay particle type and spreader-sticker as biocoating agent against pests attacking cacao pods Impact assessment of the selected biocoating agent against pests attacking cacao pods Development of efficient biocoating agents with lengthened surface coverage for a fewer application schedules Primary investment opportunity in the commercialization and marketing of the selected biocoating agents Training of farmers and agricultural technicians on field application and impact assessment Increase the country's competitiveness on good quality cacao beans for local and international markets Output will be documented in the form of reports, extension materials, and journal articles	DLSU	The Biologically-Bassed IPM program to be developed by this proposed program will target 80-90% efficiency compared to the existing farmers practice of chemical control and sleeving. Chemical Control commands high management input translated to lower income for the farmers. Additionally, it is not environment friendly. Sleeving is a good alternative to chemical control especially for pests attacking cacao pods, however it is very laborious and even more time consuming because cacao trees continuous to produce pods practically everyday when it reached reproductive stage. Currently, not all farmers use sleeving because of time constraint and the cost of the plastic sleeves. Chemical control and sleeving are not for long term control of the pests. In this proposed program, all control measures to be developed are biologically based and therefore more of a long term solution to pest control with no negative impact to the environment. Additionally, this proposed program will make cacao farmers and agricultural technicians more technically efficient. Farmers will generate more income using the biologically-based IPM program. Cacao beans that will be produced using this system will be of good quality and therefore will be highly competitive in the international market.	01-Feb-16	31-Jan-18	ONGOING	3,702,285	1,403,242
Changing Patterns of Social, Demographic and Economic Conditions of Farmers in Selected Agricultural Production Systems	Project 1. Changing patterns in social, demographic and economic conditions of farmers in rice produciton: Implications for Agricultural Policies and Innovation	Transparent, accountable, and participatory governance	General Objective: Analyze the changes in the social, demographic and economic characteristics of farmers in selected agricultural production system for more relevant and effective agricultural policies and appropriate agricultural innovation programs. Specific Objectives: 1. establish the social, demographic and economic profile of farmers in selected agricultural production system; 2. determine the technology used by farmers in the selected agricultural production system; 3. analyze the pattern of changes in social, demographic and economic characteristics of the farmers; 4. relate the social, demographic and economic characteristics with the farmers' technology adoption behavior; and 5. provide specific recommendations for improved agricultural policies and agricultural innovation program.	Publication: 18 journals/policy brief (at least 1 publication per commodity) Book highlighting the social, demographic and economic conditions of farmers in selected agricultural production system Places and partnerships: Partnership with key government agencies (e.g. NEDA, DBM, DA, DOST and DENR) and local government units Partnership with POs and RBOs Policy: Policy forum for advocacy initiatives Policy recommendations in relation to agricultural innovations and policies Product: Database on social, economic and demographic characteristics of farmers in different production systems People: Improvement of welfare of Filipino farmers and other rural stakeholders	UPLB	Researchers and extension workers Research managers and funding and monitoring agencies Policy and decision makers Government institutions and research agencies Local government units Farmers and other rural stakeholders	01-Nov-17	30-Apr-19	NEW	5,752,154	4,446,436

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Changing Patterns of Social, Demographic and Economic Conditions of Farmers in Selected Agricultural Production Systems	Project 2. Changing Patterns in Social, Demographic and Economic Conditions of Farmers in Corn and Vegetable Production: Implications for Agricultural Policies and Innovation	Transparent, accountable, and participatory governance	General Objective: Analyze the changes in the social, demographic and economic characteristics of farmers in selected agricultural production system for more relevant and effective agricultural policies and appropriate agricultural innovation programs. Specific Objectives: 1. establish the social, demographic and economic profile of farmers in selected agricultural production system; 2. determine the technology used by farmers in the selected agricultural production system; 3. analyze the pattern of changes in social, demographic and economic characteristics of the farmers; 4. relate the social, demographic and economic characteristics with the farmers' technology adoption behavior; and 5. provide specific recommendations for improved agricultural policies and agricultural innovation program.	Publication: 18 journals/policy brief (at least 1 publication per commodity) Book highlighting the social, demographic and economic conditions of farmers in selected agricultural production system Places and partnerships: Partnership with key government agencies (e.g. NEDA, DBM, DA, DOST and DENR) and local government units Partnership with POs and RBOs Policy: Policy forum for advocacy initiatives Policy recommendations in relation to agricultural innovations and policies Product: Database on social, economic and demographic characteristics of farmers in different production systems People: Improvement of welfare of Filipino farmers and other rural stakeholders	UPLB	Researchers and extension workers Research managers and funding and monitoring agencies Policy and decision makers Government institutions and research agencies Local government units Farmers and other rural stakeholders	01-Nov-17	30-Apr-19	NEW	4,096,154	3,088,436
Changing Patterns of Social, Demographic and Economic Conditions of Farmers in Selected Agricultural Production Systems	Project 3. Changing Patterns in Social, Demographic and Economic Conditions of Farmers in Plantation Crops Production: Implications for Agricultural Policies and Innovation	Transparent, accountable, and participatory governance	General Objective: Analyze the changes in the social, demographic and economic characteristics of farmers in selected agricultural production system for more relevant and effective agricultural policies and appropriate agricultural innovation programs. Specific Objectives: 1. establish the social, demographic and economic profile of farmers in selected agricultural production system; 2. determine the technology used by farmers in the selected agricultural production system; 3. analyze the pattern of changes in social, demographic and economic characteristics of the farmers; 4. relate the social, demographic and economic characteristics with the farmers' technology adoption behavior; and 5. provide specific recommendations for improved agricultural policies and agricultural innovation program.	Publication: 18 journals/policy brief (at least 1 publication per commodity) Book highlighting the social, demographic and economic conditions of farmers in selected agricultural production system Places and partnerships: Partnership with key government agencies (e.g. NEDA, DBM, DA, DOST and DENR) and local government units Partnership with POs and RBOs Policy: Policy forum for advocacy initiatives Policy recommendations in relation to agricultural innovations and policies Product: Database on social, economic and demographic characteristics of farmers in different production systems People: Improvement of welfare of Filipino farmers and other rural stakeholders	UPLB	Researchers and extension workers Research managers and funding and monitoring agencies Policy and decision makers Government institutions and research agencies Local government units Farmers and other rural stakeholders	01-Nov-17	30-Apr-19	NEW	6,195,886	4,772,036
Changing Patterns of Social, Demographic and Economic Conditions of Farmers in Selected Agricultural Production Systems	Project 4. Changing patterns in social, demographic and economic conditions of farmers in aquaculture and fishery: Implications for Agricultural Policies and Innovation	Transparent, accountable, and participatory governance	General Objective: Analyze the changes in the social, demographic and economic characteristics of farmers in selected agricultural production system for more relevant and effective agricultural policies and appropriate agricultural innovation programs. Specific Objectives: 1. establish the social, demographic and economic profile of farmers in selected agricultural production system; 2. determine the technology used by farmers in the selected agricultural production system; 3. analyze the pattern of changes in social, demographic and economic characteristics of the farmers; 4. relate the social, demographic and economic characteristics with the farmers' technology adoption behavior; and 5. provide specific recommendations for improved agricultural policies and agricultural innovation program.	Publication: 18 journals/policy brief (at least 1 publication per commodity) Book highlighting the social, demographic and economic conditions of farmers in selected agricultural production system Places and partnerships: Partnership with key government agencies (e.g. NEDA, DBM, DA, DOST and DENR) and local government units Partnership with POs and RBOs Policy: Policy forum for advocacy initiatives Policy recommendations in relation to agricultural innovations and policies Product: Database on social, economic and demographic characteristics of farmers in different production systems People: Improvement of welfare of Filipino farmers and other rural stakeholders	UPV	Researchers and extension workers Research managers and funding and monitoring agencies Policy and decision makers Government institutions and research agencies Local government units Farmers and other rural stakeholders	01-Nov-17	30-Apr-19	NEW	4,859,653	3,713,436
Changing Patterns of Social, Demographic and Economic Conditions of Farmers in Selected Agricultural Production Systems	Project 5. Changing Patterns in Social, Demographic and Economic Conditions of Farmers in Livestock and Forestry: Implications for Agricultural Policies and Innovation	Transparent, accountable, and participatory governance	General Objective: Analyze the changes in the social, demographic and economic characteristics of farmers in selected agricultural production system for more relevant and effective agricultural policies and appropriate agricultural innovation programs. Specific Objectives: 1. establish the social, demographic and economic profile of farmers in selected agricultural production system; 2. determine the technology used by farmers in the selected agricultural production system; 3. analyze the pattern of changes in social, demographic and economic characteristics of the farmers; 4. relate the social, demographic and economic characteristics with the farmers' technology adoption behavior; and 5. provide specific recommendations for improved agricultural policies and agricultural innovation program.	Publication: 18 journals/policy brief (at least 1 publication per commodity) Book highlighting the social, demographic and economic conditions of farmers in selected agricultural production system Places and partnerships: Partnership with key government agencies (e.g. NEDA, DBM, DA, DOST and DENR) and local government units Partnership with POs and RBOs Policy: Policy forum for advocacy initiatives Policy recommendations in relation to agricultural innovations and policies Product: Database on social, economic and demographic characteristics of farmers in different production systems People: Improvement of welfare of Filipino farmers and other rural stakeholders	UPLB	Researchers and extension workers Research managers and funding and monitoring agencies Policy and decision makers Government institutions and research agencies Local government units Farmers and other rural stakeholders	01-Nov-17	30-Apr-19	NEW	4,096,153	3,088,436
Citrus Resources Research for Development in Cagayan Valley (CRR4DCV)	Project 1. Value Chain Analysis for Citrus in Cagayan Valley	Poverty reduction and empowerment of the poor and vulnerable	General The study aims to analyze the citrus value chain and suggest areas of interventions to upgrade the chain. Specific 1. To analyze the nature and structure of the industry that include value chain mapping, description of key players and their functions, nature of interfirm relationships, market and market opportunities, and price and cost structures; 2. To identify the support services, enabling environment such as formal rules and regulations, socio-cultural norms and behavior in the industry; 3. To determine constraints and opportunities; and 4. To recommend S&T interventions and policy reforms for addressing gaps/constraints.	27. Value chain map of selected citrus commodities 28. Key players and their functions 29. Market and price and cost structure 30. Constraints and opportunities of the selected commodities 31. S&T and policy recommendations to enhance the citrus industry in the region	NVSU	1. Citrus Growers in Nueva Vizcaya and Cagayan Valley 2. Traders, processors and input providers 3. Researchers/ Breeders 4. Nursery owners/operators 5. Agricultural Technicians 6. R&D planners, researchers, policy makers	16-Nov-16	30-Apr-18	ONGOING	2,256,048	1,021,499
Citrus Resources Research for Development in Cagayan Valley (CRR4DCV)	Project 2. Genebank and Database Profile of Citrus Genetic Resources	Poverty reduction and empowerment of the poor and vulnerable	General The aim of the project is to conserve and document citrus cultivars and available local citrus genetic resources for the purpose of breeding, research and utilization in the Philippines. Specific: 1. To collect, characterize, identify, evaluate and conserve citrus genetic resources/germplasm throughout the country especially promising accessions for breeding, research and utilization; 2. To develop a database profile of citrus cultivars and germplasm with standard descriptions and produce DNA fingerprints for selected germplasms; 3. To design an initial online resource system for managing all information about citrus resources in the Philippines with standard descriptions and the database to be linked to the National Plant Genetic Resources Laboratory's (NPGRL) documentation system; 4. To conduct capability building by organizing training programs on PGR conservation and management, computer and information systems; and 5. To develop and produce/reproduce Information, Education and Communication (IEC) materials on citrus genetic resources.	1. A total of thirty-one (31) citrus species collected and characterized; of this total, 1-3 accessions per species collected in twenty two (22) species while 5-15 accessions collected for each of the remaining nine (9) citrus species averaging to 134 accessions; 2. At least three (3) mother trees grown, and maintained/conserved in large earthen pots for each distinct germplasm for an average of 402 mother trees maintained in the genebank; 12 3. Molecular fingerprints of at least five (5) for each native and backyard cultivars and local citrus collections; 4. A database profile of citrus cultivars and germplasm with standard descriptions; 5. A central database system for citrus genetic resources linked with NPGRL's documentation system; 6. At least two (2) training programs organized and sponsored on PGR conservation and management, molecular characterization, computer and database systems and operations; and 7. Published at least one (1) article per component study in refereed scientific journal and three (3) IEC materials on citrus cultivars and germplasm conservation and management.	NVSU	1. Citrus Growers in Nueva Vizcaya and Cagayan Valley 2. Traders, processors and input providers 3. Researchers/ Breeders 4. Nursery owners/operators 5. Agricultural Technicians 6. R&D planners, researchers, policy makers	16-Nov-16	15-Nov-19	ONGOING	11,863,916	1,380,629

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Citrus Resources Research for Development in Cagayan Valley (CRR4DCV)	Project 3. Establishment of Quality Planting Materials Production System for Citrus in Nueva Vizcaya	Poverty reduction and empowerment of the poor and vulnerable	General To establish and implement a quality planting materials production system for citrus in Nueva Vizcaya. Specific 1. To enhance the foundation/budwood increase block of NVSU and nurseries of the university and MAGRO, Kasibu for the production of HLB- and CTV-free planting materials; 2. To increase seedling production of NVSU (from 3,000/year to at least 7,000/year) and of the Municipal Agriculture nursery (from 1000 to at least 2,000/year); 3. To index 200 mother trees in NVSU and in other production areas for HLB and CTV; 4. To develop a web-based map from geotagging of citrus mother trees serving as budwood sources for production of planting materials; 5. To train at least 10 nursery operators/owners and interested individuals on disease-free planting material production, rapid propagation techniques, and effective nursery management; 6. To establish a techno-demo farm that will utilize NVSU disease-free planting materials, and provide assistance to an existing citrus orchard on management of pests and diseases and improved production technologies; and 7. To publish at least one (1) article in a refereed scientific journal and produce at least two (2) kinds of IEC materials on management of pests and diseases and improved production technologies.	1. A model system for production of quality planting materials of citrus 2. Improved one (1) foundation and budwood increase blocks and two (2) citrus nurseries 3. Increased seedling production of NVSU (from 3,000/year to at least 7,000/year) and of the Municipal Agriculture nursery (from 1000 to at least 2,000/year) 4. 200 indexed citrus mother trees in the NVSU Foundation and Budwood Increase Blocks and 90-100% indexed budwood sources in production areas 5. Developed web-based map based on geotagging of infected and non-infected citrus mother trees 14 6. BPI-accredited NVSU and MAGRO nurseries 7. Established one (1) new orchard established with NVSU citrus planting materials; one (1) existing orchard adopting improved production and pest and disease management practices 8. Published at least one (1) article in scientific refereed journal and produced at least two (2) IEC materials on nursery management and orchard establishment 9. Trained at least ten (10) nursery operator on production of disease-free planting materials, rapid propagation technique, and nursery management 10. Conducted at least two (2) farmers' field day	NVSU	1. Citrus Growers in Nueva Vizcaya and Cagayan Valley 2. Traders, processors and input providers 3. Researchers/ Breeders 4. Nursery owners/operators 5. Agricultural Technicians 6. R&D planners, researchers, policy makers	16-Nov-16	15-Nov-19	ONGOING	7,851,442	1,032,587
Citrus Resources Research for Development in Cagayan Valley (CRR4DCV)	Project 4. Development of Pests and Diseases Management Systems for Sustainable Citrus Production in the Philippines	Poverty reduction and empowerment of the poor and vulnerable	General The project aims to develop pest and disease management systems for sustainable citrus production in Cagayan Valley. Specific 1. To establish current incidence and severity of major diseases and population dynamics of vectors and major insect pests; 2. To develop a system for monitoring and forecasting of major insect pests and diseases; 3. To verify and modify current practices for control and management of major insect pests and diseases; and 4. To validate on-farm the most effective and sustainable control and management strategies for major pests and diseases which can increase yield by 20-30%.	1. Data on current disease prevalence of (e.g. HLB, CTV etc.) 2. Population dynamics of the Asian citrus psyllid, aphid 3. Document with description of local citrus diseases and insect pests 4. One (1) integrated and systematic spraying schedule to control major pests and diseases of citrus 5. At least seven (7) control strategies employing IPM and IDM techniques 6. At least seven (7) IPM/IDM organic-based control tactics against pests and diseases of citrus 7. Seven (7) verification trials or demonstration trials harnessing the best control tactics identified 8. Seven (7) demonstration trials combined with good agricultural management practices as well as IPM and IDM strategies 9. At least five (5) organic-based biopesticides 10. Four (4) pilot testing showcasing the most effective organic-based biopesticides	NVSU	1. Citrus Growers in Nueva Vizcaya and Cagayan Valley 2. Traders, processors and input providers 3. Researchers/ Breeders 4. Nursery owners/operators 5. Agricultural Technicians 6. R&D planners, researchers, policy makers	16-Nov-16	15-Nov-19	ONGOING	9,506,255	1,424,240
Citrus Resources Research for Development in Cagayan Valley (CRR4DCV)	Project 5: Development and Verification of Soil and Water Management Strategies for Citrus	Rapid, inclusive and sustained economic growth	The overall goal of the project is to develop and fine-tune sciencebased organic and inorganic fertilization rates for citrus, with combined optimum irrigation rates for the different fruit development stages of bearing citrus under Nueva Vizcaya conditions. Specifically, the project aims to accomplish the following: a. Determine present soil- and irrigation-related practices in citrus farms; b. Determine optimum inorganic and organic fertilizer rates for fruiting citrus trees; c. Determine optimum soil moisture condition and drip irrigation application rates at various stages of fruit development; and d. Fine-tune fertilizer and irrigation rates determined from the	1. Optimized fruit production through application of technology on the proper and appropriate cultural management on pruning, detopping, flower and fruit thinning of durian for optimum production of quality durian fruits for domestic and export market, as well as on height and fruiting branches; 2. Increased yield and improvement of durian fruit quality; 3. Optimum fertilizer recommendation for durian based on leaf analysis validated and verified; 4. GIS-aided suitability maps for durian in Davao and Cotabato Provinces; and 5. Extended harvesting season by two months.	NVSU	1. Commercial durian growers 2. Small scale-durian farmers 3. Farm Contractors 4. Wholesaler/retailers/exporters Research institutions 5. Researchers 6. LGUs 7. Planners	01-Nov-17	31-Oct-20	NEW	4,999,322	2,404,273
Coastal Acidification: How it Affects the Marine Environment and Reosurces in the Philippines	Project 1: Spatio-temporal trends in pH, CO2, and related parameters	Integrity of the environment and climate change adaptation and mitigation	The objectives of the project are: (1) To define the spatio-temporal variation of carbonate and other environmental parameters in the study sites i. Determine pH, pCO2, total alkalinity, aragonite saturation rates in sites across space and seasons (wet and dry, spring and neap, diurnal) to obtain baseline information on carbonate parameters. ii. Determine nutrients, oxygen, chlorophyll, carbon in the selected sites and examine degree to which changes in organic load and nutrient dynamics affect the carbonate parameters. iii. Map out seawater pH and aragonite saturation state of Philippine waters using existing data and from additional sampling in reef sites in the country. iv. Monitor carbonate and relevant parameters in the experimental setup of Projects 2 and 3 that are designed to examine the effects of stressors (acidification, eutrophication, sedimentation) on marine organisms. (2) To define the relationship between growth rate of corals on an interannual to multidecadal time scale and the reconstructed environmental parameters such as SST, SSS, and upwelling i. Obtain coral skeletons for measurement of extension rates, density, calcification rates ii. Use O and C stable isotopes, and some metals to reconstruct past SST and upwelling events	Publications • 1 ISI publications • Primer on coastal/ocean acidification for the general public Products • Map of pH for Philippine waters • Map of aragonite saturation for Philippine waters People & Services • 3 Graduate student research supported End of the project (Year 3) deliverables/outputs 1) Spatio-temporal variation in carbonate parameters (pH, pCO2, total alkalinity, aragonite saturation rates) in the study sites (Bolinao, Mabini) 2) Map of pH and aragonite saturation for Philippines waters 3) Variation in carbonate and other parameters under various stressors (acidification, eutrophication, sedimentation) the marine organisms are exposed to 4) Historical information on the relationship between coral growth and changes in environmental conditions in the sites Year 1 deliverables/outputs 1) Spatial and temporal (wet and dry, spring and neap, diurnal) variation in carbonate and other parameters (e.g. nutrients, organic carbon) in the study sites (Bolinao, Mabini) 2) Initial set of coral cores acquired in all three sites 3) Cores are cut, x-rayed and extension rates measured; selected cores are used for density measurements 4) Carbonate and other parameters are monitored in the experimental setups of Projects 2 and 3 Year 2 deliverables/outputs 1) Carbonate and other parameters determined in 3 other reef sites in the country 2) Second set of coral cores obtained 3) Cores cut, x-rayed and extension rates measured; selected cores used for density measurement 4) Selected cores subjected to XRF scanning and O and C isotope work 5) Carbonate and other parameters are monitored in the experimental setup of Projects 2 and 3 Year 3 deliverables/outputs 1) Carbonate and other parameters determined in 3 other reef sites in the country 2) Correlation of acquired data with secondary environmental parameters such as SST and rainfall 3) Variation in carbonate and other parameters under various stressors (acidification, eutrophication, sedimentation) the marine organisms are exposed to 4) Historical information on the relationship between coral growth and changes in environmental conditions in the sites	UPD	Target beneficiaries are local and national government offices concerned with coral reefs and the communities that depend on them. Other beneficiaries are resource planners, local state colleges and universities who can be trained to monitor changes in pH, carbonate and other relevant parameters.	15-Nov-17	14-Nov-20	NEW	18,251,855	4,928,249
Coastal Acidification: How it Affects the Marine Environment and Reosurces in the Philippines	Project 2: Impacts of acidification on the base of the matine food web and their effects on marine production	Integrity of the environment and climate change adaptation and mitigation	The main objective of this project would be to determine the potential cascading effects of shifts in ocean chemistry on the marine food web at various trophic levels. Specifically, this project aims to: 1. Determine the effects of ocean chemistry shifts on the biomass and structure of the base of the food web (phytoplankton) and intermediate consumers (zooplankton); 2. Understand the potential link between effects of ocean chemistry shifts on lower trophic levels and food web dynamics to key fisheries; and 3. Develop methods for rapid assessments of marine trophic levels through molecular biotechnology, and imaging and optical approaches.	Expected Outputs (By 6 Ps) Publications • 1 ISI publications People & Services • Formal Training ? 3 Graduate student research supported • Informal Training ? 1 Students trained in molecular tools for looking at plankton ? 3 Students trained in the fields of ocean acidification and plankton research, and mesocosm experiments End of the project deliverables/outputs 1) Characterization of primary and secondary producers in sites within the Philippines with a pH gradient 2) Determination of potential changes in primary and secondary production due to acidification and other stressors and their implications for fisheries 3) Understanding of mechanisms and processes involved in food web changes due to acidification and other stressors 4) Methods and tools for rapid assessment of key marine food web indicators Year 1 deliverables/outputs 1) Field sampling in at least one study site for plankton. 2) Initial laboratory analysis of field samples. 3) Acquisition of mesocosm materials and equipment. 4) Set-up of mesocosm experiments. Year 2 deliverables/outputs 1) Initial characterization of primary and secondary producers across the pH gradients in at least one study site 2) Protocols for genomic characterization of plankton assemblages 3) Initial gut content analysis results from higher trophic levels from the pH gradient sites 4) Runs of ocean acidification and eutrophication mesocosm experiments 5) Initial assessment of effect of ocean acidification on primary to higher trophic levels Year 3 deliverables/outputs 1) Characterization of primary and secondary producers across the pH gradients in the targeted study sites 2) Protocols for imaging and genomic technique characterization of primary and secondary producers 3) Results from the ocean acidification mesocosm treatments 4) Assessment of effects of ocean acidification in relation to other stressors on primary producers to higher trophic levels and implications for the fisheries	UPD	Fisheries managers, Resource planners, local and global scientists	15-Nov-17	14-Nov-20	NEW	23,559,779	1,760,422

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Coastal Acidification: How it Affects the Marine Environment and Reosurces in the Philippines	Project 3: Possible influence of acidification on specific reef resources	Integrity of the environment and climate change adaptation and mitigation	The objectives of this project are to: 1. Determine the response of coral reef-associated calcium carbonate-producing macroalgae to decreased pH and associated stressors a. Community composition in relation to environmental parameters b. Physiological effects of specific stressors on selected macroalgae 2. Determine response of coral reef-associated biofilm communities to decreased pH and associated stressors a. Effect of environment on biofilm community composition b. Effect of marine biofilm community on settlement of larvae of selected calcifying organisms (e.g. sea urchin) 3. To determine the effect of decreased pH and associated stressors on the physiology, growth, and survival of selected reef organisms a. Effect of variable environments on giant clam growth and physiology b. Effect of variable environments on sponge growth and physiology 4. To determine the effect of environmental stressors on the gene expression responses of selected organisms (e.g sponge)	Expected Outputs (By 6 Ps) Publications • 1 ISI publications Products • Knowledge/information on reef community shifts under changing environmental conditions • Knowledge/information on link between eutrophication (e.g. from mariculture) and acidification • Knowledge/information on reef community shifts under changing environmental conditions. • Knowledge/information on primary producers and plankton biomass and community shifts under changing environmental conditions. • Knowledge/information on gene markers that are linked to stress response of sponges • Faster methods for quantification of plankton through pigment analysis and genomics People & Services • Formal Training 4 Graduate student research supported • Informal Training DENR, BFAR, LGU personnel in the study sites trained in monitoring coral cover and diversity, algal and sponge community composition, giant clam handling, pH and other parameters End of the project deliverables/outputs 1) Data on the community shifts and physiology of coral reef-associated calcium carbonate-producing macroalgae under different conditions 2) Data on the biofilm community shifts in response to decreased pH and associated stressors 3) Assessment of the effects of biofilm community on settlement of larvae of selected calcifying organisms (e.g. sea urchin) 4) Assessment of physiology, growth, and survival of giant clams under low pH conditions and associated stressors 5) Assessment of physiology, growth, and survival of sponge under variable environmental conditions 6) Assessment of the genetic responses to decreased pH of selected organisms (e.g. sponge)	UPD	Conservation biologists, Fisheries resource managers, Environmentalists, Ecologists, Ecotoxicologists	15-Nov-17	14-Nov-20	NEW	24,816,356	4,787,466
Coastal Acidification: How it Affects the Marine Environment and Reosurces in the Philippines	Project 4: Acidification impacts on the demography of corals (ACID Corals)	Integrity of the environment and climate change adaptation and mitigation	The proposed project has the following objectives: 1. Quantify the effects of acidification on the abundance, size-structure of select coral species and communities. 2. To project future impacts of ocean acidification on coral communities at a wider scale (based on various scenarios to be defined along with the other components of this proposed research program) and likely consequences of these impacts on local communities.	Publications • 1 ISI publication Products • 1 simulation model with several scenarios People & Services • Formal Training 3 graduate research supported 2 BS, possibly two MS, one PhD degree graduates in the sciences Places & Partnerships • Partnership agreement with LGUs, DENR, BFAR, other stakeholders in the study sites DENR, BFAR, LGU personnel in project sites trained in monitoring coral cover and diversity, algal and sponge community composition, giant clam handling, pH and other parameters End of the project (Year 3) deliverables/outputs 1) Description and analysis of the changes in abundance, size-structure (and possibly growth) of select coral species and communities in the locations listed above, and the climate change and human impact drivers of these changes 2) Model projections of future impacts of ocean acidification and climate change on coral communities Year 1 deliverables/outputs 1) Validation of the statistical power of the proposed layout and analysis of the changes in abundance, size-structure 2) Implementation and testing of the projection matrix model Year 2 deliverables/outputs 1) Initial analyses as described above 2) Scenario building and initial projections from the matrix modelfor validation with Year 3 field data	DLSU	Local and national government offices concerned with coral reefs and the communities that depend on them.	15-Nov-17	14-Nov-20	NEW	10,900,215	679,724
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs	Program Management Coordination	Rapid, inclusive and sustained economic growth	0	0	MSC	0	01-Jul-15	30-Jun-20	ONGOING	2,150,000	424,625
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs	Project 1. Organized breeding and selection for the establishment of breeding true to type native pig populations in the Cordillera Administrative Region, Cagayan Valley, Calabarzon and Mimaropa regions	Poverty reduction and empowerment of the poor and vulnerable	Establish phenotypic and genetic characteristics of native pigs in Reg. CAR, 2 4a & 4b; Establish variations and heritability of economically important traits.; and Test selection and breeding methods for breed development. Develop community-based breeding and production model.	4 breeding true to type genetic groups of Philippine native pigs.	MSC, KASC, NVSU, BAI, BSU, MPSPC, ISU, UPLB	native pig raisers	01-Jul-14	30-Jun-19	ONGOING	39,336,853	9,576,755
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs	Project 2. Local resource-based free range production management protocols and systems for breeder and slaughter native pigs	Poverty reduction and empowerment of the poor and vulnerable	Develop a practical and profitable native pig range management protocols Develop sustainable free-range production models for small rural farmers. Establish free range pig healthcare management procedures to ensure biosecurity and public health.	800 slaughter native pigs in each of the 4 target regions	MSC, KASC, NVSU, BAI, BSU, MPSPC, ISU, UPLB	native pig raisers	01-Jul-14	30-Jun-18	ONGOING	10,648,662	2,280,888
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs in Eastern Visayas	Project 1. Native Pig Breeding And Production As Sustainable Livelihood Option In Calamity Prone Areas	Poverty reduction and empowerment of the poor and vulnerable	Document and analyze the phenotypic (morphological and production performance) and genetic characteristics of native pigs in Eastern Visayas. · Determine the extent of variability and heritability of production traits affecting growth, reproduction and carcass quality of native pigs in Samar and neighboring provinces.· Develop selection methods and breeding strategies that are suited to native pigs in the area and lead towards attaining the breeding goals. · Analyze the effects of environment on growth and reproduction of native pigs in region 8.· Develop a model for a profitable community-based breeder and slaughter native pig production system.	1. Breeding true to type genetic group of native pigs in region 8. 2. At least 3 scientific papers on phenotypic/genetic characteristics and unique high value traits, correlation between genetic characteristics and desirable phenotypic traits, utility of molecular markers on growth, reproduction, resistance to disease, adaptation to environment and meat quality attributes. 3. Native pig populations (50 sows and 10 boars) with improved growth and reproductive performance and meat quality. 4. Breeding and selection technology on native pig breed development and production performance improvement	ESSU	1. Researchers, professors, students and swine breeding practitioners 2. Native pig farmers 3. Native pig Consumers 4. Institutional markets	01-Jul-15	30-Jun-20	ONGOING	8,127,124	1,650,072
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs in Eastern Visayas	Project 2: Developing A Weather Resilient Local Resource-Based Free Range Production Management Systems For Natve Pigs	Rapid, inclusive and sustained economic growth	Develop a practical and cost efficient native pig range management, feeding and health care protocols and systems suited to the resources available in rural farming communities and to the capacity and capability of rural farmers in Eastern Visayas. · Develop a range area enhancement protocols for free range native pigs that are anchored on: – indigenous technologies in the region, – optimum stocking rate for free range native pigs in the target regions, and – seasonal variations of the availability of naturally occurring feed materials for native pigs in the target regions. · Develop free-range native pig production modules suited to farm conditions in the target regions. · Establish healthcare management procedures (i.e. vaccination, deworming) that promote health and welfare of native pigs on range.	1. 800 slaughter native pigs 2. At least 3 scientific documents on free range native pig production and management, native pig range enhancement protocol, inventory of roughages and other natural feeds for free-ranged native pigs, growth performance and carcass quality of native pigs raised on range. 3. Ration formulation technology for free range native pigs 4. Free range native pig production technology	ESSU	1. Native pig products processors 2. Native pig raisers 3. Native pig Consumers 4. Students, professors and other stakeholders of Philippine native pigs	01-Jul-15	30-Jun-18	ONGOING	2,723,141	841,166
Conservation, Improvement and Profitable Utilization of the Philippine Native Pigs in Eastern Visayas	Project 3: Native Pig Value Chain And Policy Studies In Eastern Visayas	Rapid, inclusive and sustained economic growth	Establish the demographic profile of native pig raisers, traders, processors and 5 consumers of native pig products in Samar and neighboring provinces.. Generate information on marketing channels and pricing systems of native pigs in the area that would be useful in improving the marketing efficiency of native pig products. Evaluate the supply, demand, and marketing flow of native pig production in Eastern Visayas Review and assess current local government policies relevant to native pig production. Formulate policy briefs and advocacy strategies that are supportive of native pig improvement and profitable utilization initiatives in Eastern Visayas. Determine the socio-economic contribution of native pig production in Eastern Visayas	1. Profitability analysis of breeder and slaughter native pig production in Eastern Visayas. 2. Information on channels and intermediaries involved in the marketing of native pigs and their products in Eastern Visayas. 3. Information on socio-economic profile of the native pig raisers, traders and consumers. 4. Implications of current policies on the future developments of native pig production and marketing. 5. Policy briefs as inputs to the development of enabling legislations to promote native pig conservation, improvement, production and profitable utilization	ESSU	1. R&D planners, researchers, professors and students 2. Entrepreneurs engaged in native pig production 3. Native pig traders 4. Native pig product processors	01-Jul-15	30-Jun-17	ONGOING	1,444,800	81,700

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Development of a National Pork Traceability System	Project 1. Ensuring Food Safety and Quality Along the Supply Chain Through Product Traceability: An ICT-Based Pork Traceability System Model	Rapid, inclusive and sustained economic growth	To ensure safety and quality of pork, a system for tracking meat products using Information and Communication Technologies (ICT) will be developed utilizing the RFID technology and QR code, and interlinked network of computer and database.	Traceability and identification system established from farm to market - Use-case diagram and ERD of a computer system for tracking animals at the farm - A computer and RFID system for automatically tracking animals at the farm, with online, remote and wireless timely reporting system - A computer and RFID system for automated inventory of animals while in transit - A computer system for transferring animal-and farm-specific information to meat parts via a QR-code tagging system and tracking of meat products for the marketers - A protocol for a QR-code-based quality stamping system for the NMIS - National Database for tagging and tracking swine and meat products.	UPLB	Direct beneficiary of the Program: at least 2 organized swine farm (as model farm for export); 2 government regulatory agencies Indirect beneficiary: at least 2 meat processor and traders	01-Apr-14	30-Sep-17	ONGOING	9,908,420	1,198,808
Development of a National Pork Traceability System	Project 2. Molecular Traceability: DNA-Based Verification of Meat Product Information	Rapid, inclusive and sustained economic growth	The project aims to address issues in false labelling by developing a technology for species identification in meat and meat products. Two methods of species identification will be developed, one utilizing the technology of Polymerase Chain Reaction (PCR) and a Loop-mediated Isothermal Amplification (LAMP) method.	Molecular based (PCR and LAMP) technology/protocols for verification of meat and meat products Primer sets and barcode region sequences for at least 4 species. A baseline data on false labeling of meat products in Los Baños, Laguna which may serve as an input for legislation of policy related to food safety in the Philippines.	UPLB	NMIS Various stakeholders of newly slaughtered pork like 15 slaughterhouse owners and 12 meat dealers	01-Apr-14	31-Mar-17	ONGOING	13,533,711	245,865
Development of Integrated Crop Management (ICM-Tomato) for Increasing the Productivity of Fresh and Processing Tomato Production	Project 1. Development of Disease Management Technologies for Fresh and Processing Tomato Production	Poverty reduction and empowerment of the poor and vulnerable	General: The project aims to develop an integrated crop management for fresh and processing tomato production involving the use of adaptable technologies for disease management. Specific: To establish the disease profile in fresh and processing tomato production; To determine the efficacy of healthy seedling technology, and carrageenan technology for tomato leaf curl management; To formulate ICM recommendation and validate for field application using the effective disease management together with insect pest, weed and nutrient management recommendation for fresh and processing tomato production.	1.At least two (2) publications in ISI-indexed journal 2.Disease profile in fresh and processing tomato production 3.Efficacy of healthy seedling technology for leaf curl management in fresh and processing tomato production 4.Determined the effective concentration and induction time of carrageenan application, and efficacy of the carrageenan technology for leaf curl management for fresh and processing tomato production 5.IEC materials on healthy seedling and carrageenan technologies, and ICM recommendation. 6.Trained manpower in the form of students BS (1 BS Agriculture - Plant Pathology and 1 MS (Plant Pathology) and their thesis research supported by the project	UPLB, NFC	Researchers will benefit from the generated scientific information about integrated crop management for fresh and processing tomato production using adaptable technologies and site specific disease management.	01-Nov-17	31-Oct-20	NEW	6,726,305	2,511,819
Development of Integrated Crop Management (ICM-Tomato) for Increasing the Productivity of Fresh and Processing Tomato Production	Project 2. Development of Insect Pest and Weed Management Technologies for Fresh and Processing Tomato Production	Poverty reduction and empowerment of the poor and vulnerable	To develop an improved integrated crop management for fresh and processing tomato production using effective and site- specific insect pest and weed management technologies. 1.To characterize the succession of insect pests in a given production system under a specific crop growing environment; and determine the factors (climatic; crop and insect pest management practices) associated with insect pest occurrence; 2.To capacitate farmers and promote adoption of village level production of biological control agents in their farms; 3.To determine the efficacy of modified release strategy of biological control agents and carrageenan technology for insect pest management in fresh and processing tomato production; 4.To test the suitability of the stale seedbed technique in reducing the weed population in fresh and processing tomato production systems; 5.To formulate ICM recommendations for future field validation and application using effective and adaptable disease, insect pest, weed and nutrient management technologies for fresh and processing tomato production.	1.Site-specific insect pest succession pattern under a given crop growing environment (climatic and edaphic factors) and pest management (biological, cultural, behavioral and chemical control) in fresh and processing tomato production 2.Efficacy of modified release strategy of biological control agents and carrageenan technology to manage insect pests of fresh and processing tomatoes 3.Improved weed management strategies in fresh and processing tomato production 4.Field validated ICM recommendation 5.At least 3 scientific paper published in ISI-indexed journals and IEC materials on insect pest succession pattern and emerging insect pests, training materials on village-level mass production of biological control agents, crop protection technology recommendations (insect pest & weeds) 6.Trained at least 20 farmers in village-level mass production and utilization of Trichogramma, earwigs and NPV for fresh and processing tomato production for each site; Enhanced capability of RCPC biocon laboratory in mass production 7.Enhanced the capability of trained farmer leaders, extension and project personnel on information campaign strategies of biologically-based insect pest management 8.MOA with SUC, LGU and Cooperative. 9.Enhanced the capability of RCPC I in mass production of BCAs 10.Established network and collaboration with partners such as Mariano Marcos State University, Northern Foods Corporation, Regional Crop Protection Center I, local government units, Farmer's Leaders, Cooperators and Cooperative.	UPLB	Researchers and students will benefit from the generated scientific information about the site-specific succession pattern of insect pests and biological control based crop protection technologies for fresh and processing tomato. Tomato growers and government extension agencies (DA-RCPCs, SUCs) will benefit from technologies, recommendations, and trainings on mass production of biological control agents.	01-Nov-17	31-Oct-20	NEW	4,199,098	2,004,852
Development of Integrated Crop Management (ICM-Tomato) for Increasing the Productivity of Fresh and Processing Tomato Production	Project 3. Development of Site-Specific Nutrient Management Program for Tomato Production	Poverty reduction and empowerment of the poor and vulnerable	The project aims to develop site-specific nutrient management program for fresh and processing tomato production in Ilocos Norte and Ilocos Sur. Specifically: (1) To characterize soil fertility status, farmers' nutrient and water management practices and yields in selected tomato farms; (2) To formulate site-specific nutrient management program for tomato cultivation based on on-farm trials; and (3) To formulate ICM recommendation that incorporates site-specific nutrient management and effective and adaptable disease, insect pest, and weed management technology and validate its field application.	Year 1 •Networking and coordination with NFC, LGUs, MMSU and farmers in the selected sites •Baseline profiling of farmers nutrient and soil management practices/production systems •Profiling, collection and laboratory analysis of soil characteristic •Consolidated baseline data for use in the formulation of SSNM •Set-up MOET and OPT in selected farmers' fields •Identified yield-limiting nutrients in farmers field •Estimated yield and various nutrient use efficiency parameters •Estimated soil nutrient supplying capacity •Determinated/formulated fertilizer rates for the SSNM treatment plot •Formulated ICM incorporating specific fertilizer recommendation and disease, insect pest and weed management Year 2 •Set-up ICM experiment in farmers' fields •Monitored crop response to the integrated crop management strategy •Estimated yield and various nutrient use efficiency parameters Year 3 •Field validated ICM strategy and evaluation crop responses to the recommendation •Estimated various nutrient use efficiency parameters •Fine-tuned and calibration of ICM strategy •Prepared manual and IEC materials on site-specific nutrient management technology •Prepared and submitted articles on the result of the experiment for publication	UPLB	NFC which is the only processing company for tomato in the country will benefit from this technology as well as their farmer cooperators. Researchers will benefit from the generated scientific information and datasets that are basic inputs in the development of site-specific nutrient management program for tomato in selected tomato growing areas/domains in the Philippines.	01-Nov-17	31-Oct-20	NEW	4,074,592	1,401,341
Development of Robust Tools for Managing Sardine Fisheries in the Philippines: Zamboanga Upwelling-Bohol Sea System	Project 5. Molecular technology-based assessment of the sustainability of sardine fisheries	Rapid, inclusive and sustained economic growth	Sardines are important food fish for the Filipinos and its fisheries a significant source of employment to thousands of fishers and factory workers. However, sardines fishery and Philippine fisheries in general are beset with critical issues such as overfishing and excessive fishing pressure, deficient management strategies and habitat degradation among others. The detection of population distinction in commercially valuable fish stocks such as sardines is important. This knowledge would provide valuable information for developing strategies for effective management of this resource. The major sardine fishery areas in the country are associated with high phytoplankton productivity and thus necessitate the need to determine exactly what sardines consume. The decline of phytoplankton growth due to climate change would certainly have serious effect on the diet of sardines and consequently to sardines fishery.	1. Collection of fish specimens from the targeted sites 2. Digitize images of fish collected from targeted site 3. DNA sequence 4. Morphological identification of stomach content	UPD	Commercial Fisheries Sector, Coastal Communities, Philippine Researchers	16-Jun-14	31-Dec-17	ONGOING	12,483,629	705,659
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 1. Disaster Risk Reduction of Climate Change Impacts on Vegetable Farms in Abra	Integrity of the environment and climate change adaptation and mitigation	1. To develop pool of champions and empower communities on disaster risk reduction and climate change mitigation and adaptation; 2. To improve resiliency of vegetable farms against advers impacts of climate change 3. To develop IEC materials on disaster preparedness	Product: -2 structural windbreak; 1 training module People and Services: - 2 farmer leaders and 7 LGU officials/employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group capacitated Publication: - 3 IEC materials; 2 popular articles; 1 video clip Places and Partnerships: 2 MOA forged DRR/CCAM sustainability Policy: 1 Policy recommendation on DRR/CCA for agriculture (barangay & municipal Level)	Abra State Institute of Science and Technology (ASIST)	LGUs and Abra farmers	01-Oct-17	30-Sep-19	NEW	6,991,032	3,540,350

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 2. Disaster Risk Reduction of Climate Change Impacts in Agricultural Farms in Apayao Province	Integrity of the environment and climate change adaptation and mitigation	To promote S&T interventions for mitigation and adaptation measures to the disaster vulnerable communities in Apayao province	Product: 2 Structural Windbreak; 2 Simple Drip Irrigation; 2 rain water harvesting tanks; BSU crop shelter; 1 training module People and Services: - 2 farmer leaders and 7 LGU officials/employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group capacitated Publication: 3 IEC materials; 2 popular articles; 1 video clip; Places and Partnerships: 2 MOA forged DRR/CCAM sustainability Policy: 1 Policy recommendation on DRR/CCA for agriculture (barangay & municipal Level)	Apayao State College (ASC)	Farmers and LGUs	01-Oct-17	30-Sep-19	NEW	6,289,950	3,280,720
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 3. Disaster Risk Reduction of Climate Change Impacts on Vulnerable Terrace Farms in Benguet	Integrity of the environment and climate change adaptation and mitigation	To intorduce S&T interventions on mitigation and adaptation measures at the farm level and increase the capacity of farmers and communities in the 6 provinces of CAR to mitigate adverse impacts of climate change	Product: 2 interlinked reinforced farms; 2 structural windbreaks; 2 tunnel type rain shelters; 2 training modules People and Services: 2 farmer leaders and 7 LGU officials/employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group capacitated Publication: 3 IEC materials; 2 popular	BSU	LGUs and Farmers of Benguet	01-Oct-17	30-Sep-19	NEW	10,299,555	5,063,024
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 4. Disaster Risk Reduction of Climate Change Impacts on Legumes and Vegetable Farms in Ifugao	Integrity of the environment and climate change adaptation and mitigation	To intorudce S&T intervention on mitigation and adaptation measures at the farm level and increase the capacity of farmers and communities in the provinces of Ifugao to mitigate the adverse impacts of climate change	Product: 2 rain water harvesting tanks; 2 training modules People and Services: 2 farmer leaders and 7 LGU officials/employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group capacitated Publication: 3 IEC materials; 2 popular articles; 1 video clip Places and Partnerships: 2 MOA forged DRR/CCAM sustainability Policy: 1 Policy recommendation on DRR/CCA for agriculture (barangay & municipal Level)	IFSU	LGUs and farmers	01-Oct-17	30-Sep-19	NEW	6,109,614	3,168,250
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 5. Disaster Risk Reduction of Climate Change Impacts on Vulnerable Coffee Farms in Kalinga	Integrity of the environment and climate change adaptation and mitigation	To introduce S&T interventions on mitigation and adaptation measures at the farm level and increase the capacity of farmers and communities in the provinces of Ifugao	Product: 2 rejuvinated coffee plantations; 2 rain water harvesting tanks; 1 training module People and Services: 2 farmer leaders and 7 LGU officials employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group capacitated Publication: 3 IEC materials; 2 popular articles; 1 video clip Places and Partnership: 2 MOA forged DRR/CCAM Sustainability Policy: 1 Policy recommendation on DRR/CCA for agriculture (barangay municipal Level)	KSU	Coffee farmers	01-Oct-17	30-Sep-19	NEW	6,312,229	3,192,642
Disaster Risk Reduction of Climate Change Impacts on Agricultural Farms in the Cordillera Administrative Region Program	Project 6. Disaster Risk Reduction of Climate Change Impacts on Vulnerable Farms in Mountain Province	Integrity of the environment and climate change adaptation and mitigation	To promote S&T interventions on mitigation and adaptation measures at the farm level and increase the capacity of farmers and communities in Mt. Province	Product: 2 rain water harvesting tanks; 2 tunnel type crop shelters; 2 training modules People and Services: - 2 farmer leaders and 7 LGU officials/employees trained as DRR pool of champions; 56 farmer cooperators trained; 2 women's group trained Publication: 3 IEC materials; 2 popular articles; 1 video clip Places and Partnership: 2 MOA forged DRR/CCAM sustainability Policy: 1 Policy recommendation on DRR/CCA for agriculture (barangay & municipal Level)	MPSPC	Farmers, LGUs	01-Oct-17	30-Sep-19	NEW	7,097,847	3,784,085
Disease Management for Improved Mud Crab Production	Prevention and Mitigation of Diseases in Mud crab Culture	Rapid, inclusive and sustained economic growth	1) To develop and optimize quantitative PCR techniques to detect WSSV; 2) To develop and optimize PCR protocol to detect WSSV in water and soil; 3) To determine other predisposing environmental factors for vibriosis and WSSV infection aside from those identified in previous project i.e. low temperature and presence of WSSV infected shrimp; 4) To recommend effective intervention strategies against vibriosis and WSSV.	1. Optimized quantitative PCR techniques to detect WSSV ; 2. PCR protocol to detect WSSV in the water and soil; 3. Threshold level (bacteria/WSSV) in the water/soil that may result in infection and mortality/outbreak; 4. Environmental factors that affects disease occurrence/outbreak; 5. Management scheme to prevent infection and mitigate the effect of infection in hatcheries and grow-out ponds in addition to those identified in a previous study;	SEAFDEC	Mud crab hatchery owners and growers In the implementation of proper management strategies for higher survival and production; Diagnostic laboratories for the PCR protocol on the detection of WSSV in the water and soil	01-Sep-15	28-Feb-18	ONGOING	4,440,281	713,962
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-BSU Agriculture and Food Technology Business Incubator	Rapid, inclusive and sustained economic growth	Component 1. General Objectives: To encourage, support and nurture the development of mature agri-aqua-based technologies into viable agribusiness commercial ventures for the creation of wealth, employment and economic development. Specific objectives: 1. To improve the national agri-aqua TBI program and ecosystem by establishing new & strengthening existing TBIs; 2. To fast-track the incubation of start-ups through the active support of allied agencies and the private sector; 3. To organize and strengthen the different Agribusiness TBIs into a national network of Agribusiness TBIs; 4. To promote the soft-landing of foreign incubators in the local TBIs as well as the sale/licensing of technologies in other foreign TBIs. Component 2: General Objective: The project aims to strengthen the ATBI's capacity to assist its incubatees by enhancing its program and capacitating its human resources – management team and its incubatees. Specific Objectives: 1. To review and enhance the existing BSU ATBI/IC business plan; 2. To enhance the capabilities of the ATBI team on TBI management and operations, including among others, innovation and entrepreneurship; 3. To enhance the technical and entrepreneurial skills and competencies of incubatees; 4. To transfer six technologies; 5. To strengthen partnerships with public and private sectors; 6. To capacitate students on entrepreneurial skills and competencies; and 7. To disseminate information generated through the project.	Publications: At least 1 training module prepared, At least 2 publicationIEC material on TBI best practices developed Patents: At least 3 publications for copyright People and Services: At least 2 Local Training attended by TBI Management Staff per year, At least 2 Local Training attended by TBI Management Staff per year in the 1st 2 years, At least 1 International Training attended TBI Managers, At least 2 program reviews conducted per year, Agribusiness TBI Accelerator Program of SUCs Partnerships: Revive Partnerships and Linkages, 1 National Network Association of AgriAqua TBI formed, Minutes of organization meetings, Bylaws, Articles of Incorporation, SEC Registration, At least 2 membership in international TBI association, At least 2 Foreign companies endorsed for potential incubation Places: At least 6 TBI facilities provided with assistance	BSU	Component 1. MSMEs, spin-offs and start-ups in AANR enterprises; AFNR Graduates, Cooperatives. Component 2. Smallholder farmers and food processing entrepreneurs, students	01-Oct-17	30-Sep-19	NEW	10,113,468	4,881,221
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-CLSU Agriculture and Food Technology Business Incubator	Rapid, inclusive and sustained economic growth	General: The goal of this project is to enhance the performance of CLSU-AFTBI operation. Specific: The goal will be realized through the following specific objectives: 1. Assist entrepreneur-clients to commercialize agriculture and food-based products and produce two (2) graduate incubatees in the next 2 years; 2. Assist AFNR students, Graduates, and Technology generators to start their MSMEs; 3. Enrich the capability of the employees and strengthen the workforce; and 4. Establish CLSU-AFTBI product showroom for incubatees.	Products: Tilapia – fingerling, dried, smoked, canned Goat – upgraded goat, canned, ready to eat Mushroom – fresh, dried, pickled, wine energy drink, capsule Mango – production, pickled, dried, puree, wine, juice Onion – fresh (organic), pickled, dried, powder Vegetables – fresh (organic), vacuum packed, canned, bottled, pickled Rice – aromatic rice, organic rice, rice byproduct Dairy Carabao – processed milk products People and Services: No. of incubatees accepted as start-up 9 No. of incubatees trained/monitored 9 No. of incubatees graduated 9 Partnerships: (Signed MOA) No. of Government Agencies 18 No. Private Agencies/Financial Institutions 4 Places: Number of communities involved in incubation 8	CLSU	AFNR Graduates, MSMEs	01-Oct-17	30-Sep-19	NEW	9,826,839	2,677,601

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-CvSU Agriculture and Food Technology Business Incubator	Rapid, inclusive and sustained economic growth	A business incubator's main objective is to produce successful individuals that leave the program financially viable and freestanding. Incubator graduates commercialize technologies, create jobs, and strengthen local economies. It helps to stimulate economic development benefits for the province in terms of jobs and tax revenues by producing successful entrepreneurs through equipping them with the necessary knowledge, attitude and skills on entrepreneurship, production, processing, marketing, resource generation and business analysis of various agricultural and fishery commodities. Specific objectives are: 1. To identify potential incubatees to undergo the program 2. To train these incubatees and provide support and services needed 3. To produce successful incubator graduates contributing to the economy through employment and revenues	A total of 10 incubatees every year from the 3 components Four (4) graduates by end of Year 2	CvSU	Entrepreneurs in agri-aqua based enterprises	01-Oct-17	30-Sep-19	NEW	8,037,036	2,627,908
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-ISU Livestock Technology Business Incubator	Rapid, inclusive and sustained economic growth	The general objective of the project is to establish a Technology Business Incubation (TBI) facility intended for the promotion of knowledge-based livestock production and post-production activities, technology transfer and commercialization. Specifically, the project aims to: 1. Establish and operate the ISU-TBI on various agriculture and food-based products; 2. Develop AFNR students and graduates to start their MSMEs and be competitive in local, national and global markets; 3. Assist entrepreneurship and enterprises in the commercialization of agriculture and food- based technologies; 4. Assist technology generator to position their technology and products in the market place; 5. Generate employment among entrepreneurs.	1. Publications - At least 3 curriculum of the offered courses finalized (Y1) 2. Patents - 3. Products - 4. People and Services - At least 3 Formalized trainings on business incubation offered (Y1) - At least 10-15 enrollees with increased awareness on technology and business management (Y1) - At least 10 Potential incubatees identified (Y1-Y2) - At least 3 Trainings for entrepreneurs conducted and skill and knowledge enhanced (Y1-Y2) - At least 10-15 Enterprises established (Y1-Y2) - At least 3 Existing products and newly developed products commercialized (Y1-Y2) - At least 3 Market studies conducted (Y1-Y2) - At least 3 Products are positioned to market (Y1-Y2) - At least 10 Enterprises monitored (Y1-Y2) - Profit from enterprises determined (Y1-Y2) 5. Places and Partnership - At least 3 MOUs forged with industry partners (Y1) - Office space for TBI repaired (Y1) - 18 Additional equipment purchased to increase production rate (Y1) 6. Policies - IRR on TBI Operation approved by ISU Board (Y1)	ISU	AFNR Graduates, MSMEs	01-Oct-17	30-Sep-19	NEW	16,592,766	2,172,162
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-UPV Fisheries Technology Business Incubator	Rapid, inclusive and sustained economic growth	General Objective: To foster a culture of innovation and entrepreneurial ecosystem by providing a venue for dynamic interactions among the academe, industry and the private sector to develop technology-based enterprises. The FTBI shall have the following specific objectives: 1. To maximize and advance the potential technologies and innovations generated by the faculty, researchers and students in UPV through technology transfer and commercialization, by spin-off, licensing, or start-ups development; 2. To promote the creation of new technology business startups and graduates from FTBI; 3. To provide an innovative and entrepreneurial ecosystem through business creations capability building trainings and workshops, innovation events, business pitching and matching, and industry trend talks,technology fairs, etc., and participation to externally organized technology and innovation events; 4. To provide a business enabling environment by offering a physical facility and access to the resources of the University pertinent to technology business incubation, e.g. knowledge, physical facilities, talents and networks; and, 5. To provide opportunities for employment and resource generation, esp. among graduates students and the local community.	a) Technology Transfer and Commercialization b) Technology-based Business Creation c) Business Incubation Capability Building d) Innovation and Entrepreneurial Ecosystem Promotion e) FTBI Team, Industry and Funding Partnership Formation f) FTBI Facility Development g) FTBI Socio-economic Development	UPV	UPV Community LGU Miagao – Fisherfolks and the community Province of Iloilo Fishery industry sector General public consumers	01-Oct-17	30-Sep-19	NEW	18,223,777	2,835,279
DOST-PCAARRD Technology Business Incubation (TBI) Program	DOST-PCAARRD-VSU Agriculture and Food Technology Business Incubator	Rapid, inclusive and sustained economic growth	• To establish a system that will nurture entrepreneurship ventures of AANR students and graduates, researchers, growers, processors and entrepreneurs in Region VIII. • To enhance business and employment opportunities of AANR graduates through commercialization of agriculture and food technologies via AFTBI@VSU. • To accelerate commercialization of AANR technologies developed by the university and other R&D Institutions in the region	Product: At least 7 Technology-based commercial products and businesses People and Services: At least 7 New entrepreneurs 1 Pool of TBI managers/administrators Publication: At least 1 Publication on experiences of VSU in technology commercialization thru TBI Patent: At least 3 trademarks Places and Partnerships: Partnerships with the chambers of commerce/industry; At least 7 MOAs with incubates Policy: 1 Refined TBI Policies	VSU	• Students in agriculture, forestry and natural resources • OFWS, farmers, processors, individual or groups interested to venture into AANR technology commercialization • Farmers producing the needed raw materials for processing	01-Oct-17	30-Sep-19	NEW	34,928,614	2,076,907
Enhancing Competitiveness of Philippine 'Carabao' Mango through Varietal Improvement Program "Molecular Markers in 'Carabao' Mango Associated with Peel Color and Thickness, and Resistance to Anthracnose and Fruit Fly- old title"	Project 1. Characterization of 'Carabao' and other Mango Varieties with Red Blush and Thick Peel, and Development of Hybrids	Poverty reduction and empowerment of the poor and vulnerable	To identify 'Carabao' and other mango varieties with red blush and thick peel and develop mango hybrids	1. Identified 3 potential 'Carabao' mango strains/selections with red blush and 1 with thick peel from other mango varieties 2. Identified at least 1 stop-gap mango cultivar/variety for 'Carabao' mango 3. Produced 3 more putative hybrids by pairing/clipping method of hybridization 4. Established breeding blocks for mangro hybridization program 5. GBS data and gene annotations 6. Published at least 6 papers in scientific journals	UPLB	1. Mango growers/exporters 2. Researchers 3. Breeders	01-Nov-15	30-Oct-21	ONGOING	15,949,890	1,812,119
Enhancing Competitiveness of Philippine 'Carabao' Mango through Varietal Improvement Program "Molecular Markers in 'Carabao' Mango Associated with Peel Color and Thickness, and Resistance to Anthracnose and Fruit Fly- old title"	Project 2. Characterization of 'Carabao' and other Mango Varieties with Resistance to Fruit Fly and Anthracnose	Poverty reduction and empowerment of the poor and vulnerable	To identify 'Carabao' and other mango varieties with resistance to anthracnose and fruit fly	1. Identified 2 'Carabao' and 1 other mango variety resistant to fruit fly 2. Identified 3 'Carabao' and 2 other mango varieties resistant to anthracnose 3. Published at least 6 papers in scientific journals	UPLB	1. Mango growers/exporters 2. Researchers 3. Breeders	01-Nov-15	30-Oct-21	ONGOING	10,411,430	1,342,453
Enhancing Competitiveness of Philippine 'Carabao' Mango through Varietal Improvement Program "Molecular Markers in 'Carabao' Mango Associated with Peel Color and Thickness, and Resistance to Anthracnose and Fruit Fly- old title"	Project 3. Identification of Molecular Markers in 'Carabao' and other Mango Varieties Associated with Red Blush, Thick Peel, and Resistance to Anthracnose and Fruit Fly	Poverty reduction and empowerment of the poor and vulnerable	To identify molecular markers associated with specific traits in mangoes through the application of Genotype by Sequencing technology	1. Identified markers associated with specific traits 2. Identified true hybrids 3. Database for mango 4. Publish at least 6 papers in scientific journals	UPLB	1. Mango growers/exporters 2. Researchers 3. Breeders	01-Nov-15	30-Oct-18	ONGOING	14,498,868	1,457,420
Enhancing Livelihood Opportunities in Conflict-Vulnerable Areas in Mindanao through the LIFE (Livelihood Improvement through Facilitated Extension) Model	Project 1. Scaling Out the LIFE Model to Improve the Productivity of Select Upland Farmers Group in Surallah, South Cotabato	Rapid, inclusive and sustained economic growth	General Objective: To improve productivity and income of select farmers in Barangay Canahay, Surallah, South Cotabato through the LIFE Model. Specifically, the project aims to: 1. Improve farmers' productivity and income by using sustainable and appropriate farming, post-production and marketing practices; 2. Strengthen farmer groups and promote gender equality and cultural sensitivity; 3. Enhance link between farmers and both government and non-government institutions relevant to improving their productivity and strengthening their groups; 4. Document and analyse the adoption, productivity and welfare improvement of farmers in these conflict-vulnerable communities that use the LIFE model.	Places and Partnerships: MOA/MOU with Brgy Canahay, Surallah to implement the LIFE model, Expanded networks of farmer Brgy Canahay cooperators People and Services: Conducted capacity building/mentoring for new facilitators o Organized at least 30 farmer cooperators into one cluster o Conducted at least one cross visit and one other capacity building activity for cooperators o Improved access of farmer groups to government programs thru Barangay, Municipal/City LGU; as well as agencies such as PCA, DA, DTI and DOST o Established at least one learning area, Registered the farmercooperators group with DOLE o Conducted at least 2-3 other capacity building activities for cooperators, One Field Day Products: Increased farmers' income by 30% (based on results of the baseline data) Policies: Initiated stakeholders' consultation with cooperators for policy development , Ordinance or Resolution passed in the local government unit Publication: One video material for experience of implementing the LIFE Model , At least 2 papers published that are peer reviewed o Training module published o Terminal report	UPM	The target beneficiaries of the project include extension service providers, local government units, farmer partners, policy makers and even the R&D community.	16-Oct-17	15-Oct-20	NEW	7,449,037	2,852,134

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Enhancing Livelihood Opportunities in Conflict-Vulnerable Areas in Mindanao through the LIFE (Livelihood Improvement through Facilitated Extension) Model	Project 2. Scaling Out the LIFE Model to Improve the Productivity of Select Lowland Farmers Group in Datu Abdullah Sangki, Maguindanao	Rapid, inclusive and sustained economic growth	General Objective: To improve productivity and income of select farmers in Datu Abdullah Sangki, Maguindanao through the LIFE Model. Specifically, the project aims to: 1. Improve farmers' productivity and income by using sustainable and appropriate farming, post-production and marketing practices; 2. Strengthen farmer groups and promote gender equality and cultural sensitivity; 3. Enhance link between farmers and both government and non-government institutions relevant to improving their productivity and strengthening their groups; 4. Document and analyse the adoption, productivity and welfare improvement of farmers in these conflict-vulnerable communities that use the LIFE model.	Places and Partnerships: MOA/MOU with one barangay of DAS, Maguindanao to implement the LIFE model, Expanded network of farmer cooperators of Barangay of DAS, Maguindanao cooperators and at least one other govt agency People and Services: Conducted capacity building/mentoring for new facilitators o Organized at least 30 farmercooperators into one cluster o Conducted at least one cross visit and one other capacity building activity for cooperators o Improved access of farmer groups to government programs thru Barangay, Municipal/City LGU; as well as agencies such as PCA, DA, DTI and DOST o Initiated to establish at least one demo farm o Conducted at least 2-3 other capacity building activities for cooperators, Registered/Enhanced the farmercooperators group with DOLE o Conducted at least 23 other capacity building activities for cooperators o Established at least one demo farm o One Field Day Products: Increased farmers' income by 20%, Increased farmers' income by 30% (based on results of the baseline data) Policies: Initiated stakeholders' consultation with cooperators for policy development Publication: One video material for experience of implementing the model , At least 2 papers published that are peer reviewed and ISI o Training module published o Terminal report	UPM	The target beneficiaries of the project include extension service providers, local government units, farmer partners, policy makers and even the R&D community.	16-Oct-17	15-Oct-20	NEW	7,270,702	2,205,634
Enhancing Livelihood Opportunities in Conflict-Vulnerable Areas in Mindanao through the LIFE (Livelihood Improvement through Facilitated Extension) Model	Project 3. Scaling Out the LIFE Model to Improve the Productivity of Select Coastal Community Group in Ipil, Zamboanga Sibugay	Rapid, inclusive and sustained economic growth	General Objective: To improve productivity and income of select seaweed growers/farmers in Ipil, Zamboanga Sibugay through the LIFE Model. Specifically, the project aims to: 1. Improve seaweed growers/farmers' productivity and income by using sustainable and appropriate production, post-production and marketing practices; 2. Strengthen farmer groups and promote gender equality and cultural sensitivity; 3. Enhance link between farmers and both government and non-government institutions relevant to improving their productivity and strengthening their groups; 4. Document and analyse the adoption, productivity and welfare improvement of farmers in these conflict-vulnerable communities that use the LIFE model.	Places and Partnerships: MOA/MOU with Ipil, Zamboanga Sibugay to implement the LIFE model, Expanded networks of farmer cooperators of Ipil, Zamboanga Sibugay People and Services: Conducted capacity building/mentoring for new facilitators o Organized at least 30 farmercooperators into one cluster/association o Conducted at least one cross visit and one other capacity building activity for cooperators o Improved access of farmer groups to government programs thru Barangay, Municipal/City LGU; as well as agencies such as BFAR, PCA, DA, DTI and DOST o Established at least one learning area, Registered the farmercooperators group with DOLE o Conducted at least 2-3 other capacity building activities for cooperators, One Field Day Products: Increased farmers' income by 30% (based on results of the baseline data) Policies: Initiated stakeholders' consultation with cooperators for policy development , Ordinance or Resolution passed in the local government unit Publication: One video material for experience of implementing the LIFE Model , At least 2 papers published that are peer reviewed o Training module published o Terminal report	UPM	The target beneficiaries of the project include extension service providers, local government units, farmer partners, policy makers and even the R&D community.	16-Oct-17	15-Oct-20	NEW	7,008,952	2,174,884
Enhancing Milk Production of Water Buffaloes through S&T Inerventions	Project 1. Development of Feeding Protocols and Practices to Support the Nutritional Requirements of Dairy Buffaloes	Rapid, inclusive and sustained economic growth	To assess the existing feed resources, current feeding practices, identify nutritional gaps and production performance of the dairy buffaloes raised by the farmers at the national impact zone (NIZ) in Nueva Ecija and in San Agustin, Isabela To establish village–scale sustainable production of grasses and legumes for dairy buffalo feeding To establish year-round practical feeding system using home-grown forages that is nutritionally complete to increase daily milk production of buffaloes from 4.5 to 7 kg To recruit at least 100 dairy farmers as initial adoptersof the feeding technologies and systems developed by the project To assess reproductive performance and milk production of dairy buffaloes and profitability achieved by participating dairy buffalo farmers	At the end of project implementation, the following expected outcomes would have been realized at the NIZ, Nueva Ecija and San Agustin, Isabela: The farmers produced sustainable of supply of quality forages, adopt complete nutrient diet or standard ration and practice consistent feeding of their dairy animals. With year-round supply of home-grown forages the farmers adopted intensive 13 system of management resulting to enhanced milk production and the problem of liverfluke infestation among the dairy animals is addressed Legume seeds and other forms of planting materials like seedlings, cuttings are commercially available to farmers at the PCC Dairy Box. Adoption of developed technologies by the dairy farmers achieved the goal of increasing the daily milk production of buffaloes from4.5 l/d to 7l/d. Additional income from dairy farming accounts forP33,750 per cow per lactation.	PCC	52 primary cooperatives in Nueva Ecija with more than 1,000 members mostly composed of smallholder dairy buffalo farmers One (1) cooperative in San Agustin, Isabela with at least 200 farmers raising crossbred buffaloes.	01-Jan-16	31-Dec-18	ONGOING	13,074,986	3,428,037
Enhancing Milk Production of Water Buffaloes through S&T Inerventions	Project 2. Development of Reproductive Management Program for Increased Efficiency of AI in Dairy Buffaloes	Rapid, inclusive and sustained economic growth	To gain a deeper understanding on the ovarian physiology of dairy buffaloes during estrous cycle To elucidate ovarian follicular activity and endocrine profile in relation to the manifestation of behavioral signs of estrus and timing ovulation as guide for technicians and farmers in determining proper time of AI in dairy buffaloes to improve conception rate and consequently calf drop, To evaluate a newprotocol of synchronizing ovulation and fixed time AI (FTAI), as an assisted reproductive tool to increase efficiency of AI in dairy buffaloes, To implement effective pregnancy diagnosis and rebreeding systems as part of the intensified reproductive management program for genetically superior dairy buffalo breeder animals, To develop and establish a practical and economically feasible AI protocol at the NIZ and San Agustin dairy community that is based on the reproductive physiology dynamics of dairy buffaloes raised in these areas.	Basic Information on reproductive physiology/ovarian function in dairy buffaloes in the Philippines Information on ovarian follicular and hormonal response associated with behavioral estrus and ovulation for Timed AI program in dairy buffalo Applicable and efficient AI protocols with success rates of 30% to 35% and 15% to 20% in the NIZ and San Agustin, respectively Effective early pregnancy diagnosis and re-breeding program established particularly for pure bred dairy buffaloes Reduction of calving interval from 22 months to 18 months Sustainable milk production based on the season-based Timed AI program Research publications Potential Outcomes/Impact 40%-50% increase in the number of calves produced 50% increase in the number of dairy cows on the milking line 50% increase in milk production (25% contribution of the Project) At least 50% increase income for farmers	PCC	Animals science professionals, professors, students 18 Dairy farmers Dairy cooperatives Multiplier farms VBAIT technicians LGU technician	01-Jan-16	31-Dec-18	ONGOING	24,598,650	7,909,190
Enhancing Milk Production of Water Buffaloes through S&T Inerventions	Project 3. Development of Health Care Technologies and Practical Farm Practices in Support of Increasing Buffalo Milk Production	Rapid, inclusive and sustained economic growth	To establish epidemiological data (temporal and spatial data) for risk factor analysis including identification of predisposing causes affecting decreased milk production To develop technologies and effective farm management practices to reduce the incidence and economic impact of these diseases in dairy buffaloes 4 To disseminate information and encourage farmers to adopt new and improved disease prevention and control measures as part of their routine farm practices To develop quick and reliable diagnostic protocols for early detection of infectious pathogens affecting milk production in water buffaloes	Reduced incidence of fasciolosis, trypanosomiasis and mastitis in water buffaloes Increased milk production through practice of the recommended management programs for farmers Increased income of farmers from buffalo milk production Enhanced capability of local researchers, scientists and dairy technicians in the diagnosis and control of mastitis, fasciolosis and trypanosomiasis Developed protocols for the detection of infectious diseases	PCC	Animal Breeders of private and government farms Academe/Researchers 23 Field Veterinarians/Animal Extension Workers Farmers	01-Jan-16	31-Dec-18	ONGOING	10,695,839	3,559,009
Enhancing Milk Production of Water Buffaloes through S&T Inerventions	Project 4. Milk Quality and Safety Assurance from Farm to Milk Processing Plant	Rapid, inclusive and sustained economic growth	To assess currentcollection and handling practices in relation to quality and safety of milk produced by smallholder dairy farmers To establish milk quality information at the farm level that will serve as guide for farmers in making adjustments of their feeding and management practices to maintain consistent milk quality throughout the lactation period of 300 days. To develop a milk quality testing protocol that can be performed by farmers at the farm level To generate milk quality data that will be used as inputs in establishing buffalo milk quality standards and as inputs in developing policies on buffalo milk pricing, marketing and distribution. To evaluate the socio-economic impact of S&T interventions that promote buffalo milk quality and safety assurance.	Baseline information on existing milk handling practices and farm level milk quality Farm level milk quality testing protocol Milk quality information as input to milk quality standards for buffalo milk Improved milk quality (as revealed by milk test results) compared to that at the start of the project (e.g. number or % samples with reduced microbial count, reduced acidity, increased specific gravity, etc.)	PCC	All key actors in the value chain will benefit from the project. Direct beneficiaries include the smallhold milk producers, dairy cooperatives, federations, associations, milk collectors/transporters, milk quality control staff at the Milk Collection Center, milk processors and dairy plant managers. Extension workers, and those in the academe and researcher can be indirect beneficiaries of the project	01-Jan-16	31-Dec-18	ONGOING	17,222,390	1,949,959
Enhancing Milk Production of Water Buffaloes through S&T Inerventions	Project 5. Strengthening San Agustin Crossbred Carabao-based Enterprise Development (CBED) Model	Rapid, inclusive and sustained economic growth	To evaluate the effectiveness of science-based technology options in feeding, disease control, milk collection and handling and dairy farm management in strengthening the San Agustin Dairy Cooperative (SADACO) and in revitalizing the 13 organized groups of San Agustin who are engaged in enterprises based on milk production from crossbred and native carabaos. Develop a practical system of providing technical support services that would lead to the establishment of an 860 hd breedable female crossbreds (12% of which in the milk line) in the 13 organized groups by the end of 2018. Develop enabling strategies and mechanisms for SADACO and appropriate partnerinvestors to operate the existing processing facility at about 300 liters raw milk per day; Create opportunities for SADACO to promote its products to wider markets and to enter into marketing agreements with established milk marketing and distribution businesses or groups. Generate science based-information that would be used as inputs to a resolution seeking inclusion of a municipal dairy development program in the Executive Legislative Agenda (ELA) ofSan Agustin LGU-.	Information on the success drivers and innovation on the CBED model in San Agustin Novel technology transfer options for the adoption of breeding, feeding and management, health care and milk handling, transport, processing and pricing and marketing practices and systems by dairy buffalo farmers Four (4) clusters of functional production network covering the 13 dairy associations revitalized and actively engaged in the dairy supply chain – production, collection, processing and marketing with SADACO performing the pivotal role Inventory of breedable healthy female crossbreds reached a total of 868heads by the end of 2018 (an increase of 15% from project start up to completion period) and 12% of breedable females in the milking line by 2018 Gross milk production of 10,920 liters by the last quarter of 2016, 76,650 liters in 2017 and 109,500 liters raw milk by 2018. Total gross milk production of 197,070 liters which is valued at Php8,868,150.00 within the three year period, if the milk per liter cost is set at Php45.00 The processing facility is put into operation with at least 300 liters raw milk per run, which will be translated into a value adding intervention Market links with at least 2 Institutional buyers Institutionalize the local dairy development program with the support of LGU-San Agustin	PCC	500 carabao CB owners that own initially the 750 breedable female CBs	01-Jan-16	31-Dec-18	ONGOING	9,523,234	2,861,078
Enhancing quality protein maize (QPM) production, storage and utilization as feed grain	Project 4. Nutritional evaluation of QPM hybrid cultivars for poultry and swine feeding	Rapid, inclusive and sustained economic growth	To assess the nutritional profile and feeding value of QPM cultivars.	Nutrient profile of new QPM hybrid cultivar Production performance and product quality data of swine, broiler, layer fed QPM-based diets Economic analysis of using QPM	CLSU	Farmers Animal growers Feed miller	01-Sep-13	31-Aug-17	ONGOING	3,286,436	246,446

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
ENHANCING SEA CUCUMBER PRODUCTION: UNCOVERING AND UTILIZING GENETIC RESOURCES FOR SUSTAINABLE DEVELOPMENT	Project 1. Developing Genomic Resources for Holothuria scabra in Support of Broodstock Selection and Stock Delineation	Rapid, inclusive and sustained economic growth	The development of genomic resources for the sandfish is required to further efforts towards increasing hatchery production by broodstock improvement,and genetic stock delineation for management and conservation of iwld populations and stock enhancement initiatives. The general objective of the project is to develop genemic resources for Holothuria scabra which will be useful towards enhancement of hatchery production and stock delineation for management of capture fisheries.	1. Draft linkage map for Holothuria scabra based on SNP markers. 2. Genomic resource for phenotype selection based on growth: SNP markers associated with variability in growth rate. 3. Genomic resource for genetic stock delineation: SNP loci for screening and validation.	UPD	Government and private sectors engaged in sandfish industry; fishers, traders and orther direct users of sea cucumber stocks; researchers	01-Aug-15	31-Jul-18	ONGOING	12,900,000	5,695,184
ENHANCING SEA CUCUMBER PRODUCTION: UNCOVERING AND UTILIZING GENETIC RESOURCES FOR SUSTAINABLE DEVELOPMENT	Project 2: Identifying management units for high value sea cucumber species, Holothuria scabra and Stichopus horrens	Rapid, inclusive and sustained economic growth	The general objective of the project is to identify ecologically meaningful management units for two high-valued sea cucumber species, Holothuria scabra and Stichopus horrens, by integrating information on species biology with biophysical connectivity studies, and focusing on selected areas across the Philippine archipelago where sea cucumber hatcheries are being developed. The specific objectives are: (1) Examine cryptic genetic diversity in Stichopus horrens, integrating information on ecology, genetics, and chemistry to accelerate the development of culture technologies for this high-value genera; and (2) Infer management units for Holothuria scabra and Stichopus horrens in selected marine biogeographic regions anchored on focal hatcheries.	1. Characterization of cryptic diversity in Stichopus horrens based on reproductive behavior, genetic differentiation, and chemical profiles, and its implications to identifying management units in the species. 2. Novel molecular markers for stock delineation in Holothuria scabra and Stichopus horrens. 3. Identify ecologically-meaningful management units in H. scabra and S. horrens based on genetic and biophysical connectivity information. 4. Technical inputs for development of policies for culture and capture sea cucumber fisheries towards international certification/recognition of the Philippine sea cucumber fisheries as compliant and a model for best practices.	UPD	Stakeholders in sandfish industry (government and private sector): LGUs, fishers, traders and other direct users of natural (wild) sea cucumber; local researchers from academe	01-Aug-15	31-Jul-18	ONGOING	18,300,000	5,437,273
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Establishing Partnership to Organize and Mobilize Institutions in Central Visayas in the Development of S&T Action for Emergencies and Risks in the Agriculture, Aquatic, and Natural Resources Sector	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office 7	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	01-Feb-17	30-Jun-17	NEW	300,000	300,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Establishing Partnership to Organize and Mobilize Institutions in Eastern Visayas in the Development of S&T Action for Emergencies and Hazards in the Agriculture, Aquatic, and Natural Resources Sector	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No. 8	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	01-May-17	30-Nov-17	NEW	300,000	300,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Expanding Linkages and Strengthening Partnerships among Institutions	Rapid, inclusive and sustained economic growth	The project is being proposed primarily to enhance the partnership and organize the institutions and agencies in the Bicol Region to implement relevant and responsive SAFE projects in the AANR sector. 1. To enhance participation among Consortium Member Institutions (CMIs) in implementing SAFE initiatives on AANR sector in the Bicol Region 2. To strengthen the organizational structure of the SAFE Team in the Region 3. To develop a plan for the implementation of the SAFE program from 2017-2022	Organized and established ad hoc team composed of Consortium Member Institutions and other identified partner institutions to implement the SAFE program in the Bicol Region - Prioritized and identified sites for initial project implementation - Packaged at least five (5) proposals within four months and submitted to the PCAARRD SAFE program	DOST Regoinal Office No. 5	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country.	01-Aug-17	31-Jan-18	NEW	400,000	400,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Operationalization of the S&T Action Frontline for Emergencies (SAFE) Program and Risk in the Agriculture, Aquatic and Natural Resources Sector - Mindanao Cluster Group	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No. 10, DOST Regional Office No. 11, DOST CARAGA	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	01-Jun-17	31-Jan-18	NEW	900,000	900,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Operationalization of the S&T Action Frontline for Emergencies and Hazards in the AANR Sector (SAFE) program in the North Luzon Cluster	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No. 1	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	01-Apr-17	31-Jan-18	NEW	2,150,000	2,150,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Operationalization of the S&T Action Frontline for Emergencies and Hazards in the AANR Sector in Zamboanga Peninsula	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No. 9	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	01-Apr-17	30-Jun-17	NEW	320,000	320,000
Enhancing the PCAARRD and DOST Regional Offices Partnership in Technology Transfer and Promotion for the AANR Sector	Strengthening the Partnership to Organize and/or Mobilize Institutions for the Development of S&T Action Frontline for Emergencies and Hazards in the Agriculture, Aquatic and Natural Resources (AANR) Sector in SOCCSKSARGEN	Rapid, inclusive and sustained economic growth	The general objective of the project is primarily to strengthen collaboration among S&T partners in Region XII in packaging and implementing projects and activities under the SAFE program Specifically, the project aims to: 1. Identify and organize institution or stakeholders in the AANR sector in the region as an ad hoc team for SAFE; 2. Develop a plan for the implementation of the program in the region. 3. Package and implement SAFE projects in the region; and	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No 12	This program intends to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country.	01-Apr-17	30-Jun-17	NEW	350,000	350,000
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Program Management and Coordination (PMC)	Poverty reduction and empowerment of the poor and vulnerable	To coordinate the conduct of M&E actvities such as mid-year and annual program reviews, field visits; financial report and serves as repository of documents about the program	0	VSU	0	01-Apr-16	31-Mar-19	ONGOING	2,575,996	380,086
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 1. Comparative Field Performance of Tissue Culture Derived Plantlets and Suckers of Queen Pineapple	Poverty reduction and empowerment of the poor and vulnerable	General: To improve the productivity and quality of Queen pineapple under coconut intercropping scheme. Specific: 1. To optimize a micropropagation technique via direct multiple shoot induction 2. for Queen pineapple. 3. To evaluate two somatic embryogenesis protocol for queen pineapple. 4. To assess somaclonal variation in important traits of queen pineapple. 5. To evaluate the field performance of tissue culture-derived planting 6. materials in comparison with suckers under coconut intercropping scheme in 7. Leyte and Camarines Norte conditions	Optimized micro-propagation technique for Queen pineapple via direct multiple shoot induction Efficient somatic embryogenesis protocol for Queen pineaaple identified/developed Adaptive, productive and high yielding Queen pineapple populations suitable for coconut intercropping	VSU	1. Pineapple growers in 2. Pineapple traders (local and export) 3. Pineapple processors 4. Research institutions 5. LGUs/SUCs	01-Apr-16	31-Mar-19	ONGOING	3,944,511	1,071,622

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 2. Assessment and Variability in Growth, Yield and Biochemical Characteristics of Queen Pineapple (Ananas comosus var. comosus) Populations in Camarines Norte and Leyte	Poverty reduction and empowerment of the poor and vulnerable	General: To characterize existing Queen pineapple populations and do selection among individuals within populations where considerable variability exists Specific: 1. To identify important characteristics of Queen pineapple that are related to yield, fruit quality, market acceptability and processing potential 2. To determine the range of phenotypic variability and possible correlations among important growth, yield and biochemical characteristics of 'Queen' pineapple populations in Camarines Norte and Leyte 3. To select good plants that can be used as (a) sources of planting materials to develop an improved population in terms of yield, market acceptability and suitability to processing and (b) parents for genetic improvement 4. To establish two reproduction/conservation sites for selected 'Queen' pineapple plants in Camarines Norte State College (CNSC) and Visayas State University (VSU) 4 5. To determine the effect of fruit maturity and growing conditions on the biochemical characteristics of 'Queen' pineapple 6. To identify possible processed products that may be developed based on biochemical characteristics of 'Queen' pineapple	1. Established ranges of values of important growth and yield parameters of 'Queen' pineapple in Camarines Norte and Leyte 2. 'Queen' pineapple plants with fruit size of at least 15 centimeters long and 10 centimeters diameter, fruit weight between 0.8 to 1.2 kg and with normal fruit shape identified 3. Plants with the highest fiber yield identified and leaf characteristics associated with high fiber yield determined 4. Growing conditions (soil moisture, fertilized, grown in open field or under coconut) affecting yield (fiber and fruit) and market acceptability determined 5. Baseline information on the physico-chemical, biochemical and sensory qualities of 'Queen' pineapple fruit planted in Camarines Norte and Leyte. 6. Established relationship between coconut fruit maturity and its biochemical characteristics. 7. Established relationship between the varying degrees of light exposure condition of the pineapple plant and the biochemical characteristics of its fruit. 8. Two reproduction/conservation sites (one in Camarines Norte and one in Leyte) for selected 'Queen' pineapple plants established.	VSU, CNSC	1. Commercial 'Queen' pineapple growers/farmers in Camarines Norte and Leyte 2. Research and Educational institutions (CNSC and VSU) 3. Pineapple fiber industry stakeholders 4. Pineapple breeders 5. Coconut- and 'Queen' pineapple-based product processors and consumers 6. LGUs	15-Apr-16	14-Apr-18	ONGOING	4,148,335	2,793,525
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 3. Optimization of Planting Density Regulation for Queen Pineapple in Intercropped System	Poverty reduction and empowerment of the poor and vulnerable	General: To determine the optimum plant population of queen pineapple under intercropped systems in Regions 5 and 8. Specific: Component 1: 1. Determine optimum plant population of Queen pineapple under pili-based cropping system 2. Assess performance and effect of fertilizer management on the yield of pili. Components 1 and 2: 3. Determine optimum plant population of Queen pineapple on open upland area, coconutbased at 10m x 10m density and coconut-based with irregular spacing. 4. Verify the response of queen pineapple planted under coconut-based cropping system with different planting densities in terms of a) Agronomic performance; b) Fruit yield quality; c) Leaf harvest and d); Economic performance. 5. Assess performance and effect of fertilizer management on the yield of coconut.	A technology recommendation or protocol on the optimum population density of queen pineapple under different intercropping systems in Region 5 and Region 8	DA Regional Field Unit V, VSU	Queen pineapple farmers, Agricultural technicians, LGU's, Farmers associations and cooperatives and other institutions involved in queen pineapple, coconut or pili production or industry.	01-Apr-16	31-Mar-19	ONGOING	7,371,852	1,453,331
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 4. Development of Site-specific Integrated Pest Management of Queen Pineapple under different cropping schemes in Region 8 and Region 5	Poverty reduction and empowerment of the poor and vulnerable	General: To develop a site specific sustainable pest management strategy of Queen pineapple under different cropping systems in Leyte and Camarines Norte Specific: 1. To survey, assess and identify the major arthropod pests and diseases of queen pineapple planted under different cropping schemes in selected localities in Leyte and Camarines Norte; 2. To monitor the abundance and dynamics of the major pests and prevalence of disease; 3. To conduct biological studies of major insect pests collected and isolation and characterization of diseases that will be observed 4. To identify and assess potential naturally occurring biocontrol agents that can be utilized to develop control/ and management strategies of major pests of queen pineapple under different cropping schemes selected project sites; and 5. To produce IEC materials for pests and diseases associated with pineapple as field guide for their sustainable management	1. Identification of major pests and diseases of queen pineapple under different cropping schemes 2. Identify potential naturally occurring biocon agents against major pests and diseases of pineapple under different cropping schemes 3. Establish the population dynamics of major insect pests of pineapple 4. Data base on diseases severity, incidence and prevalence of pineapple in order to develop effective management strategies 5. IEC materials for pests and diseases associated with pineapple as field guide for identification, diagnosis and surveillance and their sustainable management. 1. List and documentations of indigenous, conventional and traditional pests and diseases control strategies; 2. Identification of potential biological control agents and antagonists to be used in the development of effective pest control strategies; 3. Effective mass production techniques for insect arthropod biocon agents and antagonists; 4. Field delivery techniques/system of potential biocon agents, including entomopathogens and antagonists; and 5. Site-specific sustainable strategy/package for pineapple planted under various cropping schemes in Leyte and Camarines Norte	VSU	Local farmers and stakeholders, academe, researchers, policymakers; development planners of the pineapple industry	01-Apr-16	31-Mar-19	ONGOING	3,672,708	1,231,406
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 5. Development of Various Products from Queen Pineapple Wastes	Poverty reduction and empowerment of the poor and vulnerable	The project aims to: 1. Gather information on production and postharvest practices on Queen Pineapple in Camarines Norte 2. Assess the production and postharvest losses on Queen pineapple 3. Promote appropriate production and postharvest technology for Queen Pineapple.	1. Compact, convenient and low-cost feedstock coal that is all-natural and environment friendly with high quality burning efficiency and longer length of consumption 2. Economically feasible feed supplement for best health and performance of native chicken 3. Perfect blend of multi-use marinade mix which is safe for quick and easy way of perking up and tenderizing meat for savory dishes minus preservatives and coloring 4. Cost and return analysis of the developed products 5. Reduction of postharvest wastes up to 80% thru value-adding	CNSC	Farmers, LGUs, Biofuel Manufacturer, QP growers, entrepreneurs, students, extension workers, researchers	01-Apr-16	31-Mar-18	ONGOING	3,919,338	1,022,341
ENHANCING THE PRODUCTIVITY AND MARKETABILITY OF QUEEN PINEAPPLE	Project 6. Evaluation of Queen Pineapple Grade Standards and Assessment of Implementation and Compliance in Camarines Norte as Basis for Policy Reforms and Formulations	Transparent, accountable, and participatory governance	General: The project will evaluate the Queen pineapple (QP) grade standards and assess the implementation of and compliance in Camarines Norte as basis for policy reforms and formulations. Specific: 1. Determine the QP grade standards implementation in terms of technical assistance, capability building, monitoring and supervision, policy support and organization of farm groups and compliance; 2. Identify the factors affecting the QP grade standards implementation and compliance; 3. Determine the farmer's advantages and disadvantages of utilizing the ladder type pricing (with grading system) vis-à-vis the straight pricing scheme through cost and return analysis. 4. Identify marketability index for QP as benchmark of the pineapple farmers 5. Evaluate the QP grade standards, propose policy-reforms and formulate policies on QP grade standards and trading; and 6. Validate the level of acceptability of the provisional policies in pineapple grading and trading.	1. Database on implementation of and compliance on Queen Pineapple (QP) Grade Standards in Camarines Norte. 2. Cost and Return Analysis in utilizing QP Grading System 3. Marketability index for QP 4. Proposed policy interventions on pineapple grading and trading	CNSC	Queen Pineapple Farmers, LGUs, QP Program implementers	01-Apr-16	31-Mar-18	ONGOING	7,439,527	367,619
ENHANCING VALUE CHAIN FOR PEANUT (Arachis hypogaea L.) PRODUCTION AND PROCESSING	Enhancing Peanut Production Through Innovative Water Management Strategies	Rapid, inclusive and sustained economic growth	The project aims to increase the productivity of peanut by 30% through the application of drip irrigation technology	⁉ Validated irrigation management strategy for peanut ⁉ Pilot test farms showcasing the DI technology ⁉ Increased productivity and improved quality of peanut produce ⁉ Increase in yield by 30% ⁉ Increase water productivity by 60% ⁉ Improved seed quality ⁉ Increased profitability of peanut production ⁉ Training modules and IEC materials ⁉ 30 peanut farmers trained on DI technology	MMSU	Farmers, researches, extension workers, students, policy makers	01-Jan-16	31-Dec-17	ONGOING	4,999,616	1,813,308
Ex-Ante Assessment of the Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines (SARAI) Research Program: The Case of Rice and Corn	Ex-Ante Assessment of the Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines (SARAI) Research Program: The Case of Corn	Transparent, accountable, and participatory governance	to estimate, to the extent possible, the economic value of the outcomes of the SARAI program for corn	1. Inception report containing the final approach, methodology, work plan, fielding schedule and institutional arrangements. 2. Synthesis report include chapters regarding the overview of the program, general framework and methodology applied.	UPLB	Decision makers at PCAARRD, grantees of PCAARRD GIA funding,	01-Oct-17	30-Sep-18	NEW	2,032,641	2,032,641
Ex-Ante Assessment of the Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines (SARAI) Research Program: The Case of Rice and Corn	Ex-Ante Assessment of the Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines (SARAI) Research Program: The Case of Rice	Transparent, accountable, and participatory governance	to estimate, to the extent possible, the economic value of the outcomes of the SARAI program for rice	1. Inception report containing the final approach, methodology, work plan, fielding schedule and institutional arrangements. 2. Synthesis report include chapters regarding the overview of the program, general framework and methodology applied.	UPLB	Decision makers at PCAARRD, grantees of PCAARRD GIA funding,	01-Oct-17	30-Sep-18	NEW	2,344,479	2,344,479

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Feeds and Feeding Systems for the Improved Mallard Ducks	Project 1. Establishment of the Nutrient Requirements of Improved Philippine Mallard Duck	Poverty reduction and empowerment of the poor and vulnerable	The goal of this project is to establish the nutrient requirements of Philippine mallard ducks (Anasplatyrhynchos L.). Specific objectives include: 1. To determine the apparent metabolizable energy content of corn, wheat, rice, soybean meal, cassava meal, wheat pollard, rice bran, and fish meal; 2. To determine the nutrient digestibility of corn, wheat, rice, soybean meal, cassava meal, wheat pollard, rice bran, and fish meal; 3. To determine the metabolizable energy requirement of growing and laying Philippine Mallard ducks; 4. To determine the optimum standardized ileal digestible (SID) lysine: calorie ratio for 9 maximum growth of Philippine Mallard ducks; 5. To determine the optimum SID lysine:calorie ratio for maximum egg production performance of Philippine Mallard ducks; 6. To determine the optimum SID met+cys:lysine ratio for maximum egg production performance of Philippine Mallard ducks; 7. To determine the effects of choline supplementation on egg production performance of PMD; and 8. To determine the calcium and phosphorus requirements of Philippine Mallard ducks at laying stage. (	1. Feeding value of conventional feed ingredients for Philippine mallard ducks. 2. Nutrient requirements of Philippine mallard ducks to be distributed to local duck raisers and other agencies to serve as their guide in buying or producing duck feeds. The established nutrient requirements can also serve as guide for Bureau of Animal Industry in regulating the quality of commercially available duck feeds. 3. Sample feed formulation of grower and layer diets to serve as guide for feed manufacturers. The sample feed formulations can encourage duck raisers to mix their own feed which could be cheaper than commercially available feeds due to absence of marketing cost. 4. Publishable journal articles and poster/paper presentation on nutrient requirements of Philippine mallard ducks	UPLB	1. Establishment of nutrient requirements of Philippine mallard ducks will help duck raisers to improve their productivity and profitability. Up to now, there are no established nutrient requirements of Philippine mallard ducks and commercial duck feeds are mostly formulated based on worldwide recommendations for ducks. Most duck raisers are also using chicken feeds for their ducks which may not be appropriate to the needs of Philippine mallard ducks. 2. Provision of nutrient requirements specific for Philippine mallard ducks can serve as guide for feed millers in formulating feeds specific for the improved breed of Philippine mallard ducks. This could lead to more feed manufacturers producing duck feeds, thus increasing competition in the market. Hopefully, this could help reduce market price of commercially available duck feeds. Moreover, It can also encourage more duck raisers to mix their own feeds which could be cheaper than commercially available duck feeds due to absence of marketing cost. 3. This endeavor can also spur interest of students and researchers to conduct further studies about Philippine mallard ducks which can lead to a vibrant local duck industry.	01-Jul-15	28-Feb-18	ONGOING	3,959,637	689,097
Feeds and Feeding Systems for the Improved Mallard Ducks	Project 2: Establishment of Feeding System for the Improved Philippine Mallard Duck Raised under Confinement System	Rapid, inclusive and sustained economic growth	to be able to establish feeding systems for the different ages of Philippine Mallard Ducks under confined condition	1. Feeding program for the improved breed of Philippine mallard duck 2. Feeding systems for the different stages of PMD in confinement 3. Identified stocking density/floor space requirement for optimum performance of PMD at growing and laying stage raised under confinement system 4. Determined effects of madre de agua (leaves) and snail supplementation on production performance and improved egg quality of PMD.	UPLB	Duck Raisers, duck breeders, feed millers	01-Jul-17	30-Jun-18	NEW	2,071,539	2,071,539
Feeds and Feeding Systems for the Improved Mallard Ducks	Project 3: Establishment of Feeding Sysytem for the Improved Philippine Mallard Duck Raised under Range Management System	Rapid, inclusive and sustained economic growth	to be able to establish feeding system of PMD at different stages under free management system	1. Feeding program for the improved breed of Philippine mallard duck under range management system 2. Identified feed form that is most efficient to use at growing and laying stages under range management system 3. Identified stocking density for optimum performance of PMD at growing and laying stage raised under range management system 4. Identified effects of madre de agua supplementation on performance of PMD on range. 5. Identified levels of mixed feed supplementation for PMD on range. 6. Evaluation of different fauna and flora in the herd. 7. Publications	CLSU	Duck Raisers, duck breeders, feed millers	01-Jul-17	31-Dec-18	NEW	3,141,265	2,531,647
Functional Genomics Assisted Development of Gene Markers for Economically Important Traits in Cacao and Rubber Production Varietal Improvement	Project 1. Functional Genomics Assisted Development of Gene Markers for Economically Important Traits in Cacao Production and Varietal Improvement	Rapid, inclusive and sustained economic growth	The project aims to: a) develop and establish a gene marker and EST for library database in cacao and b) use the established gene marker/EST database for cacao improvement through functional genomics	Analyzed gene markers for 5 cacao HYVs	USM, UPLB	Researchers/ Technicians	16-Feb-15	31-Dec-18	ONGOING	12,668,488	2,963,599
Functional Genomics Assisted Development of Gene Markers for Economically Important Traits in Cacao and Rubber Production Varietal Improvement	Project 2 . Genomics Assisted Development of Gene Marker for Important Traits in Rubber Production and Clone Improvement	Rapid, inclusive and sustained economic growth	The project aims to establish genetic data rubber and develop gene marker/ expressed sequence tag (EST) database for rubber. This is fastrack development of high-yielding variety of clones compared to the development of new varieties of rubber through the long-gestating traditional breeding technique.	Established genetic data for rubber; Developed gene marker/ expressed sequence tag (EST) database for rubber	USM	• About 305 rubber-farmer cooperators • Other potential beneficiaries include farmers involve in rubber production in other areas/regions/provinces	16-Feb-15	31-Dec-18	ONGOING	12,918,708	3,322,031
Genomic applications in Mud Crab Aquaculture and Resource Management	Project 1. Developing Genomic Resources for Stock Delineation and Sustainable Development of mud crabs	Rapid, inclusive and sustained economic growth	The general objective of the project is employ genomic resources to generate information and technologies towards the sustainable development of capture- and culture-based production of mudcrabs, S.serrata,S olivacea, and S. tranquebarica. Specific objectives: 1. Develop genomic resources based on SNP markers for S.serrata, S olivacea, and S. tranquebaricato facilitate studies of genetic stock delineation of natural populations across the Philippine archipelago; 2. Identify management units for S.serrata, S olivacea, and S. tranquebaricain selected marine biogeographic regions, with a focus on areas with existing and emerging mudcrab hatcheries.	1. Genomic resources for genetic stock delineation (SNP markers) for three Scylla species: S. serrata, S olivacea, and S. tranquebarica. 2. Identification of management units for natural populations of Scylla serrata and S. olivacea. 3. Developing SNP markers for traceability of S. serratato biogeographic region or hatchery of origin. 4. Technical inputs for development of policies for culture and capture mudcrab fisheries towards international certification/recognition of the Philippine mudcrab fisheries as compliant and a model for best practices.	UPD	1. Stakeholders in the mudcrab industry (government and private sector) may benefit from the development of markers for molecular selection for phenotype and certification of best aquaculture and fishery practices. 2. Resource managers, e.g. LGUs and other government agencies may benefit for policy recommendations potentially resulting from stock delineation studies. 3. Fishers, traders, and other direct users of natural (wild) mudcrab stocks, as increased hatchery production may in the long-term contribute to reducing fishing pressure on, and for stock enhancement of natural mudcrabpopulations. 4. Local researchers particularly graduate students research provided opportunities to develop capabilities in interdisciplinary studies and use of advanced methods for resources management 5. Research/Scientific community as results from these studies will provide further avenues for research related to mudcrab genomics, biology, ecology, and resource management.	01-Oct-15	30-Sep-18	ONGOING	13,304,828	3,346,076
Genomic applications in Mud Crab Aquaculture and Resource Management	Project 2. Integrating Genomics with Image Analysis and Geographic Information System Technology (GIS) for Improved Rearing of Mud Crabs	Rapid, inclusive and sustained economic growth	This project"s main objective is to use genomics and genetics approaches integrated with more recent computing technologies, geographic information systems (GIS) and image analysis research to deliver solutions for some practical mud crab production issues. 1.Develop an automated classification system for species identification of early stage mud crabs 2. Produce GIS maps on vulnerability of mud crab farm sites to elevated temperature and validate hypothesis on the tolerance of mud crab populations using RNA Seq 3. Determine candidate proteins and hormones to monitor for molting and evaluate their profiles under different rearing conditions 4. Establish the genetic basis of the immature female phenotype, a market preferred character in mud crabs	1.Automated classifier system for juvenile/ instar mud crabs on PC and mobile device Application 2.GIS maps that represent vulnerability of current and potential mud crab farm sites to elevated temp 3.Populations of temperature tolerant mud crabs for use in establishing broodstock are identified 4.Candidate biomolecules for determining molting readiness of crabs determined for possible use in biosensors 5.Candidate SNP markers associated with late maturing females identified for possible use in breeding programs	DLSU	1.Managers of the mud crab fisheries 2.Fishers that supply the mud crab juvenile fishery 3.Mud crab farmers and pond owners 4.Mud crab hatchery developers 5.Other decision makers that may be secondarily involved in the mud crab industry	01-Sep-15	31-Aug-18	ONGOING	15,575,364	8,990,338
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Evaluation of Coconut Wrinkle 1 Gene Expression and its Effect in Oil Biosynthesis in a Model Monocot Zea mays L. (Project 5- Phase 2)	Poverty reduction and empowerment of the poor and vulnerable	The project aims to express and evaluate the Coconut Wrinkle 1 (CnWRI1) gene in association with oil biosynthesis in an experimental monocot model system Zea mays L. (corn). 1. To transfer the CnWR1 cassette into a selected yellow corn inbred line using the gene gun (microparticle bombardment) 2. To regenerate transformed corn tissues into plantlets under contained laboratory and greenhouse conditions. 3. To analyze expression of the transgene CnWRI1 in GM corn by Quantitative Reverse Transcriptase Polymerase Chain Reaction (qRT-PCR) 4. To analyze the total oil content of the GM corn (whole plant) in comparison to control maize materials 5. To analyze the fatty acid profile of GM corn kernels to validate changes of fatty acid composition in comparison to control maize samples and coconut	1. Plant tissue culture products, regenerating transformed tissues, whole plantlets in bottles, plantlets in the process of hardening/acclimatization and plants in the BL2 greenhouse and transgenic corn seeds. 2. Validation of CnWRI1 as a positive or negative effector molecule in the oil biosynthesis pathway by correlating the result of qPCR, total fat content and fatty acid profile in the corn kernels 3. Development of a working protocol for other selected/novel coconut genes for validation and functional analysis	UPLB	Direct beneficiaries will be plant physiologists and agronomist/agriculturists who will adopt the developed tissue culture protocols for other related or unrelated studies such as further improvement/enhancement of the protocols, use of the protocols for mutation induction using embryogenic cell suspensions, etc. Knowledge and development of techniques for enhanced gene expression studies for undergraduate (BS ABT) and graduate students (MS and PhD in MBB). Industry stakeholders who might invest in the maturation of the technology developed for the production of coconut oil and other products derived from the corn grains for food and industrial applications.	01-Oct-17	30-Sep-19	NEW	4,830,408	2,556,960
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 2. Biomarker Development and Molecular Mapping for Coconut Genetic and Varietal Improvement	Poverty reduction and empowerment of the poor and vulnerable	Generate molecular markers from the assembled genomes of Tall/Dwarf coconut varieties and map the biomarkers, genes, QTL loci on coconut linkage map	At least 10 molecular markers associated with early flowering, fast growth, oil and nut yield, and water content and quality; one (1) linkage map of coconut	UPD, PCA	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jan-19	ONGOING	30,470,378	4,953,596

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 3. - Phase II: Curation, Validation and Utilization of Coconut Transcriptome Sequences for Gene-Based Marker Development	Poverty reduction and empowerment of the poor and vulnerable	General To further characterize and curate transcriptomes of the different coconut varieties and utilize their sequences for the development of gene-based markers Specific 1. Assemble and annotate Magtuod (MAGD) and Malayan Red Dwarf (MRD) x Tagnanan Tall (TAG) transcriptomes 2. Curate and submit to public transcriptome sequences repository (will become available publicly after a year from time of submission or once published) assembled and annotated transcriptomes of Laguna Tall (LAGT), Catigan Dwarf (CATD), Baybay Tall (BAYT), Tutupaen Tall (TPNT), and Vanuatu Tall (VTT) 3. Curate and submit to public transcriptome sequences repository (will become available publicly after a year from time of submission or once published) assembled and annotated annotate Magtuod (MADG) and Malayan Red Dwarf (MRD) x Tagnanan Tall (TAGT) transcriptome sequences 4. Perform extensive comparative transcriptomics for each target trait: high nut yield, shell thickness, high toddy yield and high-water quality 5. Validation of differentially expressed genes through quantitative PCR and Sanger Sequencing 6. Test trait markers in PCA germplasm collection 7. Write and submit for review the papers for publications	1. Assembled and annotated transcriptome sequences of MAGD and MRDxTAG. 2. Curated and stored transcriptome sequences of LAGT, CATD, BAYT, TPNT, and VTT to public repository. 3. Curated and stored transcriptome sequences of MAGD and Malayan .MRDxTAG transcriptome sequences to public repository 4. Putative gene markers conferring high nut yield, shell thickness, high toddy yield and high-water quality. 5. Gene expression patterns and trends for target traits using qPCR and sequence alignments. 6. Identified coconut varieties from the PCA germplasm collections which possess the genetic markers for each specific target. 7. Publications	UPD	Coconut breeders will benefit since they can utilize the newly discovered markers to target for specific traits during breeding and creation of new varieties.	01-Nov-17	31-Oct-18	NEW	2,698,108	2,698,108
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 4. Gene Expression Analyses for Oil Biosynthesis, Makapuno and LonoTraits	Poverty reduction and empowerment of the poor and vulnerable	Utilize gene expression analyses for oil biosynthesis, Makapuno and Lono traits for generation of molecular markers	At least three (3) gene identified for oil biosynthesis of high-yielding variety, Makapuno and Lono; at least three (3) developed marker specific for the gene identified.	UPLB, PCA	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jul-17	ONGOING	15,117,294	692,250
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 6. Marker-assisted breeding in coconut targeting productivity and major industrial traits	Poverty reduction and empowerment of the poor and vulnerable	Identify and select for San Ramon Tall cy Orgullo and single cross-hyrbrids for regional release using marker assisted selection	At least two (2) synthetic varieties developed through MAS for dissemination to farmers; three (3) varieties—Outstanding Tall, San Ramon and PCA Hybrid, selected through MAS for dissemination to farmers	UPLB, PCA	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jan-19	ONGOING	26,943,679	3,992,159
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 7. QTL mapping in coconut for high yield oustanding quality of copra oil and other coconut majoy by-products	Poverty reduction and empowerment of the poor and vulnerable	Identify QTL and develop sequence-specific DNA markers for yield and copra quality from an advanced PCA mapping population	a) Polymorphic DNA markers between parental population b) Genetic linkage map of coconut c) Mapped QTLs for coconut productivity, and yield/quality of copra oil and other nut major by-products d) Validated coconut QTLs e) Robust DNA markers for routine marker-assisted breeding derived from validated coconut QTLs and underlying candidate genes	UPLB, PCA	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jan-19	ONGOING	22,188,646	3,333,377
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project 8. Development of web-based breeding resource and Eco- TILLING towards insect resistance breeding	Poverty reduction and empowerment of the poor and vulnerable	Construct a genome-based database for coconut with breeder tools/browser and develop molecular markers targeting glandular trichomes and scale insect resistance	a) Password protected web-based genome database of Cocos nucifera consisting of sequence assemblies and annotations, genome-wide SSR markers and pre-installed breeder tools and genome browser. b) Characterized coconut glandular trichome loci/genes tagged with sequence-specific DNA markers. c) NGS-EcoTILLING platform in coconut for glandular trichome genes and related genetic factors. d) Coconut plant/s that exhibit differential reaction against scale insect infestation and SNP markers tagging the candidate resistance loci. e) At least one (1) publication of significant research finding in ISI journal	UPLB, PCA	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jan-19	ONGOING	62,511,670	6,907,894
Improvement of Coconut Varieties through Genomics, Genetics and Breeding for a Competitive and Sustainable Philippine Coconut Industry	Project Management and Coordination	Poverty reduction and empowerment of the poor and vulnerable	To determine the genetic and molecular mechanisms involved in coconut oil biosynthesis and in makapuno and lono phenotypes.	a) Technical Progress Report; b) Reviewed project accomplishment; c) Monitored the project implementation; d) Terminal Report	UPLB, PCAARRD	Coconut farmers, coconut organizations and communities extension workers, LGUs	15-Jan-14	14-Jan-19	ONGOING	8,518,420	933,546
Improving Productivity and Local Utilization of Mungbean	PMC	Poverty reduction and empowerment of the poor and vulnerable	To effectively manage, monitor and coordinate the four (4) project components of the mungbean program being implemented by eight (8) implementing/ cooperating agencies covering at least 6 Regions (Regions 2, 3, 4-A, 6, 11 and CAR).	0	UPLB	Mungbean growers	01-Aug-15	31-Jul-18	ONGOING	1,664,840	550,796
Improving Productivity and Local Utilization of Mungbean	Project 1. Development of Varieties for Drought and Shade Tolerance	Poverty reduction and empowerment of the poor and vulnerable	To develop varieties of mungbean for drought and partial shade conditions. Specific Objectives: 1. To develop populations of mungbean with potential for drought tolerance; 2. To develop populations and lines of mungbean for partial shade tolerance; 3. To evaluate the lines under drought and partial shade conditions; and 4. To conduct genetic diversity analysis of selected mungbean genotypes	Year 1 1. Varieties selected for drought and shade tolerance. 2. Tolerant populations developed. Year 2 1. Population/ lines screened for drought and shade (on-station and onfarm) Year 3 1. F4 to F6 populations tolerant to shade and drought 2. Secondary (20) traits identified	UPLB	Rice farmers with potential to grow mungbean after the rice crop, upland farmers, coconut farmers, cassava farmers	01-Aug-15	31-Jul-18	ONGOING	13,101,161	2,983,711
Improving Productivity and Local Utilization of Mungbean	Project 2. Improvement of Mungbean Seed Production and Management System in Region 2, 3, 6 & 11	Poverty reduction and empowerment of the poor and vulnerable	This study generally aims to sustain availability of high quality seeds of improved mungbean varieties in major growing areas in Regions 2, 3, 6 and 11 coupled with improved seed storage technologies. Specific Objectives: 1. To evaluate and determine the most effective and economical hermetic seed storage technology for certified and farm-saved mungbean seeds; 2. To pilot test the improved hermetic seed storage technology; 3. To promote seed saving technology to 100-200 farmers per region; 4. To ensure local availability of 6,050 kg Foundation Seeds (FS) and 61,250 kg Registered Seeds (RS)/ Certified Seeds (CS) of improved mungbean varieties in Regions 2,3,6 and 11 (or a total of 67,300 kg of quality seeds); and 5. To support commercial production of improved varieties in expansion areas of at least 6,800 hectares in Regions 2,3,6 and 11.	Year 1 1. Established seed storage facilities in participating DA-RIARCs (DACVRC, DA-CLIARC, DA-WESVIARC and DA-SMIARC) 2. Produced 67.30 tons of high quality and improved seeds varieties 3. Trained, organized and accredited seed growers Year 2 1. Improved hermetic seed storage technology for certified and farmsaved seeds 2. Assisted 50-100 farmers per region on seed production Year 3 1. Established one rural seed center/ region (Regions 2, 3, 6 and 11) 2. 100-200 farmers-adopters per region on seed storage technologies 3. A total of 6,800 ha seed production expansion area 4. Production and distribution of IEC materials on seed production	DA-CVRC, DA-RFO 3, DA RFU 11, DA-WVIARC	Low-income farmers in corn, rice, cassava, sugarcane, & coconut-based farming communities Agri-entrepreneurs (SMES)	01-Aug-15	31-Jul-18	ONGOING	9,841,488	3,462,692
Improving Productivity and Local Utilization of Mungbean	Project 3. Improvement of Integrated Crop Management System for Mungbean	Poverty reduction and empowerment of the poor and vulnerable	The project generally aims to reduce pest damages of mungbean by 20% through adoption of improved Integrated Crop Management (ICM) systems in order to increase crop yield. Specific Objectives: 1. To increase mungbean yield through reduced infestation/ damage of pod borer and use of available BCAs and botanical extracts; 2. To reduce Cercospora leaf spot disease of mungbean through application of organic extracts, Trichoderma, 3 Vermitea and Radiation-Modified Carrageenan (RMC) in rice and corn-based cropping systems; 3. To evaluate the efficacy of different fertilizers in maize, rice, sugarcane cropping systems in increasing crop yield ; and 4. To promote and transfer the improved ICM systems for farmers' adoption.	Year 1 1. Screened BCAs (for pod borer and Cercospora leaf spot) 2. Fertilizer management and Rhizobium inoculation for mungbean Year 2 1. Tested (on-farm) BCAs and nutrient management systems 2. 30 farmers assisted per region (total of 120 farmers-adopters) Year 3 1. Produced and distributed IEC materials on BCAs and ICM 2. Trained at least 30 farmers/ region (a total of 120 farmers-adopters) 3. Developed and promoted ICM (BCAS, BEs, Organic Fertilizers, 10 Carageenan) for mungbean for different cropping systems	DA-CVRC, DA-RFO 3, DA RFU 11, DA-WVIARC, PAC	Mungbean farmers; rice, corn and sugarcane farmers; researchers, students and other stakeholders	01-Aug-15	31-Jul-18	ONGOING	6,724,411	2,076,629

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Industry-Focused Technologies, Innovations and Knowledge for Livelihood, Income and Food Supply Enhancement (Itik for Life) Program for Sustainability of the Philippine Duck Industry	Project 3: Duck Egg and Meat Products Processing Innovations	Rapid, inclusive and sustained economic growth	1. Establishment of the nutritional value of balut and other duck egg products; 2. Identification of functional nutrients of balut and other duck egg products; 3. Understanding the Filipino history and culture on balut and other duck egg products consumption; 4. Use the knowledge on the nutritional value and functional attributes of nutrients and other components of ablut and other duck egg products in developing innovative processing techniques for traiditional and new duck egg products; 5. Develop processing and packaging technqiues that will uplift the value and acceptability as well as shelf life of duck egg products	1. Nutrient profile and value of duck egg and duck egg products and unique dietary value of duck egg products; 2. Functionality of duck egg components that can be used in developing innovative duck products; 3. Processing and packaging innovations that will increase the quality and shelf-life of duck egg products such as balut and salted egg; 4. Philippine national standards for duck egg products; 5. Uniformity in quality of duck egg products for competitive pricing and increase consumer preference over alternative goods; 6. Increase duck egg product consumption because of enhanced consumer confidence	UPLB	local duck egg enterprises, duck breeders, duck raisers	01-Aug-17	30-Jun-20	NEW	9,185,960	1,270,000
Innovative Systems in Advancing Halal Goat Production in Region 12 and ARMM	Project 1. Development of LAMP Assay and Quick Test Kit for Haram	Rapid, inclusive and sustained economic growth	This project will address the need to promote the acceptability of the haram protocol by developing a LAMP-based test kit that can detect pork, dog and horse meat contaminants in cooked and processed food.	Year 1 ? Optimized LAMP assays for swine, horse and dog meat (Q3) ? 50 Regional FLS facilitators trained on FLS-Halal GEM Implementation (Q3) ? 100 farmers trained via FLS -Halal GEM (Q4) ? SKSU Agro-Mechanic Building as Halal Small Ruminants Slaughterhouse and Processing Center (Q4) ? Local ordinance on the use of the slaughterhouse (Q4) Year 2 ? PNS on halal goat husbandry & quality assurance (Q1) ? Philippines recommends for halal goat production, processing and marketing (Q2) ? Ordinance on the establishment of the halal gateway in GenSan (Q2) ? Marketing strategy for halal goat (Q2) ? Positive control or reference template for swine, horse and dog meat (Q2) ? Rapid test kit for haram detection (Q3) ? 1 Field day - Techno clinic (Q2) ? Media and stakeholders' forum (Q2) ? Data on Sensitivity and specificity of LAMP with PCR (Q3) ? Data on adulterated meat products using the LAMP assay (Q3) ? 150 farmer-graduates from FLS -Halal GEM (Q4)	USM	Goat raisers; Processors Halal certifying bodies, NCMF and local laboratories Livestock policy-making bodies (DA-PCAF, BAI, NMIS)	01-Jul-16	30-Jun-18	ONGOING	3,933,961	1,082,289
Innovative Systems in Advancing Halal Goat Production in Region 12 and ARMM	Project 2. Establishment of Halal Goat Enterprises thru the FLS-Halal GEM in Region XII	Rapid, inclusive and sustained economic growth	This project will promote the halal assurance protocols to farmers, certifying bodies, LGU counterparts as well as DA, ATI and NCMF representatives from Region 12 and ARMM using the FLS-Halal GEM. This is to ensure the "halalness" or halal integrity of products from production to processing.	Year 1 ? Optimized LAMP assays for swine, horse and dog meat (Q3) ? 50 Regional FLS facilitators trained on FLS-Halal GEM Implementation (Q3) ? 100 farmers trained via FLS -Halal GEM (Q4) ? SKSU Agro-Mechanic Building as Halal Small Ruminants Slaughterhouse and Processing Center (Q4) ? Local ordinance on the use of the slaughterhouse (Q4) Year 2 ? PNS on halal goat husbandry & quality assurance (Q1) ? Philippines recommends for halal goat production, processing and marketing (Q2) ? Ordinance on the establishment of the halal gateway in GenSan (Q2) ? Marketing strategy for halal goat (Q2) ? Positive control or reference template for swine, horse and dog meat (Q2) ? Rapid test kit for haram detection (Q3) ? 1 Field day - Techno clinic (Q2) ? Media and stakeholders' forum (Q2) ? Data on Sensitivity and specificity of LAMP with PCR (Q3) ? Data on adulterated meat products using the LAMP assay (Q3) ? 150 farmer-graduates from FLS -Halal GEM (Q4)	SKSU	Goat raisers; Processors, Halal certifying bodies, NCMF, Livestock policy-making bodies (DA-PCAF, BAI, NMIS)	01-Jul-16	30-Jun-18	ONGOING	1,803,884	879,969
Innovative Systems in Advancing Halal Goat Production in Region 12 and ARMM	Project 3. Institutionalizing Innovations on Halal Goat Production, QA and Processing thru Policy and Marketing Schemes	Rapid, inclusive and sustained economic growth	Project 3 will address the need to institutionalize policies to push halal goat enterprise development in Region 12 and ARMM.	Year 1 ? Optimized LAMP assays for swine, horse and dog meat (Q3) ? 50 Regional FLS facilitators trained on FLS-Halal GEM Implementation (Q3) ? 100 farmers trained via FLS -Halal GEM (Q4) ? SKSU Agro-Mechanic Building as Halal Small Ruminants Slaughterhouse and Processing Center (Q4) ? Local ordinance on the use of the slaughterhouse (Q4) Year 2 ? PNS on halal goat husbandry & quality assurance (Q1) ? Philippines recommends for halal goat production, processing and marketing (Q2) ? Ordinance on the establishment of the halal gateway in GenSan (Q2) ? Marketing strategy for halal goat (Q2) ? Positive control or reference template for swine, horse and dog meat (Q2) ? Rapid test kit for haram detection (Q3) ? 1 Field day - Techno clinic (Q2) ? Media and stakeholders' forum (Q2) ? Data on Sensitivity and specificity of LAMP with PCR (Q3) ? Data on adulterated meat products using the LAMP assay (Q3) ? 150 farmer-graduates from FLS -Halal GEM (Q4)	SKSU	Goat raisers; Processors Halal certifying bodies, NCMF and local laboratories Livestock policy-making bodies (DA-PCAF, BAI, NMIS)	01-Jul-16	30-Jun-18	ONGOING	1,574,008	771,687
Innovative Systems in Advancing Technology-Based Goat Production	Project 1.1 Organized Breeding and Selection of Individuals with Similar Morphometric Characteristics	Poverty reduction and empowerment of the poor and vulnerable	To produce 500 goats with uniform morphometric characteristics thru an organized breeding & selection program in selected farms in Region 2	Established breeding program Uniform quality of stocks 1 Breed registration for CV signature goat 1 Liquid nitrogen gas plant 10 Multiplier farms for CV goat breed 2 New nucleus/ breeder farms for selected elite CV goats	ISU	Goat raisers;Livestock policy-making bodies	01-Apr-17	31-Mar-20	NEW	13,442,928	10,359,299
Innovative Systems in Advancing Technology-Based Goat Production	Project 1.2. Application of Assisted Reproduction Protocols in Support of the Establishment of CV Signature Goat Populations	Poverty reduction and empowerment of the poor and vulnerable	To develop an optimized protocol on ET in support of the establishment of CV signature goat populations	1 utility model (UM) for pregnancy detection kit 1 prototype goat pregnancy detection kit	ISU	Goat raisers FGASPAPI	01-Apr-17	31-Mar-20	NEW	6,306,420	3,542,276
Innovative Systems in Advancing Technology-Based Goat Production	Project 2. Development of Non-Invasive Pregnancy Detection Kit for Goat	Poverty reduction and empowerment of the poor and vulnerable	To develop portable pregnancy detection kit for goat	1 utility model (UM) for pregnancy detection kit 1 prototype goat pregnancy detection kit	ISU	Goat raisers FGASPAPI	01-Apr-17	31-Mar-19	NEW	2,415,312	1,665,316
Innovative Systems in Advancing Technology-Based Goat Production	Project 3. Pilot Testing of the Breeder Stock and Product Traceability system for Goat in Region II	Poverty reduction and empowerment of the poor and vulnerable	To develop an SMS-based system for monitoring breeder stocks and test the applicability of the developed traceability system for goats in Region 2	1 UM for SMS-based system for monitoring of stocks 1 SMS-capable data monitoring system 1 established traceability system for breeders and chevon products	ISU	Goat raisers FGASPAPI	01-Apr-17	31-Mar-18	NEW	4,186,132	4,406,154
Innovative Systems in Advancing Technology-Based Goat Production	Project 4. Roll-out of Technology-based Options in Region I, II, III, V, VII, VIII, XI, XII and CAR	Poverty reduction and empowerment of the poor and vulnerable	To promote goat-based technologies using FLS-GEM to Regions 1,2,3,5,7,8,10,11, 12 and CAR	1 copyright for FLS-GEM manuals Revised FLS-GEM manuals Vol 1&2 10 MOUs signed with various stakeholders for FLS implementation 6000 farmers trained on GEM 300 facilitators trained on FLS-GEM implementation	ISU	Goat raisers FGASPAPI LGUs and AEWs	01-Apr-17	31-Mar-20	NEW	16,377,296	4,156,382

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Innovative Systems in Advancing Technology-Based Goat Production	Project 5. Enhancement of Facilities for Efficient Technology Development and Delivery to Stakeholder	Poverty reduction and empowerment of the poor and vulnerable	To upgrade facilities for efficient development and delivery of technologies to stakeholders	1 established ET laboratory 1 enhanced semen processing laboratory 1 mobile laboratory Partnership with other industry stakeholders on the use of the repro lab	ISU	Goat raisers FGASPAPI Goat products consumer	01-Apr-17	31-Mar-18	NEW	15,035,002	16,496,600
Integrated and Sustainable Development Program for the Shrimp Industry.	Project 5. Improvement of the reproductive performance of captive Penaeus monodon	Rapid, inclusive and sustained economic growth	a) To improve performance of domesticated males by nutritional manipulation , b) To improve formulated diets for domesticated female shrimp broodstock , and c) To identify environmental factors that may affect percentage maturation, fertilization rate, and hatching rate of domesticated broodstock	Suitable broodstock diet with essentail vitamins;growth pattern and survival of captive spawner; suitable holding system; improved performance of captive broodstock at least 100,000 naupli/spawner	SEAFDEC	Shrimp growers and industry stakeholders	01-Oct-14	31-Dec-17	ONGOING	10,682,468	917,082
Integrated and Sustainable Development Program for the Shrimp Industry.	Project 7. Pathobiology and development of molecular detection kits for EMS/AHPND	Rapid, inclusive and sustained economic growth	The research study will fill the gap of information about the disease in the Philippine setting while also validating the data of other international researches conducted in Thailand, China etc. It will also help raise awareness of the disease using the data collected in the country to educate the farmers on possible solutions and prevention practices.	Outputs of this proposed study include: 1. Identified bacterial isolate that causes EMS in the Philippines. 2. Genome sequence of the bacteria and the toxic gene. 3. Established pathobiology and mechanism of virulence. 4. Developed protocol/kits for the molecular detection of EMS.	UST	Target beneficiaries include: 1. Shrimp hatchery operators – early detection of AHPND in pond water or shrimp samples will improve the productivity of the different hatcheries and prevent possible cross contamination of the causative agent. 2. Shrimp farmers – molecular detection at the farm level provides a reliable surveillance protocol for the farmers to detect early signs of the disease; giving ample time to mitigate the problem. 3. Diagnostic laboratories – these protocols particularly the publication of how-to-manuals will be of significant use to these laboratories since these have been tested under Philippine conditions. In addition, these how-to-do manuals on disease detection in shrimp will facilitate the establishment of mobile disease diagnostic laboratories, which the government plans to do in the future. Hence will ensure the sustainability of the industry.	01-Jul-15	30-Sep-17	ONGOING	9,028,784	2,271,192
Integrated and Sustainable Development Program for the Shrimp Industry.	Project 8. Biocontrol against EMS/AHPND causing agent using saline tilapia greenwater, immunostimulants and microbial floc	Rapid, inclusive and sustained economic growth	The present proposal involves developing holistic approaches including ecosystem management biocontrol strategies involving the use of tilapia green water, biofloc culture systems and manipulation of larval shrimp immune responses with the use of immunostimulants to manage the outbreak of EMS in the country. This proposed research is envisioned to provide solution in a preventive and ecological suppression approach in managing the problem associated with EMS/AHPND in cultured shrimp.	a.)Mechanism on how the pathogen is inhibited by Tilapia, elucidated. b.)Microbial species and bioactive metabolites with pathogen inhibitory activities, identified and characterized c.) Density of Tilapia in green water reservoir tanks that inhibits the pathogen growth in water, identified d.)Microbial species (Bacteria, Fungi) associated with floc with Vibrio inhibitory activity, characterized and identified. e.)The mechanism of vibrio inhibition by floc microbial isolate, elucidated. Conditions to elicit maximum Vibrio inhibitory activity, optimized. f.)Stage and density of microbial floc in culture that would result to maximum inhibitory activity against the pathogenic V. parahaemolyticus, established. g.)Fertilization techniques, optimum nutrient composition establishment and application rates that could result to rapid microbial floc formation in culture systems, established. h.)Bacterial and brown algae based immunostimulants for shrimp postlarvae, developed. i.)Effective dose and application frequency of these immunostimulant for shrimp post larvae, optimized. j.) Shrimp activated immune responses in response to immunostimulation that could result to resistance against V. parahaemolyticus infection, elucidated. k) Influence of immunostimulation on growth and physiological performance, body composition and feed utilization efficiency of the shrimp, evaluated.	UPV	Target beneficiaries include: 1. Shrimp hatchery operators – early detection of AHPND in pond water or shrimp samples will improve the productivity of the different hatcheries and prevent possible cross contamination of the causative agent. 2. Shrimp farmers – molecular detection at the farm level provides a reliable surveillance protocol for the farmers to detect early signs of the disease; giving ample time to mitigate the problem. 3. Diagnostic laboratories – these protocols particularly the publication of how-to-manuals will be of significant use to these laboratories since these have been tested under Philippine conditions. In addition, these how-to-do manuals on disease detection in shrimp will facilitate the establishment of mobile disease diagnostic laboratories, which the government plans to do in the future. Hence will ensure the sustainability of the industry.	01-Jul-15	30-Jun-18	ONGOING	16,762,492	7,444,445
National Aquafeeds R&D Program	Field Trial of Protein Enriched Copra Meal (PECM) as Feed Protein for Tilapia, Milkfish and Shrimp Aquaculture	Rapid, inclusive and sustained economic growth	a). Asses the feed value as a feed ingredient of PECM in milkfish, shrimp and tilapia cultured in a scale-up outdoor pond production system. b). Evaluate the growth performance, feed efficiency and biochemical composition of fish reared with diets containing PECM. c). Formulate optimized feeding guide in the use of PECM as feed ingredient in aquatic animal feeds.	1. Diets for tilapia, milkfish, shrimp with PECM as major protein ingredient, formulated. 2. Feed value and growth performance of PECM feed aquatic animals reared in outdoor scale-up production ponds, evaluated. 3. Influence of diets containing PECM on carcass composition, sensory quality, and consumer acceptability, elucidated	UPV	Fisher folks/traders/ feed industry; researchers/scientists, the general public and science in general.	01-Apr-16	31-Mar-18	ONGOING	10,840,723	4,947,702
NATIONAL AQUAFEEDS R&D PROGRAM PROGRAM D. IMPROVEMENT OF MICROALGAE PASTE PRODUCTION FOR AQUACULTURE	Project 1. Pilot-testing of microalgae paste as feed for shrimp and milkfish hatcheries	Rapid, inclusive and sustained economic growth	General Objective: To determine the feasibility and viability of using microalgae paste as larval feed in milkfish and shrimp hatcheries. Specific Objectives : 1. To complete the larval rearing production cycles for milkfish and shrimp using the UPV microalgae paste as feed. 2. To determine the growth and survival of shrimp and milkfish larvae in hatcheries using microalgae paste. 3. To compare the nutritional impact of using the microalgae paste in shrimp and milkfish larvae against the conventional hatchery protocol. 4. To compare the operating cost of hatcheries utilizing the microalgae paste against the conventional hatchery using internally grown microalgae. 5. To compare the cost benefit of conventional hatchery with the full complement of natural food tank against a hatchery with reduced or no algal tanks. 6. To come up with a new protocol using algal paste in milkfish and shrimp hatcheries.	1. A new production protocol for milkfish & shrimp hatcheries using microalgae paste 2. Microalgae Paste tested and ready for commercialization.	University of the Philippines, Visayas	Aquaculture industries and backyard hatcheries will be the target beneficiaries of the microalgae paste technology.	01-Jul-16	30-Jun-18	ONGOING	4,170,088	1,886,041
NATIONAL AQUAFEEDS R&D PROGRAM PROGRAM D. IMPROVEMENT OF MICROALGAE PASTE PRODUCTION FOR AQUACULTURE	Project 2. Development of packaging and storage systems for microalgae paste	Rapid, inclusive and sustained economic growth	General Objectives: To develop appropriate packaging, storage and transport systems for microalgae paste. Specific Objectives: 1. To conduct physico-chemical, biological and microbiological quality analyses of the microalgae paste and spoilage pattern. 2. To compare the effect of packaging material, design , methods, storage system and its combinations on the quality of microalgae paste. 3. To optimize packaging and storage systems appropriate for the microalgae paste and determine its shelf life 4. To develop a protocol for handling, packaging , transport and storage of the micro algae paste. 5. To conduct economic analyses to evaluate commercial, ecological and social viability of the developed packaging and storage systems.	1. Physico-chemical, biochemical and microbial quality of microalgae paste; and changes during storage at ambient and chilled conditions; spoilage pattern and significant quality parameters identified 2.Appropriate package and storage system for quality microalgae paste 3. Determined shelf-life 4. A protocol for handling, packaging, transport and storage of the microalgal paste. 5. Comparison of cost and benefits of packaged microalgal paste vs commercially available micro algae paste	University of the Philippines, Visayas	Local aquaculture industry, the community, the socio-economic well-being of the Stake holders.	01-Jul-16	30-Jun-18	ONGOING	3,163,480	1,521,063
National Assessment of Coral Reef Environments (NACRE)	Project 1. Synoptic Investigation of Human Impacts on Nearshore Environments (SHINE): Coral Reefs	Integrity of the environment and climate change adaptation and mitigation	The Philippines at present has little information on the current status of its coral reefs and how this has changed over the last few decades. This is despite the pioneering assessment efforts between 1976 and 1981, when more than 500 reef sites were surveyed (Gomez et al 1981). This lack of any recent, large-scale, standardized inventories and assessments of coral reefs in the country has also meant that a consistent national policy and program for the conservation, sustainable use, and management of reefs has yet to be developed. The objectives of this include: Mapping the distribution of coral communities in representative sites around the Philippines; assess the current state of these coral communities using commonly used metrics such as hard coral cover and biodiversity, and their vulnerability and resilience to threats such as coral bleaching; establish a monitoring system to allow the quantification of changes in the structure of these reefs, and allow for projections of future state based on various scenarios.	Nationwide assessment on the status of coral reefs and recommendations on legislation, policies, and programs for the conservation and sustainable use of coral reefs and associated environments	DLSU	Policy makers; academic institutions; coastal communities and their local governments	01-Jul-14	30-Jun-17	ONGOING	29,812,599	4,673,105
National Assessment of Coral Reef Environments (NACRE)	Project 2. People and the Environment: Assessment of Reef-fish Resiliency and Associated Livelihoods (PEARRAL)	Integrity of the environment and climate change adaptation and mitigation	The widespread and continued deterioration of coral reefs in the Philippines has large implications to biodiversity conservation and the well-being of coastal communities. Because of their strong association to their habitats, reef fishes are likewise affected by similar threats that face coral communities in the reefs in addition to threats from its multiple values (e.g. natural heritage, fisheries, tourism, etc.). Information derived from this project will not only provide updated reports on the status of Philippine reef-fishes, but will also contribute to our understanding of their socio-economic values, how they can be impacted by threats, and their resiliency given their multiple values to the people.	Status report of reef fish communities and site profiles of fisheries and other livelihood in Tawi-Tawi, Sarangani, Zamboanga, Polillio, Sorsogon, Camarines Norte, Palawan, Romblon, Masbate, Iloilo, Biliran, Cebu, Bohol, Samar Island, Leyte, and parts of northern and eastern Mindanao Establishment of a monitoring and evaluation-response and feedback system (MERFS) in Bolinao, Pangasinan; Lian, Batangas; Sablayan, Mindoro Occidental; Taytay and Tubbataha, Palawan; and, Island Garden City of Samal. Additional monitoring sites will also be established in Visayas and Mindanao after the field assessment.	UPD	Policy makers (local and national); On-site partners (e.g. community, LGU, academe, NGO, etc.); Resource users (fishers, tourists, coral reef researchers, etc.)	01-Jul-14	14-Sep-17	ONGOING	32,167,100	3,567,386

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
National Assessment of Coral Reef Environments (NACRE)	Project 3. Synoptic Investigation of Human Impacts on Nearshore Environments (SHINE): Reef-Associated Habitats	Integrity of the environment and climate change adaptation and mitigation	There are relatively few studies conducted and being reported on the status of mangroves and seagrasses in different areas of the Philippines. Available studies conducted focused mostly on density and cover and less on the ecological and economic values of these ecosystems. The lack of public knowledge on the condition of these habitats vis-a-vis their ecological and economic importance perpetuates the exploitative nature of utilization of these valuable areas (Duarte et al, 2008).	Status reports on status of mangroves and seagrasses in Lian, Batangas; Bolinao, Pangasinan; Taytay, Palawan; Caramoan, Camarines Norte; Loon and Maribojoc, Bohol; IGaCoS, Davao; Assessment of natural and human impacts on the study mangroves and seagrasses of the priority sites for the given year and their vulnerability and resilience to future changes due to these impacts; and Establishment of a monitoring system in Mati, Davao; Sablayan, Mindoro; Bantayan, Cebu. Bioeconomic model for the management of associated habitats	DLSU	Reef fishers, MPA Managers, coastal fishers, coastal communities, and food and fishing industries Other potential beneficiaries are reef and coastal fishers, coastal managers and communities, and food and fishing industries adopting the technology in other area/region/province	01-Jul-14	14-Sep-17	ONGOING	9,990,288	532,008
National Assessment of Coral Reef Environments (NACRE)	Project 4. Watershed and Ocean Parameters for Assessment of Coral Reef Health	Integrity of the environment and climate change adaptation and mitigation	Management of coral reefs entails determining the boundaries of the management unit. Factors affecting the state of coral reefs such as recruitment can occur at scales much bigger than the size of the local reef or marine protected area (MPA). Habitat or population connectivity is a function of larval dispersal distances and this can range from a few kilometers to a few tens of kilometers. In some cases and for some species, this may even extend to a few hundreds of kilometers. Sedimentation is one of the leading causes of habitat degradation in Philippine coral reefs, particularly the fringing reefs of the larger islands with sizable watersheds. Poor soil management in agricultural lands and mining areas have led to increased sediment load to the coastal waters. Both sedimentation and population connectivity become external factors if management of the reef are limited to local scales. The objective of this project is to determine connectivity patterns and spatial scales and identifying potential erosion hotspots within the watershed for each of the study sites to incorporate these external issues when formulating management plans for the country's coral reefs.	High resolution hydrodynamic and connectivity matrices and watershed models for Surigao del Sur (Lanuza and Lianga), Tawi-tawi, Northern Visayas (Masbate, Romblon and Marinduque), Calamianes Group in Palawan. Field surveys for Tawi-tawi; Romblon; Calamianes, Palawan. Manuscript for publication	UPD	Local government environment managers; Government agencies (DENR and DA-BFAR); Marine science academic community	01-Jul-14	14-Sep-17	ONGOING	14,201,760	1,834,610
National Assessment of Coral Reef Environments (NACRE)	Project 5. Coral Reef Knowledge Management System: Bayesian Belief Network Modeling and Remote Sensing	Integrity of the environment and climate change adaptation and mitigation	With all the studies done on coral reefs in the Philippines and supported by knowledge from reefs in other countries, tools can be developed to evaluate the condition of coral reefs, determine the relative impacts of different stressors, and assess potential management scenarios from existing data and experts' knowledge. However, there are still significant gaps in knowledge and data about many coral reef processes. There is great uncertainty involved in evaluating reef health or predicting impacts of management interventions. A Bayesian Belief Network (BBN) is one of the few tools that can integrate both quantitative data and qualitative information (e.g., from experts' perception) to allow to look at systems more holistically than piecemeal. Developing a BBN model will help synthesize current knowledge of coral reefs in the Philippines which can be used to identify stressors that need to be prioritized and to evaluate potential impacts of management scenarios. A BBN model can also add value to existing monitoring programs by synthesizing the different parameters being collected (e.g., coral cover, fish biomass and composition, invertebrates, environmental parameters, etc.) to come up with a better and more complete picture of reef condition.	Report on the State of Philippine reefs and ecosystem goods & services based on available literature and expert's knowledge Complete BBN model using Netica Case studies on application of the BBN model	UPD	Coral reef researchers; Local governments planning for coral reef resource use management; National agencies for evaluating national reef conditions;	01-Jul-14	14-Sep-17	ONGOING	6,707,996	1,197,692
National Dairy Goat S&T Program	Project 1.3. DG performance analysis and identification of managements options for improved productivity	Rapid, inclusive and sustained economic growth	This project aims to (1) evaluate the performance of the different dairy goat genotypes in the country; (2) develop a selection criteria for local dairy goats; and (3) identify existing and promote management options on goat dairying to improve productivity.	10 info generated; 4 protocols established; 1 product developed; 78 people trained;	CLSU	Dairy goat industry	01-Jul-14	31-Mar-18	ONGOING	8,615,383	1,144,125
National Dairy Goat S&T Program	Project 2. Application of breeding methods for DG herd build-up in the countryside	Rapid, inclusive and sustained economic growth	This Project hopes to: enhance the laboratory facilities of ISU and DA-RFO 8 for efficient processing of goat semen for AI; conduct capability building activities for researchers, farmer-cooperators and AI technicians; establish farm-level semen processing laboratories for community-based upgrading of stocks and enterprise building; and roll-out the AI technology for dairy goat production.	3 facilities enhanced; 3 protocols established; 2 enterprises established; 128 people trained	ISU, CLSU, BISU, DA-RFU 8	Dairy goat industry	01-Jul-14	31-Dec-17	ONGOING	18,065,714	1,334,203
National Dairy Goat S&T Program	Project 3. Enhancing milk production thru Indigofera supplementation	Rapid, inclusive and sustained economic growth	This study therefore aims to validate the feeding value of indigofera to dairy goats and other dual purpose breeds.	3 info generated; 1 protocol established; 2 products developed	CLSU	Dairy goat industry	01-Jul-14	31-Mar-18	ONGOING	5,376,846	920,641
National Dairy Goat S&T Program	Project 4. Development of diagnostic and management protocols for intramammary infections in goats	Rapid, inclusive and sustained economic growth	This project aims to develop diagnostic and management protocols for intramammary infections in dairy goats. Specifically, it hopes to (1) Develop a local field diagnostic kit and protocol for IMI in goats; (2) Establish the epidemiological profile and risk factors of IMI in dairy goats; (3) Develop and test interventions in the management of IMI in dairy goats; and (4) Promote to dairy goat farms and raisers the use of the developed field diagnostic kit and the protocols in the management of IMI in goats	1 info generated; 1 protocol established; 2 products developed; 14 people trained	CLSU	Dairy goat industry	01-Jul-14	31-Mar-18	ONGOING	5,887,713	643,366
National Mudcrab S&T Program: Program A. Refinement of Mudcrab Hatchery Technology	Proj 5. Sustainable production of mudcrab through selective breeding	Rapid, inclusive and sustained economic growth	To develop selective breeding techniques for the genetic improvement of Mudcrab S. serrata	Selection process for disease resistant and/or fast growing crabs established Response of crabs to selection on good traits (disease resistant and/or good growth to disease (WSSV) evaluated Reproductive performance of crabs subjected to selection evaluated Genetic changes and inbreeding in succeeding generations of selectively-bred stocks determined and minimized, respectively	SEAFDEC-Tigbauan	Target beneficiaries are the hatchery and pond operators. Researchers/scientists can also benefit from the results as basis for further studies.	01-Jul-15	30-Jun-18	ONGOING	9,052,102	4,273,217
National Mussel S&T Program - PROGRAM B. IMPROVED GROW-OUT TECHNOLOGY FOR SUSTAINABLE MUSSEL INDUSTRY	Project 3 Causes and management of mass mortality in the culture of green mussel, Perna viridis. old. (Mussel Die-off Syndrome in Aklan: Cause, Effect and Management)	Rapid, inclusive and sustained economic growth	The project aims to investigate the possible causes of the die-off syndrome of green mussel in Batan Bay, Aklan. specifically, it aims to characterize water quality of Batan Bay, determine the nature of spats sourced from the bay and relate the culture methods used in the bay and identify the pathogenic organisms	Map of die-off occurrence in the mussel culture areas in the country Identification of the possible causes of the die-off syndrome in Maqueda Bay and Batan Bay Remedial measures to address the cause(s) of the die-off syndrome Maqueda Bay and Batan Bay GIS maps where die-off/mass mortalities have occurred Management strategy to reduce/minimize mortalities of cultured mussels	UPV	1. Private investors who plan to culture mussels 2. Fisherfolk who will be culturing mussel for supplemental livelihood 3. BFAR Extension Personnel	01-Oct-15	31-Dec-17	ONGOING	8,574,864	1,332,496
National Mussel S&T Program - PROGRAM B. IMPROVED GROW-OUT TECHNOLOGY FOR SUSTAINABLE MUSSEL INDUSTRY	Project 4. Modeling for site selection for expansion to new culture area (old title: Project 4. Towards Mussel-Based Economic Development Support Program (Mussel)	Rapid, inclusive and sustained economic growth	1. Develop an economical and effective method for induction of triploidy in the green mussel, Perna viridis 2. Evaluate the performance of triploid green mussels based on growth rate, survival, condition index and organoleptic qualities	Map out of potential transplantation and grow-out sites in Cagayan River Estuary Total Area of potential transplantation and grow-out sites in Cagayan River Estuary (Has.) Growth and survival rate of mussels at different locations in Cagayan River Estuary Production potential of Cagayan River Estuary (Metric Tons) Protocol in transplanting mussels in new culture areas Computer model on the dynamics of Cagayan River Estuary in support to site selection	CagSU	Mussel industry, private financial institutions, entrepreneurs, mussel farmers, researchers, extension workers	05-Oct-15	04-Jan-18	ONGOING	4,227,672	785,587
National Mussel S&T Program - PROGRAM B. IMPROVED GROW-OUT TECHNOLOGY FOR SUSTAINABLE MUSSEL INDUSTRY	Project 5. Production of safe mussels using environment-friendly culture methods in sites near urban areas old(Pilot-testing of Mussel Grow-out Technology)	Rapid, inclusive and sustained economic growth	To pilot test the raft and longline technology refined from Project 2.	Comparative analysis of stake and long-line method for mussel culture in Bacoor Bay Environmental Profile of Bacoor Bay Seasonality, and spat density Maps Protocol for Local Government based depuration facility Model Policies and institutional arrangement recommendations	CvSU	Beneficiaries include mussel farmers, entrepreneurs, vendors, middleman, processors, researchers, technicians/extensionists, Local Government Units, policy makers and consumers.	05-Oct-15	04-Apr-18	ONGOING	4,534,352	754,005
Nationwide Clonal Adaptation Trial and Innovation of Propagation Techniques of Newly Introduced High-Yielding and Promising Rubber Clones	Project 1. Technology Adaptation and Perfomance Trial of Recommended Rubber and Other Promising Rubber Clones in the Philippines	Poverty reduction and empowerment of the poor and vulnerable	The general objective is to enhance production of rubber through adoption of suitable rubber clones in the Philippines. Specific Objectives: To determine the performance of different rubber clones under different locations; to showcase rubber production technology for the adoption of rubber stakeholders in the Philippines; to know and determine the profitability and other potentials of planting rubber in non-traditional rubber growing areas; to evaluate the yield and growth including its resistance to major pests and diseases performance of different rubber; and to identify problems and constraints (if any) and provide recommendations for rubber production in six (6) project locations.	1. Conducted adaptability trial of high yielding clones for specific locations across the country; 2. Recommended high yielding clones suitable for various environmental conditions of the country;	USM, WPU, ISU, SLSU, CMU, DA-ZPIARC	Farmers, farmer leaders, rubber stakeholders, nursery operators, researchers, students, policy makers, and the whole rubber industry in the Philippines.	01-Mar-15	28-Feb-18	ONGOING	20,525,431	5,041,076

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Nationwide Clonal Adaptation Trial and Innovation of Propagation Techniques of Newly Introduced High-Yielding and Promising Rubber Clones	Project 3. Development of Efficient Techniques on Tissue Culture, Somatic Embryogenesis and In-Vivo for Rapid Propagation in Rubber	Poverty reduction and empowerment of the poor and vulnerable	The use of rubber plants derived from somatic embryogenesis and other tissue culture techniques offer good promise because plants developed from this method will eliminate the problem of stock and scion incompatibility. Budding, which is the most tedious work in the nursery, will also be eliminated and the supply of rubber seedlings could be programmed if not available at all times. Specific Objectives: To develop an efficient tissue culture for rapid propagation in rubber through micro cutting, somatic embryogenesis and in vivo; to test the performance of tissue cultured rubber in terms of root development and anchorage, resistance to lodging, growth and branching habit and yield potential; to identify high yielding rubber that could be propagated by tissue culture without changing the genetic potential and field performance of such clones; and to produce appropriate publication materials for dissemination to concerned industry stakeholders.	Developed techniques on mini-seedling budding, hypocotyl grafting, and early green, grafting of rubber; Trained propagators in using these innovative techniques for commercial innovative techniques for commercial production of rubber QPM	WMSU, USM	farmers, farmer leaders, rubber stakeholders, nursery operators, researchers, students, policy makers, and the whole rubber industry in the Philippines.	01-Mar-15	28-Feb-18	ONGOING	7,514,797	2,453,757
Pinoy S&T Services for Farmers and Entrepreneurs (PSF) Program	Community Based Farm on Sea Cucumber Production in La Union	Rapid, inclusive and sustained economic growth	To rehabilitate and increase the production of Holothuria scabra in La Union through the adoption of sea ranching technology for sea cucumber. Specific: 1. To adopt sea ranching technology for Holothuria scabra through the STCBF program; 2. To develop farmer's skills in sea ranching of sea cucumber; 3. To enhance active participation of the community, LGUs, and other cooperating agencies in promoting the application of H. scabra sea ranching technology; 4. To adopt sea ranching technology of sea cucumber as alternative source of livelihood for the community; and 5. To facilitate policy and legal support from LGU for the production of sea cucumber through sea ranching.	1. Produced sea cucumber (H. scabra) using sea ranching technology under Sto. Tomas, La Union condition of about 2,600 pcs/ha; 2. Provided alternative livelihood to 20 households in growing of sea cucumber through sea ranching technology; 3. Produced good quality dried H. scabra 4. Established community and legal support from the LGU for sustainable sea cucumber production through sea ranching technology; 5. Trained 20 sea cucumber growers and producers in Sto. Tomas, La Union; 6. Sea cucumber dryer tested by AMTEC; and 7. Enforcement of BFAR Administrative Circular No. 248, series of 2013 re: size regulation for sea cucumber collection and trade.	DMMMSU	Sea cucumber growers and producers in Sto. Tomas, La Union	01-Jun-15	30-May-18	ONGOING	3,895,370	1,286,420
Pinoy S&T Services for Farmers and Entrepreneurs Program (PSF)	S&T Community-Based Farm (STCBF) on Improved Integrated Crop Management Practices (IICMP) for Cacao Rehabilitation in the City of Mati, Davao Oriental	Rapid, inclusive and sustained economic growth	Generally, the project aims to rehabilitate the old and unproductive cacao farms of some selected ARBs and upscale their productivity through STCBF that will showcase the improve integrated crop management practices (IICMP) in rehabilitating old cacao plantations. Specific Objectives: 1. Transfer knowledge and skills to 15 selected ARB cooperators the improved integrated crop management practices (IICMP) in rehabilitating old cacao farms to become productive by 50%-60% or from 1 kg per tree per year to 1.5-1.6 kg per tree per year; 2. Establish one (1) cacao nursery (100 sq.m. with a capacity of 5,000 seedlings and will be producing high yielding recommended clones namely UF-18, PBC-123, W-10) and establish 1/2 ha bud wood garden/scion grove (1,000 plants capacity and can produce 50,000 scions after 1 year); 3. Develop the capability of the cooperators in increasing their farm profitability; 4. Promote wider dissemination of the recommended IICMP on cacao rehabilitation and value adding through the production of manual on cacao rehabilitation and processing.	Trained at least 15 ARB farmer cooperators on IICMP and rehabilitated at least 15 hectares of their old and unproductive cacao farms a. Fertilized existing cacao trees (Y1-Y3) b. Installed water impounding dam (Y2) c. Rehabilitate by side grafting and chupon grafting (Y2) d. Cleaned and maintained cacao fields using provided tools (Y1-Y3) 2. Produced at least 5,000 high-yielding and high quality cacao planting materials (UF18, W10, PBC123) to be used in rehabilitating old cacao farms of the cooperators and other adopters a. Established 100 sqm nursery (5,000 seedling capacity) at DOSCST demo farm (Y1) and maintained (Y2-Y3) b. Established 5,000 sqm scion grove / budwood garden (50,000 scions per year) at DOSCST demo farm (Y1) and maintained (Y2-Y3) 3. Enhanced the capability of the cooperators in producing high quality cacao beans that can pass both local and export standards a. Conducted Farmers' Field Day (Y3) b. Conducted training on cacao processing (Y3) c. Provided solar drier and fermentation boxes as CSF (Y2) d. Processed high quality cacao beans (Y2-Y3) 4. Increased their profitability from an estimated gross income of 26,000-32,500 (400-500 # of trees X 1kg/tree/yr. X 65.00/kg unfermented beans) pesos per year to 72,000-76,800 (600 # of trees under coconut X 1.5-1.6 kg X 80.00/kg. fermented beans) per hectare per year (Y3) a. Developed a sustainability plan for continuity (Y3) b. Provided farmers with continued capability building (like organization devt, micro-financing, & enterprise devt) based on sustainability plan 5. Produced and distributed copies of manuals on cacao rehabilitation and processing a. Primer on production (Y1) b. Primer on processing (Y3) c. Distributed Cacao Rehab & Processing Manual (Y3)	DOSCST	Cacao Farmers / Agrarian Reform Beneficiaries	01-May-14	14-Mar-18	ONGOING	3,391,195	473,209
Program A. Development of Broodstock and Hatchery Technologies for the Tropical Oyster Crassosrea inedalei (Faustino, 1932) in the Philippines	Project 1. Broodstock Management and Conditioning for the Oyster Crassostrea iredalei	Rapid, inclusive and sustained economic growth	To establish management techniques for Crassostrea iredalei broodstock that can produce larvae of high viability and high meat quality	1. Best conditioning site/method for broodstock management 2. Optimum environmental conditions and best diet for broodstock 3. Improved egg production to > 1.5M eggs per spawning per pait	SEAFDEC	LGU, NGO and aquaculturists interested to culture mollusc Academic institutions benefit from data collection and publications from this study	01-Apr-14	31-Mar-17	ONGOING	3,693,458	273,653
Program A. Development of Broodstock and Hatchery Technologies for the Tropical Oyster Crassosrea inedalei (Faustino, 1932) in the Philippines	Project 2. Refinement of the Larval, Post-Larval and Nursery Rearing Techniques for Crassostrea iredalei to Produce Quality Seeds	Rapid, inclusive and sustained economic growth	To verify and refine the oyster hatchery technologies of other Southeast Asian countries in Philippines setting to produce a stable, sufficient, and good quality seed stocks of C. iredalei	1. Most efficient spawning technique 2. Suitable microalgal diet and optimum stocking density 3. Suitable settlement inducers and substrates	SEAFDEC	LGU, NGO and State Universities hatcheries Oysters growers Academic institution from data/publication generated from studies and observations	01-Apr-14	31-Mar-17	ONGOING	5,625,038	387,774
Program A. Development of Broodstock and Hatchery Technologies for the Tropical Oyster Crassosrea inedalei (Faustino, 1932) in the Philippines	Project 3. Genetic Characterization and Selective Breeeding of Slipper-Shaped Oyster, Crassostrea iredalei	Rapid, inclusive and sustained economic growth	The project will characterize the genetic structure of these populations at different localities nationwide and generate specific molecular markers for selective breeding	1. Optimization of DNA extraction protocol 2. Genomic DNA extraction (mantle, gills and gonads) 3. Purity estimation through spectrophotometry 4. PCR protocol optimization for gene-nuclear DNA and microsatellite markers	UPV	Bivalve researchers, aquaculture sector	01-Apr-14	31-Mar-17	ONGOING	4,059,834	278,028
Program A. Enhancement of Hatchery and Nursery Practices for a Reliable Supply of Quality Seeds for the Green-lipped Mussel (Perna viridis) Farming.	Project 1. Refinement of Broodstock Maintenance, Spawning, Larval and Spat Rearing Technologies for Sustained Seed Production of the Green Mussel (Perna viridis)	Rapid, inclusive and sustained economic growth	Refine existing hatchery technology of green mussels by focusing on (a) broodstock maintenance and spawning, (b) larval rearing, and (c) seed production; Improve growth and survival of hatchery-produced seeds; Mass produce seeds for improvement of mussel population, and for possible expansion of culture areas.	A refined technology for broodstock maintenance and spawning, larval and spat rearing and mass production of seeds of the green mussel Perna viridis with: 60 to 80% survival of fertilized eggs to D-shaped larvae; 50 to 60% survival from hatching to eyed stage/pediveliger stage; > 5% survival from hatching to early spat stage or setting stage; Reliable source of good quality and year round availability of seeds for stocking to improve production; Spat production of > 5 M per year; Hatchery facilities that will be used by the Institute for further research or for facilities for hatchery training.	UPV	The mussel industry will benefit from this study as supply of seed stocks will be continuously be available and help increase production.	01-Jul-14	30-Sep-17	ONGOING	9,012,912	1,105,481
Program A. Enhancement of Hatchery and Nursery Practices for a Reliable Supply of Quality Seeds for the Green-lipped Mussel (Perna viridis) Farming.	Project 2. Development of Remote Setting and Nursery Technologies for the Green Mussel (Perna viridis)	Rapid, inclusive and sustained economic growth	The long-term goal of the project is to secure a reliable supply of hatchery-produced seeds to augment mussel production. Specifically it aims to determine suitable size and technique of transport of the green mussel to remote setting area; to develop techniques for holding larvae to 'seed' size (up to 3 months old) in the nursery prior to deploying to seeding area; to evaluate efficiency and effectiveness of different spat collectors in the remote setting area and to develop techniques for rearing larvae in the remote setting area.	1. Technology/ procedure for shipment of green mussel larvae to the remote setting areas with 85-95% survival. 2. Technique for setting mature larvae in the remote setting area with 50-70% survival rate 3. Identified effective spat collector that can yield a survival rate of 70-90% spats from set size prior to seeding to grow out farm 4. Technology of holding spat in the nursery prior to seeding them to grow-out farms with 60 to 80% survival up to <10mm.. 5. One or two nursery stations will established in selected areas either in Negros (Hinigaran), or Capiz (Ivisan or Roxas City) or Samar (Jiabong) for spats produced by the project for seed dispersal.	UPV	Beneficiaries include mussel farmers, entrepreneurs, vendors, middleman, processors, researchers, technicians/extensionists, policy makers and consumers.	01-Jul-14	30-Sep-17	ONGOING	6,486,093	916,792
Program A. Enhancement of Hatchery and Nursery Practices for a Reliable Supply of Quality Seeds for the Green-lipped Mussel (Perna viridis) Farming.	Project 3. Genetic characterization and selective breeding of green mussel, Perna viridis	Rapid, inclusive and sustained economic growth	This project aims to develop molecular markers to identify and characterize mussel population at different sites; identify a range of performance traits in different mussel population at different sites associated markers and to utilize these markers for broodstock selection; establishment of broodstock population to be used in selective breeding program and to track outcomes of the selective breeding program using molecular markers.	1. Specific nucleotide sequences as markers associated with specific mussel populations 2. Genetic profile and performance traits of mussel population at different sites. 3. Criteria for selection of broodstock and molecular markers for parentage analysis and tracking of families in breeding program. 4. Offsprings of cross-bred organisms with specific molecular markers 5. Parentage and offspring analysis	UPV	Beneficiaries include mussel farmers, entrepreneurs, vendors, middleman, processors, researchers, technicians/extensionists, policy makers and consumers.	01-Jul-14	30-Jun-17	ONGOING	6,038,526	754,184

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Program B. Increasing Production and Improving Quality of Oyster Produced in the Philippines	Project 1. Establishment of Safety Quality of Oysters and their Culture Environment	Rapid, inclusive and sustained economic growth	This project generally aims to establish the sanitary quality of oysters and their culture environments Specifically, this study aims to 1) quantify the bacterial densities especially coliform, Escherichia coli, and pathogenic vibio spp. in oysters (flesh) and their culture environments (water and sediments); 2) identify the taxonomic position (genus/ species level) of isolated bacteria; 3) quanlly the levels of heavy metals (Zn, Pb, Cd, Cu, and Cr) and pesticide residues (organochlorines)in oysters' flesh; 4) examine the physicochemical state of the oysters' culture environments (water and sediments); 5). Classify sanitary quality of all culture sites examined in accordance with EU shellfish harvesting area classification criteria;" and 6)establish effective and practical depuration procedures in conjunction with the clearance rates of pathogenic bacteria, heavy metals and pesticide residues from oysters' tissues	1. Sanitary quality of oysters and their culture 2. Bacterial load in rearing water & oyster's meat 3. Quantity of heavy metals in oyster's meat 4. Oyster culture sites examined categorized based on EU standards	SEAFDEC	Aquaculture industry and stakeholders - increased production after refining existing culture techniques will benefit oyster famers and help the country's aquaculture industry Government agencies and NGOs - refined culture techniques may be promoted by government agencies and NGOs to stakeholders seeking budget for growout culture of oyste	01-Apr-14	31-Mar-17	ONGOING	6,048,533	422,634
Program B. Increasing Production and Improving Quality of Oyster Produced in the Philippines	Project 2. Refinement of Existing Oyster Grow-out Techniques	Rapid, inclusive and sustained economic growth	This project aims to increase slipper oyster production through refinement of grow-out culture technologies Specifically, this study will: 1) determine the most efficient culture system for slipper oyster 2) determine the most suitable site for growing oyster 3) compare growth and survival of wild and hatchery-produced spats (will be obtained from the hatchery under another Program) reared in the natural environment	1. Most efficient culture system established 2. Site requirements for oyster farming established 3. Growth and survival of wild and hatchery produced spats 4. Best practices for oyster farming established	SEAFDEC	Oyster farmers, fisherfolks, fisherfolk organizations, coastal communities, processors, traders and LGUs.	01-Apr-14	31-Mar-17	ONGOING	4,014,098	276,838
Program B. Increasing Production and Improving Quality of Oyster Produced in the Philippines	Project 3. Grow-out Culture of Slipper Shaped Oyster Using the Raft Long-line Method	Rapid, inclusive and sustained economic growth	Determine the effectiveness of raft and longline method and different spat collectors forgrowing of oysters; Determine the density of spat settlement on oyster shells as collection materials at spawning seasons; Determine the effectiveness of raft and longline method as grow-out culture technique; growing transplanted oyster spats from oyster shells as collection materials; Conduct cost-benefit analysis for raft and longline method of oyster farming using shells as collection materials at different study sites; and Develop an effective protocol in transporting and transplanting oyster broodstocks and spats to grow-out culture.	1. Effectiveness of raft and long line method protocol 2. Most efficient substrate materials for spat collection	SSU	Aquaculture industry and stakeholders - identification of suitable sites and classification of all oyster grow-out culture sites, and establishment of depuration procedures thereby producing oysters safe for human consumption will not only benefit oyster famers but importantly help the country's aquaculture industry Government agencies and NGOs - selection of suitable sites for growing oysters and effective post-harvest treatments may be promoted by government agencies and NGOs to stakeholders - generated data will serve as springboard in the formulation of updated sanitation standards and methods for the regular monitoring, e.g. BFAR, of farmed oysters in the Philippines	01-Apr-14	31-Mar-17	ONGOING	3,394,747	220,938
Program B. Improved Grow Out Technology for a Sustainable Mussel Industry .	Project 1. Transplantation and Spatfall Determination of Green Mussel, Perna viridis	Rapid, inclusive and sustained economic growth	Determine water quality parameters of existing and potential mussel growing sites; Establish the stocking density for broodstocks and spats that will be viable for transplanting; Document growth and survival of transplanted broodstock and spats; Improve existing method for spatfall prediction; and Develop more efficient spat collectors	Detailed characterization of suitable sites for mussel culture; Protocol for transporting and transplanting mussel broodstock and spats; More efficient spat collectors (From 0.5 – 1.0 spat/10 cm2 to 2 – 5 spats/10 cm2); Spatfall prediction model; Manual for site selection, transport and transplantation of mussel broodstock and spats	UPV	Private investors who plan to culture mussels 2. Fisherfolk who will be culturing mussel for supplemental livelihood 3. BFAR Extension Personnel	01-Jul-14	30-Jun-17	ONGOING	7,151,096	917,895
Program C. Improvement of feeds and stock management practices for mud crab grow-out culture	Project 6. Improvement in the handling, storage and transport of mud crabs	Rapid, inclusive and sustained economic growth	The project will assess the current supply chain operating procedures in the major trading centers in the country and adopt methods to minimize the development of crab defects like muscle emaciation, weight loss, ammoniacal odor and other undesirable state of the crabs that can lower the market value.	? Mud crab handling, storage and transport conditions in trading centers/consignacion in various areas in the country documented and appropriate handling and transport methods recommended; ? Methods for the detection and prevention of muscle emaciation or 'hagas' including the time until significant weight loss occurs identified; ? Causes and methods to prevent ammoniacal odor and change in flavor developed; ? Prototype boxes for bulk handling and retail developed; and ? Code of practice for the handling, storage and transport of crabs prepared	UPV	Target beneficiaries are the Mud crab farmers, traders, and exporters. Researchers/scientists can also benefit from the results as basis for further studies.	01-Jul-15	30-Jun-17	ONGOING	2,770,412	556,987
Program C. Post Harvest Program for Sustainable, High Quality and Safe Mussel Products	Evaluation of depuration and relaying technologies for Philippine green mussel at higher loading capacity	Rapid, inclusive and sustained economic growth	This project aims to pilot test the protocols in relaying and depuration of mussels in other culture areas in the country and at various conditions. It intends to improve the developed protocols for the elimination of microbial content for safe and high quality Philippine green mussels (Perna viridis) Specifically, it intends to do the following: 1. Evaluate the performance of relaying protocols at different conditions of mussel growing areas 2. Evaluate the performance of depuration facility at pilot scale (80, 100 and 120 kg input per tank) 3. Determine the economic viability (including social acceptability) of using refined relaying and depuration technologies 4. Develop a generic HACCP-based mussel depuration quality assurance program	Year 1 1. Refined relaying protocols Year 2 2. Table on relaying time based on bacterial load in mussel meat 3. Refined depuration protocols using recirculating system/flow-through system with 80, 100 and 120 kg mussel input per tank) 4. Table on depuration time based on bacterial load in mussel meat 5. Business Plan (based on the technical and financial feasibility) including social acceptability of the technologies 6. Generic HACCP Manual for mussel depuration	UPV	Beneficiaries include mussel farmers, entrepreneurs, vendors, middleman, processors, researchers, technicians/extensionists, policy makers, shellfish processors-exporters, and the consuming public	01-Jul-16	30-Jun-18	ONGOING	4,225,344	890,836
Regional Durian R&D Program: Enhancing Productivity and Sustainability of the Durian Industry in Southern Mindanao (Phase 2)	Project 1. Optimum Durian Tree Management for Increased Productivity	Poverty reduction and empowerment of the poor and vulnerable	General: To cross validate the thinning and pruning techniques of durian for optimum yield and quality of durian. Specific: 1. To determine the best and appropriate thinning and pruning techniques of different varieties of durian; 2. To determine the economic benefits of pruning and flower-fruit thinning in durian; 3. To determine the peak of production of different durian varieties, and; 4. To determine the quality characteristics of different durian	1. Optimized fruit production through application of technology on the proper and appropriate cultural management on pruning, detopping, flower and fruit thinning for optimum production of quality durian fruits for domestic and export market, as well as on height and fruiting branches. 2. Extended harvesting season by two months 3. Increased yield by 20% and improved quality of fruits.	BPI-DNCRDPSC	1. Commercial durian growers 2. Small scale-durian farmers 3. Farm Contractors 4. Wholesaler/retailers/exporters Research institutions 5. Researchers 6. LGU's 7. Planners	01-Oct-17	30-Sep-19	NEW	4,812,643	2,591,322
Regional Durian R&D Program: Enhancing Productivity and Sustainability of the Durian Industry in Southern Mindanao (Phase 2)	Project 2. Optimum Fertilization to Enhance Yield and Quality of Fesh Duran in Southern Mindanao	Poverty reduction and empowerment of the poor and vulnerable	General: Improve the yield and quality of fresh durian in Southern Mindanao through of the use of a fertilization guide developed based on the optimum nutrient standards. Specific: 1. Validate across location the formulated fertilizer recommendation in durian derived from the established leaf nutrient concentration standards; 2. Verify at farmer's field across location the adaptability of validated fertilizer recommendation of durian in Southern Philippines, and; 3. Generate a GIS-aided soil suitability classification for durian in	1. Increased yield and improved durian fruit quality; 2. Optimum fertilizer recommendation for durian based on leaf analysis validated and verified, and; 3. GIS-aided suitability maps for durian in Davao and Cotabato provinces.	USM, USeP, BPI-DNCRDPSC	1. Commercial durian growers 2. Small scale-durian farmers 3. Farm Contractors 4. Wholesaler/retailers/exporters 5. Research institutions 6. Researchers 7. LGU's 8. Planners	01-Oct-17	30-Sep-19	NEW	6,761,011	3,615,505
Regional Jackfruit R&D Program For Region 8. Towards Globally Competitive and Sustainable Jackfruit Industry in Eastern Visayas	Project 6. Design and Implementation of Communication Interventions for the Promotion of Jackfruit Technologies in Eastern Visayas	Rapid, inclusive and sustained economic growth	Design, implement and evaluate the communication interventions for the promotion and commercialization of jackfruit technologies and products.	? Information on the needs (knowledge and practice gaps) and attitude of jackfruit farmers and processors related to jackfruit production and post-production technologies as an output of the survey and FGD. ? Produced, pretested and fine-tuned IEC materials on jackfruit production and post-production technologies developed by ViCARP and RRDEN. ? IEC materials (print, video, radio spots, etc.) disseminated, trainings and special events conducted (e.g. pinaka - malaki, matamis, maraming pulp, etc.) contest, etc. ? MSC stories and Impact indicators	VSU	Jackfruit growers and processors	01-Jul-12	31-Mar-15	ONGOING	2,356,332	26,400
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 1a. Mass propagation and pilot utilization of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Batangas and Quezon	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	UPLB	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	29,293,247	6,682,419

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 1b. Mass propagation and pilot utilization of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Laguna, Rizal and Cavite	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	UPLB	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	28,593,331	6,589,098
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 2. Mass propagation of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Region VI, VII, and VIII	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	VSU	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	25,538,489	6,213,508
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 3. Mass propagation of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Davao Oriental and Davao del Norte	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	UPM	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	25,394,301	5,317,580
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 4. Mass propagation and pilot utilization of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Albay, Camarines Sur, and Masbate	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	PCA-Albay	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	26,434,280	6,156,012
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 5. Mass propagation and pilot utilization of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Camarines Norte, Catanduanes and Sorsogon	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	BU	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	25,262,092	5,385,481
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project 6. Mass propagation and pilot utilization of plumule-derived plantlets of Tall and Dwarf coconut varieties through CSet for Zamboanga del Norte, ARMM and Region XII	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	PCA	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	27,691,134	6,599,509
Reinvigorating the Philippine Coconut Industry through Coconut Somatic Embryogenesis Technology	Project Management Coordination	Poverty reduction and empowerment of the poor and vulnerable	The project aims to mass propagate plumule-derived coconut planting materials primarily to establish new planting in coastal zones and replant the typhoon-damaged, and coconut scale insect- infested palms. It also aims to advance the agricultural biotechnology capability in the Philippines on the rapid mass propagation of coconut planting materials	Technology transfer & adoption of CICY-Mexico's protocol for in vitro culture of coconut using somatic embryogenesis Identified high yielding Tall & Dwarf coconut varieties/hybrids responsive to the protocol Tissue culture laboratory upgraded and equipped for effective mass propagation of high yielding coconut varieties/hybrids	PCA	Smallhold coconut growers who are dependent on coconut farming as their livelihood.	01-Oct-14	30-Sep-19	ONGOING	20,474,300	1,802,953
Role of Cooperatives in Technology Adoption for Improved Production and Market Efficiency in Dairy Buffalo and Coffee	Project 1. Role of Cooperatives in Technology Adoption for Improved Production and Market Efficiency for Dairy Buffalo	Transparent, accountable, and participatory governance	General Objective Assess the role of cooperatives in technology adoption for improved production and market efficiency in mango, coffee and banana Specific Objectives: a. Determine whether cooperatives as organization enhance technology adoption; b. Assess the effectiveness of cooperative as platform for innovation and technology transfer in the rural areas; c. Determine whether membership in cooperatives results in improved production and marketing efficiency; d. Establish the pathways by which cooperatives affected production and market efficiency; and e. Provide specific recommendations on how cooperatives can enhance technology adoption	• 3 Technical bulletins • 1 Journal article • 4 cooperatives • One (1) Policy brief	UPLB	Decision-makers at PCAARRD, DOST; Grantees of PCAARRD/DOST funding	01-Aug-17	31-Jul-18	NEW	2,515,338	2,515,338
Role of Cooperatives in Technology Adoption for Improved Production and Market Efficiency in Dairy Buffalo and Coffee	Project 2. Role of Cooperatives in Technology Adoption for Improved Production and Market Efficiency for Coffee	Transparent, accountable, and participatory governance	General Objective Assess the role of cooperatives in technology adoption for improved production and market efficiency in mango, coffee and banana Specific Objectives: a. Determine whether cooperatives as organization enhance technology adoption; b. Assess the effectiveness of cooperative as platform for innovation and technology transfer in the rural areas; c. Determine whether membership in cooperatives results in improved production and marketing efficiency; d. Establish the pathways by which cooperatives affected production and market efficiency; and e. Provide specific recommendations on how cooperatives can enhance technology adoption	• 3 Technical bulletins • 1 Journal article • 4 cooperatives • One (1) Policy brief	UPLB	Decision-makers at PCAARRD, DOST; Grantees of PCAARRD/DOST funding	01-Aug-17	31-Jul-18	NEW	2,469,158	2,469,158
S&T-BASED SWEETPOTATO VALUE CHAIN DEVELOPMENT FOR FOOD IN TARLAC, ALBAY, AND TYPHOON YOLANDA-AFFECTED AREAS IN LEYTE AND SAMAR	Program Management and Coordination (PMC)	Poverty reduction and empowerment of the poor and vulnerable	The component aims to coordinate all the monitoring and evaluation activities of the different projects under the program, integrate the plans, strategies and accomplishments. It will coordinate gathering of all the necessary information and extension materials, ensure acceptability of all reports (technical and financial) and closely coordinate the project leaders and personnel involved for smooth implementation of the program	0	VSU	0	01-Jan-16	31-Dec-18	ONGOING	3,043,125	335,293
S&T-BASED SWEETPOTATO VALUE CHAIN DEVELOPMENT FOR FOOD IN TARLAC, ALBAY, AND TYPHOON YOLANDA-AFFECTED AREAS IN LEYTE AND SAMAR	Project 1. Support Systems for Sweetpotato Value Chain Development	Poverty reduction and empowerment of the poor and vulnerable	1. To improve the design and implementation of the SP value chain through geo-referenced mapping and scenario analysis. 2. To improve the viability of the SP value chains through continuing R&D for innovations in production (aeroponics system), product development, mechanized processing systems, and consumer and market research. 3. To strengthen capacities of partners, sustain partnerships and contribute to an enabling policy environment and the provision of Business Development Services (BDS).	? At least four (4) SP food value chains with value chain analysis ? At least five (5) SP varieties adopted by farmers for use in value chains ? Employment generated in rural communities ? Increase in SP area, ca. 300 has ? Strengthened capacities of researchers/development workers, farmers, entrepreneurs, partners through the (1) Farmer Business School (FBS); (2) provision of Business Development Services (BDS); (3) market linkaging; and (4) improved partnerships ? Established and pilot-tested a zero-waste SP processing system with feasibility analysis ? Knowledge products: IEC materials, VCA guide with VC mapping guide, publications; at least 5 papers ? Established Communication platform established: FB, SP SuperFood	VSU	â€¢ Farmer-households/entrepreneurs (enterprises in urban locations engaged in peri-urban agriculture) â€¢ Researchers/ Scientists â€¢ LGUs and farmers in typhoon-affected areas in Leyte-Samar â€¢ SP growers in general Micro and small entrepreneurs	01-Jan-16	31-Dec-18	ONGOING	20,811,532	2,455,941

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
S&T-BASED SWEETPOTATO VALUE CHAIN DEVELOPMENT FOR FOOD IN TARLAC, ALBAY, AND TYPHOON YOLANDA-AFFECTED AREAS IN LEYTE AND SAMAR	Project 2. Sweetpotato Value Chain Development for Food in Tarlac	Poverty reduction and empowerment of the poor and vulnerable	1. To enhance the SP value chain and scale-out the SP micro-enterprises (wine, pastries/cookies, jam/jelly, noodles) in Tarlac and target expansion areas. 2. To promote an enterprise culture to farmers, cooperatives and private enterprises for improved productivity and competitiveness.	⍰ At least four (4) SP food value chains with value chain analysis ⍰ At least five (5) SP varieties adopted by farmers for use in value chains ⍰ Employment generated in rural communities ⍰ Increase in SP area, ca. 1000 has ⍰ Provided BDS to the SP value chains ⍰ Knowledge products: SP product flyers, publication; at least 3 papers	Department of Agriculture Regional Field Unit III	â€¢ Local entrepreneurs (Farmer-Trader-Processors) â€¢ Farming households (engaged in production of sweetpotato roots and planting materials whose livelihoods are limited by lahar-laden growing environment, insect pest and disease pressure) â€¢ Local organizations, including farmersâ€™ cooperatives and womenâ€™s associations engaged in enterprises for processing and marketing of value-added swetpotato products â€¢ Consumers of quality sweetpotato products â€¢ Local R & D institutions for new knowledge, linkages and support groups â€¢ Local BDS Providers	01-Jan-16	31-Dec-18	ONGOING	6,531,270	588,670
S&T-BASED SWEETPOTATO VALUE CHAIN DEVELOPMENT FOR FOOD IN TARLAC, ALBAY, AND TYPHOON YOLANDA-AFFECTED AREAS IN LEYTE AND SAMAR	Project 3. Sweetpotato Value Chain Development for Food in Albay	Poverty reduction and empowerment of the poor and vulnerable	1. To enhance the SP value chain for products (fresh-based MP products, noodles, ice cream, specialty breads, pastries) with high potentials for commercialization and access to wider market niche. 2. To strengthen the capacities of SP entrepreneurs, and the linkages/ partnerships with the BDS providers.	⍰ At least four (4) SP food value chains with value chain analysis ⍰ At least five (5) SP varieties adopted by farmers for use in value chains ⍰ Employment generated in rural communities ⍰ Increase in SP area, ca. 500 has. ⍰ Provided BDS to the SP value chains ⍰ Knowledge products: SP flyers, publication, at least 3 papers	DA Regional Field Unit V	â€¢ Local entrepreneurs (farmer-traders-processors) â€¢ Farming households (engaged in production of sweetpotato roots and planting materials whose livelihoods are limited by lahar-laden growing environment, insect pest and disease pressure) â€¢ Local organizations (including farmersâ€™ cooperatives and womenâ€™s associations engaged in enterprises for processing and marketing of value-added sweetpotato products) â€¢ Consumers of quality sweetpotato products; threat of changing climate; â€¢ Local R & D institutions (Researchers/Scientists) for new knowledge and linkages â€¢ LGUs	01-Jan-16	31-Dec-18	ONGOING	6,164,410	1,230,875
Smart Production of Milkfish Using Developed Technologies.	Project 2. Development and promotion of milkfish satellite hatcheries in major milkfish producing areas of the Philippines	Rapid, inclusive and sustained economic growth	The project aims to develop and set-up satellite hatcheries in selected pilot sites of the country. To date, the Philippines has a number of complete milkfish hatcheries in Luzon, Visayas and Mindanao. However, fry supply is still not enough to supply the needs of milkfish growout ponds, pens and cages, because a lot of surplus egg production in the hatcheries are just discarded due to limited larval tanks for larval production. Thus, development of satellite hatcheries is essential to minimize importation of fry from neighboring countries.	Established satellite hatcheries (Luzon 2, Visayas 5, Mindanao 5) -protocols and manual for operating satellite hatcheries from egg to fry production	UPV	The target beneficiaries of the project are the various sectors of milkfish industry such as hatchery operators, growers and feed millers – researchers can also use the results as basis for further study on milkfish physiology.	01-Dec-15	30-Nov-17	ONGOING	7,975,660	3,826,914
Tiger Shrimp (Penaeus monodon) Genomics Program.	Genomic Markers for Assessment of Inbreeding and Morphophenotype-genotype Association Mapping in Penaeus monodon	Rapid, inclusive and sustained economic growth	The general goal of this project is to expand the genetic resources necessary for sustaining a genetic improvement program for P. monodon in the country. The specific objectives are the following: ⍰ assess the variation of key morphometric and morphological traits in local stocks of P. monodon ⍰ generate genotypes from the same samples used in phenotyping (Objective 1) using next generation sequencing, and search for SNP markers that are correlated with selected traits ⍰ use the data generated (Objective 2) to improve the quality of the reference genome of P. monodon	⍰ results of statistical analysis of morphological/morphometric data from P. monodon samples ⍰ preliminary list of correlated SNP markers ⍰ improved reference genome for P. monodon	UPD	shrimp farming industry, shrimp export industry	01-Jul-15	30-Nov-17	ONGOING	7,514,648	1,368,749
Value Adding and Waste Recovery for Industrial Tree Plantation Species (ITPS): Forest Nanotechnology Interventions and Bioplastics Production	Project 1. Production and Application of Cellulosic Nanocrystals from the Wood and Processing Wastes of ITPS	Rapid, inclusive and sustained economic growth	To determine using nanotechnology possible new products and applications of nanocellulose from solid wood or waste materials derived from 3 ITPs widely planted in the Philippines	Publications - 2 articles in ISI journals - 1 technical bulletin - citations of peer-reviewed articles - project terminal report Patents - invention disclosure/patent for extraction/production of nanocellulose from fast growing timber - invention disclosure/patent for fabricating nanocellulose-reinforced composite Products - invention disclosure/patent for extraction/production of nanocellulose from fast growing timber - invention disclosure/patent for fabricating nanocellulose-reinforced composite People services - 1 MS Forest Products Utilization with specialization in Forest Nanotechnology by 2019 - 2 BS Chemical Engineering and 2 BS Chemistry students (2017-18) - 1 trained personnel (project staff) Places and partnership - upgrading of FPPS Wood Chemistry laboratory; - MOU signed with 1 company in need of nanocellulose as feedstock for a start-up project on nanocellulose-reinforced composites Policies - Draft policy that provides incentives for the utilization of wastes from plantationgrown timber	UPLB	Farmers planting fast-growing timber - Industries in need of raw materials for novel composite products - Downstream manufacturing enterprises using novel composite materials	15-May-17	14-May-19	NEW	2,774,840	1,856,543
Value Adding and Waste Recovery for Industrial Tree Plantation Species (ITPS): Forest Nanotechnology Interventions and Bioplastics Production	Project 2. Bioplastics from ITPS: Production, Characterization and Potential Applications	Rapid, inclusive and sustained economic growth	This project will deal with the utilization of lignin as a by-product of pulping ITPS which is a pre-treatment step in the production of cellulosic nanocrystals 1. Extract and characterize lignin from black liquor 2. Modify and characterize the extracted lignin 3. Produce bio-based plastic using the unmodified and modified lignin in the form of composite film	Publications: Manuscript for publication to ISI/Scopus-indexed journal; Production of information bulletin; Technical papers presented in scientific conference Patents: One patent/utility model for filing for the protocol for the production of bioplastic with unmodified/modified lignin Products: Lignin-based bioplastic (film/board) People Services: Involvement of at least one BS Chemical Engineering student as mentee/ thesis advisee; 1 MS Forestry/Chemistry/Chemical Engineering student as RA or advisee; Involvement of one junior faculty as Project Staff Places and Partnerships: Collaboration with PhilFIDA, wood processors and/or its association Policies: Advocate the use of bioplastic from lignin derived from ITP logging wastes	UPLB	Forest-based industries, tree plantation farmers, manufacturers of polymers and plastics	15-May-17	14-May-19	NEW	2,255,115	1,403,422
Value chain development and piloting of conventional vegetable production and marketing that meet food safety standards through adoption of internal control system (ICS)	Development of internal control system (ICS) for conventional vegetable production that meet food safety standards (Old Title: Pesticide Management and Monitoring of Residues as a basis for an Internal Control System for Conventional Production of Selected Vegetables to Address Food Safety)	Rapid, inclusive and sustained economic growth	It aims to plan and monitor pest and pesticide management strategy to be adopted as an internal control system for farmer cluster poroducing selected vegetables to address food safety concerns.	Publication 1) Article about pesticide residues 2) Article about safe pesticide management 3) ICS protocol Places and Partnerships 1) Partnership with the LGUs, barangay officials People 1) Farmers trained on pesticide management and use of tools for pesticide residue assessment 2) Increased consumer awareness on safe vegetables Policy 1) Adoption of ICS in the formulation of local policy for safe vegetable production 2) Development of municipal ordinance for the promotion of safe vegetable production and sustainability program to ensure long-term adoption Product 1) Pesticide Management Plan for selected vegetables 2) Internal Control System (ICS) for conventional vegetable production	UPLB	Farmers, consumers, and other stakeholders	01-Oct-17	31-Mar-19	NEW	2,563,621	1,914,735
Value chain development and piloting of conventional vegetable production and marketing that meet food safety standards through adoption of internal control system (ICS)	Establishment of a sustainable and viable value chain for conventionally-produced safe vegetables (Old Title:Project 2. Profitability assessment of adopting an internal control system (ICS) in the production and marketing of fresh and safe vegetables)	Rapid, inclusive and sustained economic growth	It aims to assess the profitability of conventional production and marketing of fresh and safe vegetables using ICS.	Product/Process ⍰ Alternative models for production and marketing of conventionally-produced safe vegetables; ⍰ Traceability system for conventionally-produced safe vegetables; ⍰ Packaging materials sample with printed brand and labels; Places and partnerships ⍰ Farm clusters ⍰ Institutional market (e.g., supermarkets, hospitals, etc.) Publication ⍰ Report on the complete documentation of the processes involved in the project. ⍰ Articles	UPLB	Vegetable farmers, farmer organizations, potential entrepreneurs, vegetable consumers, policy and decision makers, technology adoptors, potential investors and regulatory organizations and industry associations.	01-Oct-17	31-Mar-19	NEW	2,463,379	1,737,778

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Adoption of Refined Commercial Scale Mud Crab Hatchery/Nursery System in Alaminos City, Pangasinan	Rapid, inclusive and sustained economic growth	Roll-out the technology on commercial mud crab hatchery/nursery system to produce and maintain a reliable supply of mud crab seedstock in Alaminos, Pangasinan and 3 nearby provinces.	1. Established one commercial mud crab hatchery/nursery facility in Alaminos, Pangasinan. 2. Trained five (5) project staff from PSU and LGU-Alaminos on the technology of refined commercial scale mud crab hatchery/nursery system 3. Forged MOA with LGU Alaminos, Pangasinan. 4. Produced 480,000 quality crablets per year for nursery and grow-out ponds using the technology 5. Produced and printed at least 500 copies of IEC materials on mud crab hatchery/nursery technology 6. Promote the technology in coastal towns and city of Pangasinan (Infanta, Dasol, Burgos, Agno, Bolinao, Anda, Bani, Sual, Labrador, Lingayen, Binmaley, Dagupan City and San Fabian) and nearby provinces of La Union, Ilocos Sur, Ilocos Norte and Zambales.	PSU	The primary target beneficiary of the project is the local government of Alaminos, Pangasinan. 13 The secondary beneficiaries are growers (grow-out and pond) in coastal towns and cities of Pangasinan and nearby provinces like La Union, Ilocos Sur, Ilocos Norte and Zambales. Indirect beneficiaries are the various players in the local mud crab industry including potential adoptor-hatchery operators/owners (private & government owned), feed millers, and researchers who can use the results as basis for further study on mud crab.	01-Aug-15	31-Jul-17	ONGOING	3,611,878	1,289,845
	Advanced Evaluation of Abaca Hybrids with High Fiber Yield and Resistance to Bunchy Top Virus Selected Areas in Catanduanes, Bicol	Poverty reduction and empowerment of the poor and vulnerable	General: This proposal aims to evaluate the hybrid abaca planting stocks produced through tissue culture technique and disseminate to interested abaca farmers in Catanduanes area to meet the potential demand for abaca fibers for pulp and paper industry. Specific Objectives: 1. To produce 10,000 seedlings of abaca hybrids through tissue culture. 2. To establish two (2) hectares of abaca hybrids plantation and to determine the performance in three (3) selected municipalities in Catanduanes province. 3. To train abaca farmer cooperators and other abaca farmers on proper abaca production, fertilization, fiber harvesting, grading and baling. 4. To develop, produce and disseminate information, education and communication (IEC) materials and conduct promotional activities for abaca farmers and other stakeholders.	1. Production and distribution of 10,000 abaca seedlings in 2 hectares plantation in each of the 3 participating municipalities of Catanduanes province (Y1) 2. Establish 2-hectare abaca plantation (Y1) 3. Fifteen farmer's cooperators and at least 100 abaca farmers trained for abaca production, fertilization, fiber harvesting, grading and baling (Y4) 4. Developed IEC materials (200 leaflets, 200 brochures, 2 video recordings) and conducted promotional activities (Y4) 5. One publication in refereed journals (Y4)	UPLB, CatSU	1. Abaca Farmers 2. Stakeholders 3. Abaca Processors	01-Nov-16	31-Oct-18	ONGOING	4,998,429	2,009,119
	Advancement of Science for the Sustainable Utilization and Comservation of Forest Genetic Resources of falcata and yemane	Rapid, inclusive and sustained economic growth	The project aims to build the level of understanding and techniques on the best use of available genetic base of key plantations species, Paraserianthes falcataria (L.) Nielsen, and Gmelina arborea Roxb., in order to achieve a 30% increase in yield from plantations from the current 2013 yield level which is approximately 60 cu m ha-1.	A. Plantation trials of various genetic materials/provenances (origins) of falcata and yemane (5-10 ha). B. Information on genetic diversity and structure of various provenances (or origins) of falcata and yemane C. Teams of trained tree improvement technicians (240) to accomplish the long-term goal/objectives to support the country"s wood industry	CMU, ISU, UPLB	A. Tree Breeders B. State Universities and Colleges; students (graduate students in particular) C. Recipients of CBFMAs.	16-Oct-14	15-Oct-17	ONGOING	27,245,120	5,136,208
	Alternative Crop Shelter Design for High-Value Crops (Brocolli, Lettuce, Strawberry) Production in the Highlands	Rapid, inclusive and sustained economic growth	Assess crop shelter design for improved durability and functionality suitable for specific highland crops and conditions; monitor temperature & humidity variations inside and outside the crop shelters over the growing seasons; evaluate the effect of shading on crop water requirements; evaluate the performance of HVCs under diff. surface covering mat'ls. in protected environment; pilot test developed prototype under actual field conditions.	Year 1 ⍰ ⍰ Features/Characteristics of local greenhouses/crop shelter currently used in crop production ⍰ ⍰ Prototypes of improved crop shelters based on crop requirements and farmers' preferences ⍰ ⍰ Information on the degree of climate regulation achieved with different cladding materials ⍰ ⍰ Improved crop shelter designs in terms of structural strength and functionality for specific crops ⍰ ⍰ Evaluated performance for 1st cropping season of selected high-value crops under different surface covering materials in a protected environment Year 2 ⍰ ⍰ Evaluated effect of shading on crop water requirements ⍰ ⍰ Evaluated performance of HVCs grown under different structure-induced micro-climates during the 2nd cropping season ⍰ ⍰ Identified structures best suited for lettuce and broccoli Year 3 ⍰ ⍰ Identified structures best suited for strawberry ⍰ ⍰ Established economic viability of alternative crop shelter design for HVC production	BSU	farmers involved in HVCs production and who are willing to engage (and invest) in protected cultivation systems for increased production; small entrepreneurs; consumers	01-Jul-15	30-Jun-17	ONGOING	4,994,778	546,165
	Artificial Insemination as a Tool in Conservation, Sustainable Breeding and Utilization of Philippine Native Chickens	Rapid, inclusive and sustained economic growth	In general, this proposed project aspires to test and validate the artificial insemination (AI) technology as a tool in enhancing the reproductive efficiency of Philippine native chickens and develop semen processing and AI protocols that would match the native chicken breeding and farm management practices in the country. Specifically the proposed project aims to: ⍰ ⍰ Characterize the semen of Darag and Zampen roosters. ⍰ ⍰ Determine the effect of semen processing and short-term preservation on the fertilizing capacity of Darag and Zampen roosters' semen. ⍰ Assess the AI protocol for chicken on Darag and Zampen hens. ⍰ ⍰ Evaluate the fertility and hatchability of Darag and Zampen eggs fertilized thru AI. ⍰ ⍰ Evaluate the egg production performance of Darag and Zampen hens raised in layer cages. ⍰ Evaluate the technical and economic feasibility of AI in Philippine native chicken breeding and production.	Material Outputs Information/Technology Outputs 1. 7,500 hatching eggs of Darag and 7,500 hatching eggs of Zampen 1. Characteristics of Darag and Zampen chicken semen and spermatozoa 2. 5,000 DOCs of Darag and 5,000 DOCs of Zampen 2. Native chicken semen collection, processing and short-term preservation protocol 3. 4,620 table eggs of Darag and Zampen 3. AI protocol for Philippine native chicken 4. Chicken semen extender 4. Cost and return of producing native chicken hatching eggs and day-old chicks in cages 5. At least 2 scientific papers for publication in refereed journals	WVSU, WMSU	Institutional and private native chicken breeder farms Professors, researchers and students in poultry reproduction and breeding	01-Jan-16	30-Jun-18	ONGOING	4,998,900	1,654,995
	Assessing the Efficiency and Prospects of the Tunnel Vent Technology for the Swine and Poultry Industries in the Philippines	Transparent, accountable, and participatory governance	The general objective of this proposed study is to assess the efficiency and prospects of the tunnel vent technology for the swine and poultry industries in the Philippines. Specifically, it aims to: 1. Determine the state-of-the-art of the tunnel vent technology in the Philippines and abroad; 2. Document the extent of adoption of tunnel vent technology in the Philippines including practices of the industry and the current innovations; 3. Determine the effect of the technology in the technical performance and efficiency of swine and poultry production; 4. Assess the financial viability of the tunnel vent technology in swine and poultry production; 5. Estimate the environmental benefits and costs associated with the tunnel vent technology; and 6. Determine the prospects for a more widespread use of the technology in the Philippines	Year 1 1. State-of-the-art analysis on the existing tunnel vent technology in the Philippines as benchmark with abroad in terms of designs, costing, customization, adoption, etc.; 2. Knowledge on the technical and environmental performance of tunnel vent technology in the swine and poultry sectors, along with policy recommendation; Year 2 1. Knowledge on the financial and economic efficiency of tunnel vent technology in the swine and poultry sectors, along with poliy recommendations; 2. Synthesis of the prospects and policy needs and direction on tunnel vent technology utilization in the Philippines to allow maximization and cost-savings. 3. At least 2 journal articles for publication in ISI journals.	UPLB	Swine and Poultry industry operators in the Philippines Government regulators such as Department of Agriculture (DA) and the Department of Environment and Natural 5 Resources (DENR)	01-Jan-16	31-Dec-17	ONGOING	4,941,608	2,148,047
	Assessing the Impacts of Selected Projects under the ITP Program for Forestry Development in Caraga Region	Transparent, accountable, and participatory governance	1. Document and validate the reports of accomplishments of the projects in their respective areas 2. Assess the performance of the projects towards their set goals for the forestry sector 3. Determine the environmental social and economic impacts of the projects 4. Recommend measures with the performance of the projects that can be harnessed to secure sustainability with respect to said goals for the forestry sector of CARAGA Region	a. Documentation of the activities from the conceptualization and implementation of the program; b. Documentation of the inputs, outputs, and outcomes of the program; c. Documentation of the impact pathway and level of adoption; d. Data on adoption rate or growth rates in the number of adopters per year; e. Measurement of the program's economic, social, and environmental impacts; f. Estimation of the economic returns from project investments; and g. Policy recommendations for the enhancement of the adoption of technology generated to further develop the ITP industry	CarSU	The beneficiaries of the program would include (a) policy and decision makers, national R&D/S&T system and the funding agencies supporting R&D activities; and (b) researchers who are directly involved in technology transfer/extension and economic evaluation.	15-Sep-17	14-Sep-18	NEW	1,596,150	1,596,150
	Assessing the Implications of Various Resource Use and Management Options in Laguna de Bay	Transparent, accountable, and participatory governance	This project seeks to asess the implications of various resource management options for Laguna Lake.	1. Comprehensive and in-depth understanding of the livelihood systems and level of dependency of communities on the Lake; 2. Implications of various resource use and management options determined; 3. Importance of aquaculture activities and efficency of operations determined; 4. Set of specific policy recommendations	UPLB	Local fisher folks, LLDA, DENR, aquaculture industry	01-Nov-17	31-Oct-18	NEW	3,291,648	3,291,648
	Assessment of the Growth and Yield Performance of Rubber Planted in Non-Traditional Areas of the Philippines	Rapid, inclusive and sustained economic growth	To document the growth and yield performance of rubber grown in non-traditional areas in support to the envisioned rubber development and expansion initiatives of the Philippine Rubber Industry Roadmap	Publications (No. of papers published/peer reviewed and IEC materials, citations) information bulletin on the (1); manuscript for publication to ISI/Scopusindexed journal (1); Technical papers presented in scientific conference (2); Manual/GAP production guide for rubber in NTAs (1) People services (# of MS and PhD graduated, # of trained personnel, value of public service contributed) Involvement of Project Staff as exposure and experience in the conduct a collaborative of the study : 1 PhD/MS (with experience on rubber research) 4 MS/Trained personnel (project staff) 2 BS Agriculture (with experience on rubber research) Places and Partnership (MOA/MOU signed) MOAs/MOUs re Collaboration with DA-RFOs in Regions 2, 4A/B; NIR; VII; LGUs and rubber farmers/owners; Policies Advocacy on the recommended GAP (including recommended clones, etc) for rubber planted in the NTAs. Policy incentives to farmers to invest in rubber farms establishment in non-traditional areas	DA-RFO 9 ZAMPIARC	Rubber stakeholders, research institutions	01-Oct-17	30-Sep-19	NEW	4,647,401	2,544,344

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Assessment of the Impacts of the National Research and Development Program on Organic Vegetables	Transparent, accountable, and participatory governance	The project aims to determine the economic, social and environmental impacts of the National R&D on Organic Vegetables on the various stakeholders involved in the production of organic vegetable seeds, fertilizers and pesticides and fresh organic vegetables in the Philippines	1. Documentation of the program outcomes and social, economic and environmental impacts 2. Policy recommendations in relation to development, evaluation and promotion of organic vegetable production; 3. Paper for publication	UPLB	1. Policy and design makers, national R&D/S&T system and the funding agencies supporting R&D activities; 2. Researchers who are directly involved in technology generation as those whose filed of study included technology assessment 3. Evaluators of R&D programs	01-Sep-17	30-Nov-18	NEW	3,861,988	3,861,988
	Bamboo Grove Establishment for Climate Change Resiliency on Quinali "A" Sub-watershed in the Province of Albay	Rapid, inclusive and sustained economic growth	The general objective of the project is to rehabilitate the vulnerable segments of the Quinali "A" Sub-Watershed through the SAFE project. Specific objectives 1. To reassess the vulnerable river/streams banks; 2. To mobilize the LGUs, DENR and DA, that are the direct stakeholders of the Quinali "A" Sub-Watershed for the rehabilitation activities; 3. To produce bamboo seedlings and other appropriate planting materials for stabilizing the river/stream banks; 4. To establish the bamboo grooves and ensure its maintenance beyond the project; 5. To merge an alliance of stakeholders for policy directions towards sustainability of the project. 6. To produce IEC materials as part of an awareness and advocacy campaign.	YEAR ONE: 1. Reassessment of the river vulnerable river/streams banks; producing maps and proper documentation; 2. MOAs forged between and among concerned stakeholders; 3. Action plans of the respective LGUs, including policy drafts; 4. One bamboo nursery established at BUCAF site, with 27,500 QPMs and 25,000 potted vetiver grass; 5. 100 bamboo grooves established, protected and maintained; 6. IEC materials published and distributed. YEAR TWO: 1. Municipal ordinances to directly support the project; 2. 4-6 additional bamboo nurseries established at LGU sites; 3. 100 bamboo grooves established, protected and maintained; 4. IEC materials published and distributed; YEAR THREE: 1. 1-2 additional bamboo nurseries established at other LGU sites; 2. Additional 100 km bamboo grooves established, protected and maintained… for a total of 210 km; 3. Project sustainability and development plan prepared; and IEC materials published and distributed.	BUCAF	The target beneficiaries of the project are basically the stakeholders of the six LGUs that have their respective jurisdiction of the Quinali A sub-watershed, namely, the municipalities of Camalig, Guinobatan, Oas, Polangui, Libon and the City of Ligao. In totality, the Quinali A sub-watershed has about 330 kilometers stretch of rivers including its streams and creeks.	01-Oct-16	30-Sep-19	ONGOING	5,870,013	2,074,331
	Biological Control of Invasive Pests of Coconut Using Predatory Black Earwig, Chelisoches morio (Fabr.) (Chelisochidae, Dermaptera) in S&T Community-Based Farm in Nagcarlan, Laguna	Rapid, inclusive and sustained economic growth	General: To showcase the effectiveness of S&T interventions in increasing the productivity and income of farmers in Nagcarlan, Laguna. Specific: 1. to upscale adoption of the recommended technologies such as the use of biological control agent, e.g. C. morio , through the STCBF modality 2. to enhance active participation and empower the community particularly the LGUs and local organizations in promoting the application and use of BCAs like C. morio 3. to encourage coconut growers to mass rear /produce BCAs (e.g. C . m o rio) in their farm to promote sustainability of the project. 4. to develop appreciation and sustain interest of coconut farmers on the use of BCAs such as C . m o rio to manage CBM and CLB. 5. to establish baseline data to measure improvement in farm productivity due to application of S&T interventions	1. Control of CBM and CLB on coconut by BCAs (e.g. C. m orio) 2. Active and empowered 30 coconut growers in Nagcarlan, Laguna 3. 30 rearing sets-up in coconut farms in Barangay Lawaguin, Nagcarlan, Laguna 4. Proper monitoring of CBM and CLB, release of BCAs (e.g. C. morio) and evaluation of released predator adopted by farmer respondents 5.Baseline data generated as bases for the improvement in farm productivity and income of coconut growers 6. IEC Materials (1 training module , 1 handbook/manual, 3 leaflets, 3 posters, 1 scientific paper) 7. Process documentation of project implementation, e.g. infestation of CBM and CLB and recovery of coconut palm-trees due to C. morio using audiovisual technology	UPLB	30 coconut farmers in Barangay Lawaguin, Nagcarlan, Laguna	16-Jan-16	15-Jan-17	ONGOING	4,086,624	1,886,365
	Biological Control Potential of Bacteriophages for Soft Rot Disease of High Value Vegetable Crops in the Philippines (old title: Bacteriophage-mediated Management Approach for Soft-rot Disease of High Value Crops in the Philippines)	Rapid, inclusive and sustained economic growth	The main objective of this project is to explore the potential of bacteriophages as biological control agents for soft rot disease of high value vegetable crops from various growing environments in the Philippines. The proposed research aims to: i) assess the diversity of soft-rot causing bacterial strains and their associated phages, ii) determine the lytic activity of these associated phages against a spectrum of soft rot associated enterobacteriaceae, and iii) iii) assess the bio efficacy of the isolated bacteriophages in greenhouse and confined plots	1. At least two (2) publications in ISI-indexed journal 2. Baseline data on the diversity of bacterial pathogens associated with soft rot of high value vegetables in the Philippines 3. Baseline data on the diversity and specificity of bacteriophages associated with soft rot Enterobacteriaceae in the Philippines 4. Trained manpower in the form of students BS (2 BS Agriculture – Plant Pathology, 2 BS Agricultural Biotechnology, 2 BS Biology – Microbiology) and 2 MS (Plant Pathology, Microbiology) and their thesis research supported by the project 5. Upgraded 1 laboratory for teaching, research and extension through equipment acquisition and research collaborations	UPLB	Researchers will benefit from the generated scientific information about the potential of bacteriophages as bio-control agent against soft rot diseases of high value vegetables in the Philippines Government extension agencies (DA, SUCs) will benefit from the gained scientific information for the management of soft rot diseases in vegetables Students and government agencies will benefit from the trained manpower that will be one of the outputs of this project.	01-Aug-17	31-Jul-19	NEW	4,999,478	3,141,451
	Biological Interventions in Coconut Scale Insect (CSI) Calamity Areas in Basilan, ARMM	Poverty reduction and empowerment of the poor and vulnerable	To provide biological control measures to rehabilitate the coconut areas infested by CSI for continuous productivity and income despite the losses brought by the infestations.	People and Services: a. 1,00 coconut farmers and 10 LGU personnel trained b. 10 trainings conducted c. 5 Biocon laboratory rooms – 2 for Parasitoids and 3 for the Predator Biocon lab with 6 external net cages Partnerships: 3 SUCs, 2 Line Agencies & 5 LGUs Policy: 1 Provincial Resolution on the application of CSI Control Protocol Products: a. 80,000 Parasitoids Harvested Per Year (Minimum of 2 harvests per year @ 40,000 Parasitoids per harvest) b. 180,000 Predators Harvested Per Year (Minimum of 2 harvests per year @ 90,000 Predators per harvest) Publication: 4,000 copies of IEC materials produced & disseminated (2 Titles @ 2,000 copies per title) Patents: 1 patent on BCA technology on Pinoso (Assisted BCA)	MSU-Maguindanao	farmers	01-Apr-17	31-Mar-18	NEW	5,000,000	5,000,000
	Capability Building on Tapping and Use of Appropriate Coagulant for Improved Rubber Latex Yield	Rapid, inclusive and sustained economic growth	General: To optimize productivity of rubber latex harvest and cup lump yield through capability building of 500 farmers and 70 LGU technicians/extensionists from the 5 major rubber-producing provinces of the Philippines. Specific: 1) To provide trainers' training to 70 trainer-tappers from the 7 major rubber producing provinces of the Philippines. 2) To train additional 500 competent farmer-tappers from the 7 major rubber producing provinces of the Philippines for two years. 3) To develop printed IEC materials on the documented best practices of rubber latex harvesting, coagulation and handling.	Year 1 ⁉ 300 additional tappers (230 farmer-tappers and 70 trainer-tappers) from Zamboanga Sibugay, Agusan del Sur, North Cotabato, Zamboanga del Norte, Basilan, Bukidnon and Laguna, trained at a maximum of 30 participants per training in 11 training sessions Year 2 ⁉ 270 additional farmer-tappers from Zamboanga Sibugay, Basilan and Laguna, trained at a maximum of 30 participants per training in 7 training sessions ⁉ Print IEC materials on best practices rubber latex harvesting, coagulation and handling in English, Filipino, Ilongo and Cebuano at 1,000 copies per version	FPRDI	About 570 households from the 7 top rubber-producing provinces in the Philippines	01-Apr-17	31-Mar-19	NEW	7,613,331	3,040,748
	Capacity Building for Reef Assessment and Coral Taxonomy (Old Title: Training on Reef Assessments and Coral Taxonomy (TRACT))	Rapid, inclusive and sustained economic growth	1. Provide training and capacity building on coral taxonomy and the conduct of full reef assessments and monitoring methods; 2. Update and upgrade the existing reference collections (for specimens of coral skeletons) 3. Complete the Red List of Philippine corals for the implementation of relevant provisions under RA 10654.	1. Training modules 2. Updated Coenomap website 3. Electronic field guides on 9 families 4. Refined Coenomap website 5. Refines survey manual and protocol booklet for reef assessments 6. Posters 7. Survey manual and protocol booklet for reef assessments 8. Red list of Philippine corals and an identification guide for these species	DLSU	Beneficiaries include primarily those involved in assessments and monitoring of coral reefs most especially those in LGUs who have coral reef related work.	01-Oct-17	30-Sep-19	NEW	4,999,555	2,645,847
	CEPA (Communication, Education and Public Awareness) and policy review towards improving coastal erosion management in the Philippines	Integrity of the environment and climate change adaptation and mitigation	1. To promote awareness of various stakeholders on the problem of coastal erosion; 2. To enhance knowledge, awareness and capacity for coastal erosion management through the development of appropriate communication, education and public awareness materials for specific target audiences; 3. To review existing policies related to coastal erosion; and, 4. To identify policy gaps and recommend new policies for coastal erosion management	End of the project Outputs • CEPA materials (leaflets, posters, modular primers, teaching materials) • Capacitated tertiary teachers (members of the PCAARRD Consortia and other SUCs) • Policy recommendations for coastal management that PCAARRD can advocate before a legislative body Year 1 • Webpage • Policy Review • Training • Pre-tested CEPA materials Year 2 • Final drafts of CEPA materials • Finalized website • Policy recommendations	UPD	Tertiary teachers and students, NGAs, LGUs, DRRRM practitioners, stakeholders, coastal residents, PCAARRD	15-Sep-16	14-Sep-18	ONGOING	4,999,357	1,464,896
	Coconut-Based Intercropping with Banana and Corn as Livelihood Options for Communities in Brgy Camansihay, Tacloban, Leyte: An S&T Community-Based Farm (STCBF) Approach	Rapid, inclusive and sustained economic growth	General: To improve the socio-economic conditions of the typhoonaffected upland communities of Barangay Camansihay, Tacloban Leyte through adoption of diversified coconutbased farming systems and livelihood options Specific objectives: a) To increase income of the upland communities of Barangay Camansihay; b) To promote adoption of coconut-based diversified livelihood options farming system to increase income; c) To enhance capabilities of the communities through skills training and cross visits; and d) To develop appreciation and sustain interest of communities to engage in community-based diversified farming systems	⁉ At least 78 farmers trained on coconut-based diversified farming technologies; ⁉ Established 1 coconut nursery producing about 4,000 quality coconut seedling to cater to around 35-40 hectares of coconut farms in Eastern Visayas; ⁉ Established a small scale communal organic fertilizers/vermicast facility; ⁉ Around 15 hectares rehabilitated using the coconut-based farming systems (coconut+banana and coconut+corn); and ⁉ Increased income among coconut farmers by 20%-50% from coconutbased livelihood options.	VSU	Around 78 Farmer Members of the Camansihay Farmers' Association	04-Jan-16	03-Jan-19	ONGOING	2,845,634	941,865

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Creating an Enabling Environment for a Vibrant Philippine Bamboo Industry: Addressing Policy Constraints and Information Needs	Rapid, inclusive and sustained economic growth	a) Identify all relevant policies affecting bamboo and analyze their intent/content; b) Examine the existing gaps and challenges faced in the implementation of the policies at various levels along the supply chain; c) Develop policy recommendation(s) to address the identified gaps and challenges; d) Evaluate the viability of the proposed policy recommendation(s) by undertaking benefit cost analysis and including the assessment of carbon footprint; e) Advocate the proposed new policy on bamboo to policy makers and stakeholders; and f) Develop a framework for an appropriate IT-supported bamboo data collection and dissemination system.	Policies: policy (subject to review by stakeholders) and submitted to DENR/Congress Publications: 3 manuscripts for publication in peer-reviewed journal, terminal report, 2 IEC materials distributed Products: framework for database/IT-system on bamboo People and Services: Staff trained in best benefit-cost analysis Places and Partnership: Conduct of 1 regional and 1 national consultation meeting/FGD	UPLB	Bamboo farmers, manufacturers, policy makers, consumers, exporters	01-Jun-17	30-Nov-18	NEW	4,995,545	4,995,545
	Current Status and Resilience of Coral Reefs in Lagonoy Gulf, Eastern Bicol	Integrity of the environment and climate change adaptation and mitigation	The general objective of this project is to assess the current status and resilience of coral reefs taking note of the three key functional groups (herbivores, algae, and corals) and two environmental variables (habitat complexity and water depth) that are noteworthy in light of recovery potential (resilience) of coral reefs against future disturbances and the socio-economics characteristics in each study sites. The specific objectives are to conduct: 1. Quantitative assessment on the three key functional groups, herbivores (fishes, sea urchins and gastropods), algae (macro and filamentous algae), and reef-building corals (adults and juveniles) at 10 selected reef sites in Bicol region. 2. Comparative assessment of the three key functional groups inside and outside MPAs to evaluate the role of MPAs and coral reef resilience in six selected MPAs in Bicol region. 3. Describe the socio-economic characteristics in the study sites and determine its influence on the overall resiliency of the coastal ecosystem.	Products ⍰ IEC on coral reef resiliency ⍰ Maps and databases Publication ⍰ 2-3 research paper in ISI or peer reviewed journal ⍰ Submission of Abstract and presentation in two (2) prestigious International Coral Symposium o Asia Pacific Coral Reef Symposium on June 2018 at Cebu City, Philippines. o International Coral Reef Symposium on June 2020 at Bremen Germany ⍰ At least 2-3 National conference presentation o PAMS o NRS o FIMFS Patents ⍰ At least 5 copyrights on Maps and IEC materials produced People Services ⍰ 4 University personnel trained on reef assessment methodologies, data processing and analyses especially in relation to reef resiliency. ⍰ 1 seminar-workshop organized (at least 50 participants) for LGUs and CRM practitioners on reef resilience and establishment of MPA. Places and Partnerships ⍰ 10 – MOA (between Bicol University and the 10 Municipalities covered in this study). ⍰ Partnership and collaboration with Partido State University (PArSU) in Camarines Sur, Catanduanes State University (CatSU) and Bicol University Policy ⍰ Development of Management Plan on coral reef resiliency and establishment of MPA.	BU	Regulatory Bodies such as BFAR and DENR, LGU's of 9 municipalities and 1 city and Researchers and Academicians of Partido State University (PArSU) in Camarines Sur; Catanduanes State University (CatSU) and Bicol University	01-Oct-17	30-Sep-20	NEW	4,989,572	2,605,832
	Deployment and Validation of SARAI Technologies and Systems	Integrity of the environment and climate change adaptation and mitigation	General: To deploy SARAI-developed technologies to a select group of farming communities and validate the acceptability and sustainability of these technologies. Specific: 1. To assess the target clients' readiness, capability, and resources for the technology/systems adoption; 2. To deploy SARAI Systems and Technologies to 3 provinces in Luzon; and 3. To monitor the implementation/acceptability/adoption of the technologies and systems through collection of feedback from validation activities.	Deployed and validated SARAI technologies/systems (SEAMS, WAISS +CSMS, Knowledge Portal and mobile apps) Capacitated LGUs and DOST Regional Offices on SARAI technologies/systems Number of trained technicians: at least 39 LGU: 27 (9 MAO, 18 AgTechs) SUC: 6 Others: 6 Updated soil moisture monitoring database Updated maps (land classification maps, production areas, damage monitoring maps) MAIZE Nutrient Expert: Number of farmers provided sit-specific recommendations; number of farmers utilizing the recommendation; increased productivity of those farmers Information on: 1. Stakeholders profile 2. Feedback and suggestions from the deployment activities 3. Feedback and suggestions from the validation activities Guide for improving and fine-tuning of the existing SARAI technologies/systems	UPLB	PCAARRD Regional Consortia, Regional Agricultural Officers, Municipal Agricultural Officers, Farming Communities and Academe	01-Nov-16	30-Apr-18	ONGOING	5,000,000	3,174,190
	Design and Development of a Programmable Dehydrator Machine for Herbal Tea Materials	Rapid, inclusive and sustained economic growth	General The project aims to design and develop a programmable dehydrator machine for herbal tea materials powered by solar energy with electric power back-up Specific • Determine the effect of the drying method presently used by local tea producers on the ideal chemical markers (ideal chemical markers include bioactive compounds with therapeutic effects e.g. alkaloids, flavonoids, saponins, and tannins) present on the herbal tea raw materials; • Design and develop a programmable dehydrator machine for herbal tea materials; • Evaluate the performance of the programmable dehydrator machine for herbal tea materials; and • Determine the organoleptic, physicochemical and microbiological characteristics of the finished products.	The expected output for this project will be a dehydrator machine prototype designed for herbal tea drying which can be electric or solar powered. In the absence of solar radiation, the drying process can still be possible using the available electric power. Embodied in this dryer is a programmable circuit system to control and monitor the temperature and humidity of the drying system.	ISTU	The developed dehydrating machine will be utilized by the local tea producers of Ilocos specifically the Ephrathah Farms (EF). The EF will be used as model for other entity engage in similar works wherein they can do bench marking on the dehydrator machine powered by electric and solar energy.	01-Oct-17	30-Sep-19	NEW	4,983,905	2,924,802
	Developing the DOST-PCAARRD Innovation and Technology Center e-Library (DPITC e-Library)	Rapid, inclusive and sustained economic growth	Generally the project aims to: 1. Make DOST-PCAARRD the pioneering partner agency of DOST-STII on transforming traditional libraries into e-library/digital library in the DOST system; 2. To equip DOST-PCAARRD with customized digital tools and knowhow on library resource management in establishing an operational DPITEC E-library. Specific objectives: 1. Customize the current modules of the SciNET Integrated Library Management System (SLIMS) of DOST-STII into Science Library Integrated Management System (SLIMS). 2. Set-up DOST-PCAARRD's digital library database using the customized SLIMS. 3. Capacitate DPIT E-library personnel on the administration and utilization of the customized SLIMS. 4. Train DPITC E-library personnel on digitization process and technologies. 5. Establish digital archives for DPITC E-library. 6. Capacitate DPITC E-library personnel on the standardized classification and cataloging library resources and content build-up to enable resource sharing and networking with other libraries in the DOST system. 7. Assess the technical and personnel library resources of DOSTPCAARRD regional consortium for potential deployment and implementation of SLIMS in their libraries in the future.	Year 1 ⍰ Requirements Evaluation Report ⍰ Template Design ⍰ Database structure ⍰ Systems Design ⍰ Training on RDA and other library classification and cataloguing standards Year 2 ⍰ A fully functional SLIMS website with customized modules for DPITC E-library. ⍰ Established DPITC E-library digital database. ⍰ Equipped DPITC E-library staff who will manage and administer the digital assets and access of the e-library. ⍰ Digitized library resources for data banking and archiving. ⍰ Library technical and personnel evaluation report of DOSTPCAARRD regional consortium. ⍰ Installed STARBOOKS with special content on Agriculture, Aquatic Natural Resources (AANR) resources at the DPITC E-Library. ⍰ Monitoring and evaluation process of the SLIMS using the System Requirements Specification (SRS), System Design Specification (SDS) and User's Manual.	STII	The project benefits all who have a stake and interest in the AANR sector (including students and the general public) but would be more relevant and appropriate for those working and involved in the sectors such as researchers, R&D administrators, policy makers (executive and legislative).	01-Oct-17	31-Mar-19	NEW	7,483,104	5,249,245
	Development and application of synbiotic-enriched fish feeds for imprved production performance of milkfish (Chanos chanos) towards sustainable aquaculture and food security	Rapid, inclusive and sustained economic growth	The proposed project aims to produce synbiotic products and assess their potential to improve the general health, immune status, and growth performance of milkfish when supplemented in feeds. Specifically, this study aims to: 1. Obtain and characterize pure culture isolates of endogenous gut bacteria in milkfish; 2. Produce sufficient amounts of probiotics (in liquid/ cell mass form) for use in feeding trials; 3. Screen the potential of locally-available aquatic plants (i.e., azolla and duckweed) for high-quality prebiotics through in vitro evaluation of biochemical activity and properties; 4. Produce sufficient amounts of prebiotic materials for in vivo experiments/ feeding trials; 5. Conduct in vivo assessment of synbiotic products that could best improve growth, survival, immune status, and disease tolerance of milkfish; and 6. Reassess gut microbiota, enzyme activity in fish digestive tract, and digestability parameter tests to elucidate the biological activity of the synbiotic products in vivo.	Proto-type synbiotic products will be made available for further evaluation and scientific reports on growth and health response of milkfish fed with synbiotic-enriched feeds.	LSPU	Beneficiaries would include the aquaculture industry in general, and specifically, thesmall-scale milkfish cage operators	01-Jul-16	30-Jun-18	ONGOING	4,000,000	949,048
	Development and Use of Nanobiopesticide for the Control of Fusarium Wilt on High Value Crops	Rapid, inclusive and sustained economic growth	General: To develop a nanobiopesticide using metabolite/s from plant growthpromoting bacteria (PGPB) against Fusarium sp. for the production of banana, tomato and cucumber. Specific: 1. To formulate and characterize a polymer-based nanobiopesticide for Fusarium sp.; 2. To determine the efficacy and effectiveness of the formulated nanobiopesticide on different high value crops; 3. To optimize the formulation of nanobiopesticide using tomato, cucumber and banana as test crops; 4. To evaluate the toxicological effects of nanobiopesticide; 5. To determine the financial viability on the production and utilization of nanobiopesticide; and 6. To apply for patent protection of nanobiopesticide	Product: ⍰ Formulated nanobiopesticide for Fusarium wilt control ⍰ Application protocol of optimized nanobiopesticide formulation Patent: ⍰ IP application of developed nanobiopesticide People Services: ⍰ One trained personnel in nanotechnology through training at SIUCarbondale; 10 farmer-cooperators trained Publication: ⍰ At least two (2) publications submitted to refereed journals ⍰ Three brochures/ flyers (Utilization of nanobiopesticide for the control of Fusarium Wilt on tomato, cucumber and banana) Places and Partnerships: ⍰ Collaboration with UPLB-IPB, SIU-Carbondale, Lapanday Foods Corp. and farmers' group/s	UPLB	⍰ Farmers, researchers, students	01-Dec-17	30-Nov-19	NEW	5,000,000	3,535,934

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Development of a Comprehensive Mechanization Resource Mapping, Monitoring and Data Anlysis System (M3DAS) for Planning, Implementation and Policy Data Generation for Government Departments and LGUs	Rapid, inclusive and sustained economic growth	1. Develop a data capture system that will collect and consolidate relevant geo-tagged mechanization resource data for major crps in select regions of the country using appropriate software; 2. Develop a GIS based database analysis system that will allow storing, updating and adding of relevnt geo-coded data from the field that can be deployed in regional , provincial or LGUs; 3. Develop general methodologies that will alow geo-spatial analysis and mapping that eill aid in the monitoring of key mechanization indicators and provide strategic information for future mechanization interventions; 4. Determine key strategic policy information on the use, maintenance, monitoring and deployment of needed mechanization resources in the region to further boost productivity of major crops	1. Data capture system using appropriate software; 2. Data base system of key mechanization resources; 3. Scalable and expandable GIS system for mapping, analysis and forecasting; 4. Prototype system that can be deployed nationwide	UPLB	Government Planners, LGUs, SUCs	01-Jun-17	31-May-18	NEW	5,000,000	5,000,000
	Development of a Dry Format RT-Lamp and Test Kits for Classical Swine Fever Virus (CSFV) and Porcine Reproductive and Respiratory Syndrome Virus (PRRSV)	Rapid, inclusive and sustained economic growth	To formulate a dry format RT-LAMP protocols for CSFV and PRRS that could differentiate infected from vaccinated animals.	1. Information/knowledge on the genetic strain of CSF and PRRS virus field strain and the viruses used in the current vaccination of CSF and PRRS. 2. Developed the CSFV and PRRSV RT-LAMP dry format protocols 3. Validated CSFV and PRRSV RT-LAMP protocols 4. CSFV and PRRSV RT-LAMP test kits for easy handling and applied for IPR. 5. At least 3 paper presentations and 2 peer reviewed journal publications	CLSU	1. RADDLs, SUCs and PVOs 2. Selected private animal disease diagnostic laboratories 3. Quarantine officers of the government 4. Pig raisers that have access to international trade on export market	01-Jan-17	31-Dec-18	NEW	3,551,929	2,151,097
	Development of a Drying system for Seaweeds	Rapid, inclusive and sustained economic growth	The general objective of the project is to assist seaweed farmers whose livelihood were greatly affected by the recent typhoons by developing an appropriate drying system for a more efficient and fast drying of seaweeds. The said technology that will be developed will be suitable for village-level scale.	1 Prototype dryer design for seaweeds 2 Demonstration facility for drying seaweeds 3 Scientific publication and other IEC materials	UPLB	The main beneficiaries of the project will be the small to medium-scale farmers and farmers' groups that lack the technology to properly process and dry seaweeds. The project is expected to raise the quality of raw dried seaweeds to a level that can command better price, as well as reducing production losses and will improve income of seaweed farmers.	01-Sep-15	31-Dec-17	ONGOING	3,462,090	293,859
	Development of Decision Support System for Enhancing Climate Change Resiliency of Smallholder Upland Farmers in Selected Communities in CALABARZON, Philippines	Rapid, inclusive and sustained economic growth	The main objective of this project is to develop a decision support system that will lead towards building climateresilient farming communities in CALABARZON. Specifically, the project aims to: 1) Assess biophysical and socioeconomic characteristics of the selected watershed areas in CALABARZON; 2) Develop a GIS-based agroforestry land capability mapping scheme (ALCAMS); 3) Determine potential impacts of climate change on land capability distribution; 4) Enhance technical capabilities of selected LGUs in climate proofing of GIS-based ALCAMS 5) Recommend adaptation strategies to farming communities for higher climate change-resiliency	- Baseline Information on biophysical and socio-economic characteristics - GIS-based land capability maps - Validated land capability maps - GIS-based land capability maps with climate change scenario Turn-over (i.e. gain and loss) Maps of land capability - Capacitated members of selected LGUs and local community in climate proofing - Publishable research outputs	UPLB	The beneficiaries of this Research and Development activity will include the following: 1) National Agencies and Local Government Units (LGUs) – results of the project can serve as zoning of land uses for better planning 2) Residents of Target study sites (i.e. Smallholder Upland Farmers) – well informed community for enhance resiliency 3) Policy Makers and Decision Makers – results of the project can serve as zoning of land uses for better planning 4) Private institutions and individuals – results of the project can serve as basis for future investments 5) Academe and other scientific/research institutions – results of the project can serve as basis/reference for conducting similar research in other sites	01-Feb-17	31-Jan-20	NEW	4,980,220	2,531,802
	Development of Green Packaging Technology Using Eco-Friendly Materials for Rice and other Commodities	Rapid, inclusive and sustained economic growth	General: To identify organic raw materials and develop a process of converting raw materials to produce an eco-friendly material for "green" packaging of rice and other food commodities. Specific: 1) To identify raw materials to be used for organic packaging based on: a. abundance/availability b. material characteristics 2) To develop a process of converting raw materials for packaging that would result to: a. longer preservation of rice products b. reduction of health hazard chemicals to prevent food contamination c. cost effective and reduction of carbon footprints 3) To develop a strong, durable and moisture resistant	Year 1: Established process of converting eco-friendly raw materials into green packaging technology. Year 2: Produced a strong durable and moisture resistant organic packaging paper	ISTU	Organic/Specialty rice Farmers (e.g. ZIDOFA), ISAT U, Inventors, Researchers and consumers	01-Oct-17	30-Sep-19	NEW	4,929,172	2,653,148
	Development of Micro-propagation Protocol for Four Economically Important Bamboo Species in the Philippines	Rapid, inclusive and sustained economic growth	This project generally aims to develop an efficient, reliable and cost effective in vitro micro-propagation protocol for mass propagation of four economically important bamboo species in the country. Specifically, it aims to: 1. To determine most suitable sterilization procedure for each bamboo species. 2. To determine most appropriate culture media/hormonal combination for explant establishment and shoot proliferation for each bamboo species. 3. To determine most effective hormonal combination/culture media for rooting each bamboo species. 4. To determine most suitable acclimatization procedure for better survival of plantlets for each bamboo species when transferred to ex vitro conditions. 5. To determine the impact of different fertilizers on the growth performance of the tissue-cultured plants under natural conditions. 6. To determine the cost of producing bamboo using tissue culture.	1 Micropropagation protocol developed for the four economically important bamboo species. 1 Sterilization procedure developed for each bamboo species. 3 Culture media capable of generating maximum number of shoots per explant per subculture cycle per year for each bamboo species. 1 Culture media capable of generating maximum number of roots per explant per subculture cycle per year for each bamboo species. 1 Acclimatization procedure developed to establish seedlings capable of surviving in the field for each bamboo species. 1 Most appropriate fertilizer for optimum growth of tissue-cultured plants under natural conditions and field performance of tissucultured bamboo and their genetic stability. 1 Cost of producing tissue culture plantlet, nursery grown plantlets and cost of field outplanting and maintenance for each bamboo species.	ERDB	1. Bamboo Farmers – Provision of quality planting materials at low cost 2. Bamboo Industries – Provision of adequate supply of raw materials 3. Researchers – Provision of information on tissue culture of the 4 bamboos	01-Nov-16	31-Oct-19	ONGOING	4,664,165	424,511
	Development of Multiple Strains of Plant Growth Promoting Rhizobacteria-based Biofertilizer for Sustainable Lowland Rice Production	Rapid, inclusive and sustained economic growth	The project will utilize biochemical and molecular biology techniques for profiling the soil microbial community diversity and for selecting the most competent PGPR strains that may be combined with organic and inorganic fertilizers. To develop multiple strains of PGPR-based biofertilizer for sustainable rice production and soil fertility in line with integrated plant nutrition management strategies in lowland ecosystem,	1. Developed multi-strain biofertilizer for lowland rice in Central Luzon 2. Decreased fertilizer usage by 25-35% 3. Recommended method and rate of application of developed biofertilizer 4. Quantified economic benefits of using the multi-strain biofertilizer technology 5. Trained 15 farmers on the developed biofertilizer technology 6. 1 publishable technical paper	PhilRice	Irrigated lowland rice farmers; biofertilizer producers; researchers and student; government agencies and academic institutions	01-Oct-16	30-Jun-19	ONGOING	4,999,706	912,680
	Development of Philippine Native Chicken and Itik Pinas Breed Information System	Rapid, inclusive and sustained economic growth	Develop a web-based native chicken (Darag, Boholano, Camarines, and ZamPen) and layer duck (IP Itim, IP Khaki, and IP Kayumanggi) genetic groups information system that would be available to all stakeholders.	Searchable online database containing baseline information on the overall flock performance of Darag, Boholano, Camarines, and ZamPen native chickens, and IP Itim and IP khaki layer ducks.	UPLB	1 Native chicken/layer duck breeders and raisers 1 Entrepreneurs 1 Academe/Researchers 1 Students 1 Policy makers	01-Jan-17	31-Dec-18	NEW	4,999,075	3,271,175
	Development of Philippine Native Pig Breed Information System	Rapid, inclusive and sustained economic growth	The project aims to develop a web-based information system on Philippine native pigs accessible to Philippine native pig stakeholders	• Standardized data collection and submission • Online database containing information on physical characteristics and overall herd performance of native pigs from Kalinga, Benguet, Isabela, Nueva Vizcaya, Marinduque, Bondoc Peninsula, and Samar • At least 1 scientific paper publication • Presentation of findings in scientific conference	UPLB	• institutional farms/collaborator farms • policy makers • community development practitioners • researchers • livestock keepers/small hold farmers • entrepreneurs	01-Apr-17	31-Mar-19	NEW	4,999,958	2,705,478
	Development of Philippine Penaeus vannamei Broodstock Selected for Enhanced Growth and White Spot Syndrome Virus (WSSV) Resistance	Rapid, inclusive and sustained economic growth	The project aims to produce our own Philippine broodstock of Penaeus vannamei to sustain its production. It will also help ease the procurement of broodstock in the country.	1. Culture of 4 foundation families of P. vannamei from North America established in the Philippines; 2. Optimized broodstokc rearing, breeding, and hatchery protocols for P. vannamei in the Philippines developed; 3. P. vannamei broodstocks exhibiting traits if better growth performance and enhanced resistance against WSSV, produced for distribution to shrimp hatchery operators in the Philippines	UPV	Various sectors of the shrimp industry such as shrimp growers and hatchery operators	01-Jul-17	30-Jun-18	NEW	5,000,000	5,000,000
	Development of Strategies for propagules and Shoot Production of Three Bamboo Species in Pampanga	Rapid, inclusive and sustained economic growth	This project generally aims to develop strategies and establish baseline information for propagules and bamboo shoot production. Through this project, it is expected to haveenough supply of bamboo planting materialsanda year-round supply of bamboo shoots in Magalang and nearby areas. Specifically, it aims to: 1. Determine the best method of propagating bamboo propagules; 2. Increase survival rate of propagules from 50% to 70%; 3. Develop a suitable thinning regime for shoot production; 4. Determine suitable irrigation method for shoot production during the dry season; 5. Increase bamboo shoot production of kawayantinik (BambusabluemeanaSchultes) from 6-7 edible shoots per clump in a year (Virtucio and Roxas, 2003) to about 10 shoots per clump per year; 6. Determine the best storage material and practices to prolong the shelf life of bamboo shoots prior to processing; and 7. Determine the cost of improving propagule survival rate and in DC Meeting, June 21 2016 improving shoot production as well as producing shoots offseason	1 Identified the best method of propagating propagules 1 Improved survival rate by 50 to 70% 1 Determined the most appropriate method of irrigation for shoot production 1 Identified the suitable thinning regime for shoot production 1 Increased the bamboo shoot production from 6-7 shoots per clump per year to 10 shoots per clump per year 1 Identified the best material and method to prolong the shelf life of newly harvested bamboo shoots 1 Produced IEC materials (1,000 copies) on propagules propagation, thinning and water regime for shoot production and prolonging shelf life of newly harvested shoots	PSAU	Bamboo is a marvelous resource that provides a myriad of benefits for billions of people. Development of bamboo resources is economically assisting impoverished people while at the same time stabilizing erodible slopes and flood-prone watersheds. The ability to substantially accentuate rapid growth through intensive management for commercialization purposes magnifies its many benefits.	01-Aug-16	31-Jul-19	ONGOING	4,757,622	1,010,999

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Development of Tissue Culture Techniques(s) for Mass Production of Selected Bamboo Species	Rapid, inclusive and sustained economic growth	The project will (1) develop an effective tissue culture protocols for plantlet regeneration using shoot/nodal culture, and multiplication through axillary shoot and callus culture, and in vitro rooting using growth regulators of economically important bamboo, (2) develop effective techniques(s) in establishing tissue culture plantlets in nursery until plantlets are ready for planting in the field, and its large scale production of planting materials, (3) test the survival for the tissue culture-derived bamboos established in nurseries in comparison to conventionally propagated identified bamboo species in the field, and (4) determine cost of producing tissue culturederived bamboo.	Year 1 & Year 2 ⁇ Established an effective, reliable and measurable protocol for micropropagation (i.e. best sterilization procedure plantlet regeneration and multiplication protocol and plantlet establishment) in comparison to existing conventional propagation for economically important bamboo species in the Philippines. Year 2 ⁇ An effective protocol for establishing tissue culture plantlets in the nursery until the ready to plant stage for a year round availability. Year 3 ⁇ Planting of regenerated bamboo in the field. Cost analysis of producing tissue cultured bamboo. Publication: 1 peer reviewed article and IEC material (brochures) People and Services: 1 BS or MS student to add to the scientific workforce Product: Tissue culture protocol on selected species of bamboo Tissue cultured planting materials Pilot demonstration farm for outplanted tissue culture plantlets	VSU	Bamboo growers; Bamboo Industry	01-Nov-17	31-Oct-20	NEW	4,995,520	2,017,840
	DNA Barcoding of Selected Marine Fishes in Basilan, Sulu and Davao Provinces	Rapid, inclusive and sustained economic growth	The objectives of the project are to: a. Initiate a DNA barcode library of economically and ecologically important fish species in Basilan, Sulu and Davao Provinces. b. Actualize fish species checklist collected in Basilan, Sulu, Tawi-Tawi and Davao Provinces via DNA barcoding and identify new species. c. Investigate population connectivity that shaped the genetic structure of the two commercially important species (Scarus quoyi and Terapon jarbua) obtained in Basilan and Davao only. d. Strengthen collaboration with HEIs in the region as well as with Mindanao State University-Bongao, Tawi-Tawi through capacity building and forging of MOA on collaborative research and technical training/support	Publications • 2 indexed publications • 1 local publication Products • DNA barcode information for more than 300 species of marine fish from Basilan, Sulu, Tawi-Tawi and Davao region • Database library on DNA barcodes of marine fishes from Basilan, Sulu, Tawi-Tawi and Davao • Functional web design on DNA barcoding information based from the collection sites • All the analyzed COI sequences submitted to GenBank, BOLD, and Cryobank People Services • 2 UP Mindanao faculty and 8 faculty/staff from HEIs (DNSC, DOSCST, USEP, Davao Doctor's College) trained on DNA barcoding extraction protocol • 6 BS Biology students of UP Mindanao obtained support for their undergraduate thesis Places and Partnerships • 8 Prior Informed Consents from concerned LGUs (Davao City, Gov. Generoso, Lamitan City, Isabela City, Jolo, Tongkil, Sibutu and Sitangkai), MOA, commodity clearance and gratuitous permit from DA-BFAR • 3 MOA signed between UP Mindanao and MSU-TCTO; UP Mindanao and DNSC; and UP Mindanao and DOSCST for research collaborations and technical support	UPM	Academe, government sectors, fisherfolks and resource managers for the protection/conservation of marine fishes in the Basilan, Sulu, Tawi-Tawi and Davao. Faculty/Staff of HEIs in Davao Region (DNSC, DOSCST, USEP, Davao Doctor's College) and in MSU-TCTO for the hands on training on DNA barcoding BS Biology students and faculty member of UP Mindanao	01-Oct-17	30-Sep-20	NEW	4,999,105	2,105,334
	Economic Analysis of the Demand for Technology Business Incubation (TBI) Services in Selected State Colleges and Universities	Rapid, inclusive and sustained economic growth	To determine the effective and potential demand for TBI services in selected SUCs.	Benchmarking, Project terminal report, articles, Profile of technology generators, and policy/guidelines for TBI development	UPLB	DOST-TTPD and IDD, SUCs, Agribusiness enterprises in the operational areas of SUCs.	01-Dec-17	30-Nov-18	NEW	4,805,210	4,805,210
	Effect of Nanomaterials on the Soil Microbial Community and Microbial Inoculants	Rapid, inclusive and sustained economic growth	General: To assess the impact of nanomaterials on the soil microbial community and microbial inoculants. Specific: • To assess the effect of nanomaterials on the soil microbial community using culture-dependent and independent analysis • To assess the effect of nanomaterials on the survival of gusA-labelled PGPB inoculum strain in the soil and in the rhizosphere • To assess the effect of nanomaterials on the efficacy of microbial inoculants on high value crops.	Y1:Changes in the bacterial and fungal populations in the soil Molecular profile of the soil bacterial community Gus-A labelled microbial inoculum strain Y2: Molecular profile of the soil fungal community. Identified microorganisms that were affected by the nanomaterials Information on the effect of nanomaterials on the survival of PGPB inoculum strain in the soil and in the rhizosphere Information on the effect of nanomaterials on the efficacy of microbial inoculants Safety assessment of soil microbial community and microbial inoculants as affected by nanomaterials At least two scientific publications on the results of the research project	UPLB	• Regulatory agencies • Nanomaterials producers • Researchers, student	01-Nov-16	31-Oct-18	ONGOING	4,954,985	2,026,610
	Enhancing and Operationalizing Intellectual Property (IP) Management and Business Development Office in Consortia Member Agencies	Rapid, inclusive and sustained economic growth	To establish and strengthening the capacities of technology transfer offices of RDIs in the AANR sector	1. 9 ITSO strengthened to become TTOs in RDIs in Luzon 2. 9 TTOs esablished 3. At least 20 technology transfer staff trained on IP management and commercialization 4. 5 IP protection applications filed per TTO per year 5. Inventory matured technologies 6. 2 networking events and product matching 7. 1 technology per RDI commercialized 8. TTO offices institutionalized	CvSU	technology transfer offices and officers	01-Oct-17	30-Sep-19	NEW	24,224,458	12,641,829
	Enhancing the Promotion of the AANR Technologies Through Complementary Platforms	Rapid, inclusive and sustained economic growth	General Objective: The project aims to strengthen the promotion of the DOST-PCAARRD AANR Technologies through Interactive Exhibits, Product Bazaar, and On-line Promotion. Specific Objectives: 1. To develop interactive/edutainment exhibits more attractive to its target audience; 2. To create infotainment materials that will increase awareness of the general public of the contribution of S&T to agriculture, aquatic and natural resources sectors; 3. To fast-track transfer/commercialization of technologies, products and services through techno demonstrations, technology exhibits, product bazaar and online promotion.	1. Evaluation Report 2. Upgraded Exhibit display system at DPITC with Interactive components 3. Upgraded Exhibit display system at DOST-TAPI Display Center with Interactive components 4. DPITC and DOST-TAPI developed promotion plan, implementation and M&E report 5. Developed on-line promotion website and social media site 6. Product Bazaar 7. DOST Mobile Promotion LED	TAPI	The main beneficiaries of the project are farmers, fisher folks, policy makers and researchers, while secondary beneficiaries includes students and the general public.	01-Oct-17	31-Mar-19	NEW	19,297,080	16,448,331
	Establishing patterns between Harmful Algal Blooms and weather phenomena in support of early-warning systems (Old Title: Linkages between HAB and Weather Phenomena)	Integrity of the environment and climate change adaptation and mitigation	The primary objective of this project is to determine the linkage of harmful algal blooms with weather phenomena, particularly this current ENSO. In particular, the project aims to: • Analyze plankton succession, including the potential increase and decline of HAB organisms during the ENSO phenomenon (i.e., during and after the El Nino; before, during and after the La Nina; reversion to normal conditions) • Analyze the physico-chemical conditions co-occurring with increases and declines of HAB organisms during the ENSO phenomenon • Establish patterns between HABs and ENSO and/or weather phenomena that can be used for developed or to-be developed HAB models for early-warning systems	• Time series data on HAB organisms, other phytoplankton and physico-chemical conditions through weather phenomena, particularly the ENSO • Time series data on physico-chemical conditions in the target sites through weather phenomena, particularly the ENSO • Increased understanding of HABs in relationship to recurrent weather phenomena such as ENSO that can be used to refine the existing biophysical and early-warning models for HABs and inform HAB response and management efforts • Validated and refined SeAHABS	UPD	Bureau of Fisheries and Aquatic Resources (BFAR) • LGUs & NGAs • Shellfish industry, mariculture industry • Academe, researchers/scientists	03-Jan-17	02-Jan-19	NEW	4,989,376	2,629,688
	Establishment of breed registry system for purebred swine	Rapid, inclusive and sustained economic growth	General Objective: To established breed registry system for purebred swine in the Philippines that will ensure the supply and quality of breeder pigs for the local pig industry. Specific Objectives: 1. To develop a national database for pedigree and performance information of breeder pigs 2. To establish a national breed performance registry system for local purebreds that would allow ranking of individual breeder pigs within a breed. 3. To develop breed verification system and parentage testing protocols for purebred swine 4. To promote the breed registry system to swine breeders and pork producers to enhance accessibility for superior breeder animals.	⁇ Breed Registry System and database for Purebred Landrace, Largewhite and Duroc ⁇ Pedigree certificates ⁇ Breeder identification (ID) and verification system ⁇ Training module for farm data recorders ⁇ Protocol for system operations ⁇ Selection indices ⁇ Identification and ranking of genetically superior pigs within a breed	UPLB	ASBAP members (Breeder Farms) Academe Researchers Students Pork producers Consumers	01-Jun-16	31-May-18	ONGOING	10,000,000	2,001,430

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Establishment of Dairy Cattle Foundation Breeder Herd Thru ET Using Imported Pedigreed Frozen Embryos	Rapid, inclusive and sustained economic growth	The proposed R&D project that will be implemented thru a publicprivate partnership between and among the NDA, PCC and private dairy industry players is envisioned to: 1) Catalyze the establishment of local dairy cattle foundation breeder populations that will sustainably supply high milkproducing dairy heifers and cows needed by the Filipino dairy farmers. 2) Customize the ET technology using pedigreed frozen dairy cattle embryos to suit to local dairy farm conditions. 3) Determine the technical and economic feasibility of using imported genetically superior frozen embryos in beefing up the dairy cattle population inventory of the country. Encourage private dairy industry players to actively participate in R&D activities and promote the adoption of S&T-based methods of enhancing sustainability, productivity and production efficiency of the Philippine dairy industry.	1) Initial inventory of pedigreed dairy cattle to form the foundation breeder herd 2) Customized ET protocol using frozen embryos 3) More proficient technicians to service dairy farms 4) Functional private-public partnership in technology verification and application	NDA, PCC	1) Dairy farm owners 2) Dairy industry practitioners 3) Researchers 4) Professors 5) Students	01-Oct-16	30-Sep-18	ONGOING	4,881,567	537,059
	Establishment of Forage Production Modules for Slaughter Goats in Bongabon and Lupao, Nueva Ecija: A S&T Community-based Approach	Rapid, inclusive and sustained economic growth	General: To project aims to establish community-based forage production modules to ensure year-round supply of quality feeds for goats and support the raw materials needs of the Technomart project on pelletized feeds in Bongabon, Nueva Ecija. Specific: 1. To promote wider adoption of science-based technologies on forage production for goat through the STCBF modality in Bongabon, Nueva Ecija; 2. To strengthen the capabilities of goat farmers on recommended technologies to produce forage for a 5-doe level (1.82t DM/year) goat module farm and 1.7t leaf meal/year as raw material for forage-based pellet production; and 3. To enhance active participation and empower the community particularly the LGU of Bongabon in promoting the establishment of 2ha forage modules as a goat-based enterprise capable of producing 54.68t DM/year to provide feed for a 50-doe level goat farm and raw materials for foragebased pellet production.	1) Trained at least 30 goat farmers. 2) Conducted at least 9 trainings (Technologies on the establishment and maintenance of forage/seedling production modules; Technologies on improved goat management/ enterprise). 3) Established two nurseries with a total production of 300,000 seedlings; 4) Established 2 community-based and 1 LGU-based forage production modules with a total of 8 ha forage farm. 5) Produced 108.4 tons/ha of fresh forages and 23.84 tons/ha of leaf meal 6) Produced IEC materials. 7) Documentation and performance monitoring of the project. 8) Established 2 farm clusters composed of 30 goat farmers.	CLSU	30 goat farmers	01-Nov-15	31-Oct-18	ONGOING	3,488,475	877,991
	Establishment of Rubber Nursery, Budwood Garden and Demonstration Farm in Cavinti, Laguna: An STCBF Approach	Rapid, inclusive and sustained economic growth	General Objective: The project aims to increase the productivity of rubber farms owned by farmer-members of the Southern Tagalog Rubber Producers' Cooperative (STRPC) in Cavinti, Laguna and the independent rubber farmers in the neighboring municipalities of the area within the provinces of CALABARZON (especially Laguna, Rizal, and Quezon) by promoting Science and Technology interventions through the Science and Technology Community-Based Farms Approach . Specific Objectives: 1. To establish one (1) hectare nursery from seeds of existing rubber stand for seedling production to serve as root stocks; 2. To establish one (1) hectare budwood garden to ensure the availability and promote the use of superior and high yielding rubber clones (PB 217, PB 235, PB 260, PB 211, PB 330, RRIM 600 and USM 1) in the region; 3. To establish one (1) hectare of pure rubber plantation for demonstration, training ground and showcasing the NSICrecommended HYRC's; and 4. To empower local members of STRPC, LGUs and other stakeholders in promoting the recommended technologies by providing them training and source of livelihood.	a. Established one accredited rubber nursery (1ha) and budwood garden (1ha) as an IncomeGenerating Program under the management of STRPC; b. Organized five clusters (one in every province of CALABARZON) of rubber farmers who are interested to pursue rubber clonal plantation and processing; c. Established and maintained linkages with various rubber stakeholders, namely: BatSU, CavSU, URS, SLSU, LGU Laguna, DOST-IVA, DENR-IVA, DTI-IVA, PCAARRD; d. Developed, translated and/or distributed 200 copies of IEC materials on rubber nursery and f. Capacitated 50 nursery operators, rubber farmers and LGU technicians on various skills related to nursery and budwood garden management and establishment; g. Established one (1) hectare demonstration farms for rubber plantation in Cavinti, Laguna; h. Promoted various rubber nursery, budwood garden and plantation technologies through Technology Field Day and cross visits to established farms; i. Developed, translated and/or distributed 200 budwood garden establishment; and e. Collaborated with stakeholders regarding the expansion of rubber plantations, establishing a shared service facility much later for rubber processing, and developing other support mechanisms for the rubber industry in CALABARZON. copies of IEC materials on rubber plantation and production; j. Developed a gendersensitive sustainability plan to ensure project continuity; k. Initiated and/or developed a gender-sensitive policy recommendation related to the promotion of rubber plantation in CALABARZON; m. Drafted two journal publications through the IRNR REPS Support Services.	UPLB	1. Southern Tagalog Rubber Producers' Cooperative (STRPC) members; 2. Residents of communities within Laguna and neighboring provinces o CALABARZON; 3. DTI, DENR, and the LGUs of Laguna and Cavinti; 4. Private institutions and individuals who will venture on rubber production and marketing;	01-Sep-16	31-Aug-18	ONGOING	5,000,000	1,032,455
	Establishment of S&T Model Farm on Free Range Darag Native Chicken in Dumarao, Capiz	Rapid, inclusive and sustained economic growth	General: To develop and showcase the package of technologies on free range Native chicken production. Specifically, the project aims: 1. To promote wider adoption of the full application of package of technologies to attain technology convergence of free range native chickens for the existing poultry raisers in the Province of Capiz; 2 2. To achieve increase farm production and profitability of free range native chicken-raisers respectively through the full adoption of POT on free range Native Chicken production; 3. To strengthen linkages/partnerships with farmer cooperators (from production to marketing); 4. To develop and produce IEC materials and video presentation of STMF on free range Native Chicken production POT. 5. To train poultry raisers in the 33 barangays of Dumarao, Capiz.	1. Established STMF on free range Native chicken production; 2. Information on the productive and reproductive performance of free range Chicken. 3. Adopted the full POT and attained technology convergence; 4. Obtained increase farm production and profitability of free range Native chicken-raisers respectively in the STMF; 5. Established linkages of the farmer cooperators developed and expanded (from production to marketing); 6. Granted Organic and Good Animal Husbandry Practices Certification; 7. Developed, produced and distributed IEC materials including video production on STMF modality. 8. Trainings of poultry raisers in the 33 barangays of Dumarao, Capiz.	CapSu	Poultry Raisers	01-Mar-16	28-Feb-18	ONGOING	3,765,472	1,882,736
	Establishment of Ten Hectares Abaca Hybrid Plantation at VSU and Evaluation of Fiber Quality for the Pulp Industry	Poverty reduction and empowerment of the poor and vulnerable	General: The general objective is to reinvigorate the abaca industry through enhanced and sustained development of abaca hybrids for the pulp industry. Specific: 1. To establish a ten hectare production area of hybrids (2 and 7). 2. To evaluate their fiber quality for the pulp industry.	⍰ Established 10 hectare area for the abaca hybrids. ⍰ Produced 16,000 abaca hybrid seedlings for the 10 hectare area. ⍰ Assessed and evaluated the abaca hybrids as to their fiber quality specifically its pulping properties.	VSU	⍰ Farmers/Farmer Cooperatives ⍰ Nursery Operators ⍰ Local Government Units ⍰ Abaca Processor	01-Nov-16	31-Oct-19	ONGOING	4,893,698	1,287,500
	Etiology and Management Strategies for Tapping Panel Dryness and Stem Bleeding of Rubber	Rapid, inclusive and sustained economic growth	This project aims to investigate the etiology of tapping panel dryness and stem breeding conditions in rubber. It seeks to establish the causes of these two conditions as it relates to nutrition, weather patterns and genetics (types of clones deployed in the field). The project in the end shall formulate amangement reommendations to avoid tapping panel dryness and stem bleeding in plantation.	1. Generation of knowledge on the cause of TPD and stem bleeding development of rubber. 2. A comprehensive documentation on the practices of local farmers in managing the TPD and stem bleeding syndrome. 3. Establishment of comprehensive strategies to manage TPD and stem bleeding of rubber. 4. Better collaboration among private rubber growers and concerned government agencies on developing strategies against TPD and stem bleeding of rubber.	JRMSU - Tampilisan	This study may benefit the farmers by letting them understand and avoid the factors concomitant to the development of TPD and stem bleeding diseases. Furthermore, the results of this study will boost the theoretical knowledge of students on disease management of rubber. In addition, concerned government offices, such as DA, and other research institutions will be provided with correct information to enable them to devise scheme to manage TPD and stem bleeding diseases of rubber	01-Jul-16	31-Dec-18	ONGOING	4,845,400	1,754,800
	Evaluation of mussel longline culture technology in non-traditional areas	Rapid, inclusive and sustained economic growth	This project will generally refine the longline technology applicable to different water conditions. Specifically it aims to: 1. Determine yield performance of mussels cultured in longline at varying water productivity and depth. 2. Determine the economic viability and social acceptability of using the refined technology. 3. Develop IEC materials	⍰ Refined longline technology applicable to different water conditions ⍰ Cost and return analysis of the longline technology at different productivity ⍰ Trained 20 collaborators ⍰ IEC materials – training manual and pamphlets	SSU	Multi-takers beneficiaries of the research are, shellfish industry players/fisherfolks/shellfish farmers; planners/policy makers/regulators/researchers (DENR/BFAR/DOST/ LGUs/SUCs, etc.). But basically all Filipinos are potential beneficiaries of a greater supply of affordable animal protein.	01-Jul-16	30-Jun-18	ONGOING	3,997,336	758,934
	Evaluation of vinegars as growth promoter and immunostimulant in the Pacific white shrimp	Rapid, inclusive and sustained economic growth	1. Characterize the native vinegars in terms of organic acid contents, proximate analyses and bacterial composition; 2. Determine the effects of incorporating a small amount of native vinegars tuba and sasa and apple cide vinegar on the gorwth and feed efficiency performance of the Pacific white shrimp; 3. Determine the effects of the 3 vinegars incorporated in the basal diet on the immune response of the white shrimp against the pathogen Vibrio parahemolyticus 4. Determine the effects of the 3 vinegars on the digestive enzymes of the Pacific white shrimp 5. Determine the effects of the 3 vinegars on the transcriptome profile in the hepatopancreas of the white shrimp; 6. Determine the effects of each vinegar profile after challenge with Vibrio parahemolyticus	1. Information on total phenolic, flavonoid and volatile compounds; 2. Optimum dietary levels of TV and SV 3. Effects of the two vinegars on the immune response of the white shrimp against the pathogen 4. Effects of the two vinegars on the genes of the digestive enzymes trypsin, chymotrypsin and a;pha amylase of the white shrimp 5. Effects of the 2 vinegars on the transcriptomic profile of the white shrimps follwoing challenge tests	UPV	Fisherfolks, feed industry, researchers, scientists, general public and science	01-Aug-17	31-Jul-19	NEW	4,178,548	2,193,975
	Evaluation Trials on Different Control Strategies Against Paper Mulberry	Rapid, inclusive and sustained economic growth	The uses of paper mulberry in the country is yet to be studied and the primary focus of this study is in its control. Objectives: 1. To conduct and evaluate different control measures that can inhibit the growth of paper mulberry; 2. To optimize the application and concentration measures to control the growth of paper mulberry; 3. To assess the temporal effectiveness of the different control measures/strategies applied in controlling the growth of paper mulberry; and 4. To formulate an initial protocol that best control the growth of paper mulberry	1. Evaluated the effects of different control measures applied; 2. Optimized right concentration application to control growth of paper mulberry; 3. Assessment of the temporal effectiveness of the different control strategies; 4. Developed IEC materials 5. Formulated best control measure to control growth of paper mulberry	BPI-LBNCRDPSC	lot owners, farm owners where presence of paper mulberry becomes a menace	01-Jul-17	31-Dec-17	NEW	300,000	300,000

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Field Verification of Natural Fungicide from Tasmannia piperita (Hook. F.) Miers against Alternaria brassicae of Lettuce and Phytophtora Infestans of Tomato (Field Testing and Piloting of Fungicide)	Rapid, inclusive and sustained economic growth	To propagate Tasmania piperita, patent and pilot the fungicide.	The biospesticide products can be recommended in use in Regions 10,11,12	CMU	farmers, EDC personnel, vegetable and sugarcane planters	01-Oct-17	30-Sep-19	NEW	4,998,214	2,979,587
	Field Verification Testing of Carrageenan Plant Food Supplement Technology for Enhanced Growth and Induced Pest and Disease Resistance in Rice in Regions 2 and 3	Poverty reduction and empowerment of the poor and vulnerable	a. Efficacy of the product as inducers of resistance against tungro in inbred rice under location-specific field conditions. 3 b. Efficacy of the product as inducers of resistance in hybrid rice against bacterial leaf blight (BLB); c. Efficacy of the product as inducers of resistance in rice insect pests such as green leaf hopper (GLH), brown plant hopper (BPH), rice stemborer, climate change pests (cutworm and armyworm) and its influence on the population density of beneficial arthropods. d. To conduct carrageenan multi-location demonstration trials at farmers' field in Cagayan, N. Vizcaya, Quirino, Isabela, Bulacan, and Nueva Ecija for two rice cropping seasons. e. To facilitate product registration at the Fertilizer and Pesticide Authority (FPA) of carrageenan based on established best nutrient management practices for dry and wet cropping seasons. f. To conduct technology promotion/commercialization of carrageenan.	a. Patentable plant growth promoter b. Suitable crop management practices for rice through application of radiation-modified carrageenan c. Patentable process on application of radiation-modified carrageenan d. Induced resistance against tungro, cutworm, and armyworm of selected rice varieties due to growth promoting potentials of radiation-modified carrageenan. e. Scientific papers and technology bulletins	UPLB, PNRI, DOST II, DOST III	Rice farmers, researchers, millers, traders, processors and other rice industry stakeholders.	01-Oct-16	31-Mar-18	ONGOING	4,965,985	2,694,521
	Fish Kill Mitigation Measures for Cage Aquaculture Systems in Buhi Lake and Magat Reservoir	Integrity of the environment and climate change adaptation and mitigation	To develop a practical and low cost mitigation measures for cage aquaculture systems in lake and reservoir.	⁉ Early warning system ⁉ Fishkill mitigation protocols ⁉ Manual of operation for fishkill mitigation and good aquaculture practices ⁉ Trainings conducted for Local Government Units and fish cage operators/fishfarmers in Albay and Isabela	BU, ISU	Aquaculturist, researchers, academe, policy makersand fisherfolks in target sites: Buhi lakeandMagat reservoir, etc.	01-Oct-16	30-Sep-18	ONGOING	10,000,000	4,350,729
	Gender Responsive Sustainable S&T Based Livelihood on Tilapia Cage Culture and Fish Processing for Low-Income Households in Coastal Barangays of Los Baños, Laguna (Phase 2)	Poverty reduction and empowerment of the poor and vulnerable	1. To determine gender norms, roles and gender issues that limit participation and economic empowerment of women and men in coastal lake barangays. 2. To capacitate men and women of LGU-LB and tilapia fish farmers on gender responsive S&T based livelihood on tilapia cage culture and fish processing 3. To empower tilapia cage farmers/cooperators with entrepreneurial and marketing skills 4. To facilitate the establishment of fish farmers or fish processors' organization of cooperative 5. To enhance collaborative efforts and networking among various stakeholders for technical, financial support and market linkage	1. 10 trainings on Good Aquaculture Practices and Entrepreneurship (Product Development, Packaging and Labeling, Managing a Healthy Cash Flow (Financial Management), and Sales and Marketing) 2. 50 fishers and 100 women who received hand outs and other IEC materials regarding production, marketing and product design of tilapia cage culture and fish processing from PCAARRD, and BFAR among others 3. Enhanced knowledge and skills among 150 community stakeholders on tilapia production through cage culture and fish processing as a livelihood enterprise 4. Enhanced knowledge and skills among 150 community stakeholders on fish processing 5. Adoption of science-based fish processing techniques and enterprise engagement of at least 50% of the targeted training participants after a year 1 of project implementation 6. Participation in the weekend market cum trading post along the national highway beside the municipal building of Los Baños, Laguna 7. Increased income through the technology adoption and enterprise development by 80% 8. Organized and strengthened one self-help group of women 9. Identified marketing arrangement between local producers and prospective buyers 10. One cooperative organized and registered	Local Government Unit, Los Banos	Tilapia Fish Cage Culture: Direct beneficiaries of this project would be 50 families of fish farmers: father, mother, grand parent, children above 18, senior citizens within the family Fish Processing: Members of 50 families of the tilapia cage farmers and 25 women of each six coastal barangays including Barangay Baybayin, totaled to 150 beneficiaries	01-Nov-16	31-Oct-18	ONGOING	3,000,000	901,182
	Geophysical Coral Mapping	Integrity of the environment and climate change adaptation and mitigation	⁉ The Philippines have not thoroughly explored its deep sea water, the resources it holds and the potentials of these resources for future socio-economic benefits. This is an initial step to explore deep sea resources particularly the country's deep sea corals. ⁉ Deep sea explorations in other countries have revealed unexpected diversity of the coral ecosystem on continental shelves, slopes and ridge systems. It is important for the Philippines to initiate the same activities before foreign countries start these activities within the country's territory. ⁉ One good starting point is to start mapping the deep sea coral resources of the country as they may host, and provide habitat for fish and invertebrates. It is not remote as well that they may provide resources with bioactive compounds essential to the pharmaceutical industries.	1) Detailed bathymetric chart of a portion of the Apo Reef. 2) Substrate map of a portion of Apo Reef. 3) Map of potential sites of occurrence of deep sea corals in selected sites in Apo Reef. 4) Initial detailed bathymetric chart and substrate map of a portion of the Patnanungan Reef. 5) Initial map of potential sites of occurrence of deep sea corals in Patnanungan Reef.	UPD	DENR, BFAR, Biodiversity researchers, coastal community	01-Jul-14	30-Sep-17	ONGOING	37,588,480	2,125,560
	Germplasm Conservation of Select Indigenous Forest Tree Species in Mt. Makiling Forest Reserve	Rapid, inclusive and sustained economic growth	In order to conserve germplasm of indigenous (endangered and threatened) forest trees found in Mt. Makiling Forest Reserve, the project specifically aims: 1. To identify and select quality mother trees of indigenous forest tree species as potential sources of superior quality seeds for germplasm collection; 2. To produce quality planting materials of selected 25 indigenous forest tree species in Mt. Makiling Forest Reserve; and 3. To establish seedling seed orchards (SSO) for the selected 25 indigenous forest tree species at the UP Land Grant (Laguna-Quezon), including monitoring and evaluation.	Year 1 ⁉ 250 mother trees geo-tagged from the 25 selected species and seeds collected from 15 species based on phenology schedule (please refer to Table 3) ⁉ MOA between UPLB CFNR and NPGRL for germplasm conservation of indigenous forest tree species Year 2 ⁉ Seeds collected from additional 10 species ⁉ Spatial distribution maps of mother trees per species, with their phenology schedule, generated ⁉ Protocols for germplasm conservation of the initial 15 species collected (e.g. Seed viability and germination in relation to MC and storage time, Seed anatomy) Year 3 ⁉ Protocols for germplasm conservation for the remaining 10 species collected (e.g. Seed viability and germination in relation to MC and storage time, Seed anatomy) (Collection for next batch of selected species as commitment of CFNR) ⁉ 15 000 quality seedlings propagated from the 15 species ⁉ 10 000 additional seedlings propagated from 10 species ⁉ Distribution of 14400 quality seedlings to be planted in 36 hectares ⁉ Commitment of UPLB CFNR to institutionalize a germplasm conservation program for indigenous forest tree species ⁉ Distribution of 9400 quality seedlings to be planted in 23 hectares ⁉ MOA between UP Land Grant and UPLB CFNR ⁉ GIS map for Seedling Seed Orchards location ⁉ 15 hectares SSO established for the 15 species ⁉ GIS map of geo-tagged planted seedlings ⁉ 10 hectares SSO established for the 10 species ⁉ GIS map of geo-tagged planted seedlings ⁉ Commitment of UPLB CFNR to supervise and manage established SSO	UPLB	This project is expected to benefit the College of Forestry and Natural Resources through provision of scientific basis for conservation of select indigenous species in the MMFR. To a larger extent, the vision to establish a viable seedling seed orchard threatened indigenous forest tree species will help the conservation of these genetic resources and later will be the source improved quality seeds for tree breeding programs for these species. The proposed project specifically targets various stakeholders of the Mt. Makiling Forest Reserve and the UP Land Grants. Other than UPLB as a whole, approximately 50 researchers, including faculty, of the CFNR-UPLB, 4 local government units (Sto. Tomas, Los Baños, Bay, and Calamba), may utilize the scientific information generated by the project and around 5-10 students may be involved in a number of specific areas of the project as their subject/site for thesis or practicum. Seedlings produced by the project will also be used to provide planting materials for conservation and restoration projects of the UPLB CFNR and LGUs. A Memorandum of Understanding between UPLB CFNR with LGUs (Laguna and Batangas) will be executed. The MOA will primarily stipulate the use and management of quality seedlings for reforestation and rehabilitation projects by the respective LGU	01-Mar-16	28-Feb-19	ONGOING	4,990,000	1,430,027
	GIS-based Inventory and Sustainability Assessment of Rubber and Cacao in Major Production Areas of the Philippines (Old Title: GIS-Based Inventory and Sustainability Assessment of Philippine Rubber and Cacao in Selected parts of the Philippines)	Rapid, inclusive and sustained economic growth	The project focuses on the development of GIS-based data management framework for Philippine plantations of rubber and cacao. Specific objectives: a) Generate a nationwide geo-information on the production areas for rubber and cacao through GIS-based inventory; b) develop a national database on the locations of major plantations and production areas of rubber and cacao in the Philippines; and c) Identify potential expansion areas for rubber and cacao.	1. Created a national geo-information and database on rubber and cacao 2. Developed a field methodology framework to monitor plantations using practical and simple tools. 3. Maps of site suitability location options for plantation expansion; 4. Produced at least 2 publications in a refereed journal.	UPLB	Rubber and cacao industries - policy makers; farmers; LGU (regional to national) rubber resource planners; plantation owners of rubber and cacao.	01-Apr-15	30-Mar-17	ONGOING	4,986,627	624,465

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Impact Assessment of Selected PCAARRD Publications	Transparent, accountable, and participatory governance	The impact assessment of PCAARRD's IEC materials and publications aims to assess the benefits generated by the materials/publications among their target audiences and other stakeholders. On the other hand, the impact assessment of PCAARRD's capability-building projects aims to assess the R&D capability-building benefits generated by the projects in the national agriculture and resources research and development network (NARRDN)	a. Report identifying the factors that affect the enabling environment in the publication delivery system, which would help PCAARRD to assess and improve their methods of publication distribution b. Report on the extent of reach of the publications, which would provide vital information needed for audience needs assessment to help PCAARRD in streamlining existing publications, and/or justifying the need for a new publication line c. Report on publication format and content assessment, which would help PCAARD to improve their policies on publication process, in general d. Report on impact assessment, which would help PCAARRD to craft policies in publication and information dissemination, as well as provide basis for justifying the enhancement and production of more communication materials e. Standard questionnaire for future communication materials assessment initiatives f. Policy recommendations for the improvement of PCAARRD communication materials g. At least 1 ISI journal article publication (or its equivalent)	UPLB	a. PCAARRD's Applied Communication Division b. PCAARRD publications' audiences/ clients	18-Mar-16	31-Jan-18	ONGOING	4,963,395	418,679
	Impact Assessment of the CVAARRD Regional Program on the Enhancement of Artificial Insemination and Meat Processing Technologies towards Production of Quality Slaughter Goats in Cagayan Valley	Transparent, accountable, and participatory governance	To analyze and quantify the impacts of the PCAARRD-DOST funded project titled CVAARRD Regional Program on the Enhancement of AI and Meat Processing Technologies Towards Production of Quality Slaughter Goats in Cagayan Valley	1. Documentation on the process and dynamics involved in the conceptualization, formulation, evaluation and implementation of the project; 2. Identification of the inputs, outputs and outcomes, impacts and benefits of the project 3. Identification and assessment of the impact pathways by identifying project results 4. Estimation of the economic returns 5. Policy recommendations for the enhancement of the adoption of technology generated further to develop the goat industry.	CLSU	Policy and decision makers, national S&T system, funding agencies supporting R&D activities, researchers who are directly involved in technology transfer and economic evaluation, evaluators of tech trans programs	01-Nov-17	31-Oct-18	NEW	1,392,071	1,392,071
	Impact Assessment of the Filipinnovation Coral Rehabilitation Program in the Philippines	Transparent, accountable, and participatory governance	The general objective of the study is to assess the impacts of the coral transplantation technology using asexually reproduced corals on previously degraded coral reef ecosystem in selected sites in the Philippines. Specifically, the study aims to: 1. Validate the performance of the Filipinnovation Coral Restoration Program specifically the coral transplantation technology that utilized asexually reproduced coral fragments. 2. Assess the impacts of the transplantation technology on the biophysical, economic, and social aspects of the study sites particularly in terms of fish biomass and recreational value. 3. Develop a monitoring protocol in conducting impact assessment of coral restoration projects particularly using the asexual coral reproduction technology	Year 1 1. Report on the performance of the Filippinovation Program after a year of its implementaitons; 2. Impact assessment report of the coral transplantation technology on the biophysical, economic, and social aspects, along with valuation specifically in terms of increased fish biomass and recreational value Year 2 1. Synthesis Report of the prospects of coral transplantation technology as applied in the Philippines and a monitoring protocol on the process of conducting IA of rehabilitation projects. 2. At least 1 draft journal articles for publication in ISI journals	UPLB	Local fisher folks and local tourism Local Government Units of the study sites, NGOs and associations Government regulators such as Department of Tourism e (DOT) and the Department of Environment and Natural Resources (DENR)	01-Nov-16	31-Oct-18	ONGOING	4,944,507	1,304,662
	Improved Resource-use Efficient (IRUE) Rice Varieties for the Philippines	Poverty reduction and empowerment of the poor and vulnerable	The project aimed to achieve the development of improved resource use efficient (IRUE) rice varieties that will require less N P K fertilizers and irrigation water for resource-poor farmers. This requires screening of already developed RUE 220 introgression lines (ILs)in the background of newly released high yielding RUE weed-tolerant rice cultivar. The project will also identify the most suitable ILs and have them nominated into national trials in the Philippines. Specifically, the project aims to: a. Develop improved resource use efficient (IRUE) rice varieties b. Identify the genes/QTLs responsible for improved RUE. c. Understand the underlying molecular and physiological mechanism for RUE related traits. d. Conduct adaptive trials to validate and release the RUE materials in the target sites e. Develop crop management practices suitable for RUE released varieties. f. Disseminate the RUE rice varieties along with crop management practices To conduct technology promotion/commercialization of carrageenan among selected areas in the Philippines.	Most suitable ILs nominated into national trials for access by resource-poor farmers.	UPLB	Rice farmers, researchers, millers, traders, processors and other rice industry stakeholders.	16-Sep-16	15-Sep-19	ONGOING	15,674,496	3,158,098
	Improvement and Semi-Automation of the Furnace Type Dryer (FTD) for Lumber, Bamboo and Other Raw Materials of the Forest-based Industries	Rapid, inclusive and sustained economic growth	General: The project main objective is to develop thermally efficient and innovative design of kiln dryer (from current manually operated to a semi-automated dryer) that would enhance the productivity, product quality and competitiveness of MSME's in the agro-forest based and allied sector Specific: 1. To develop a prototype semi-automated multiapplication dryer for the wood and non-wood based products of the forest-based industry; 2. To conduct performance evaluation of the prototype semi-automated multi-purpose dryer on various raw materials and finished wood and nonwood products; 3. To develop drying schedules of various wood and non-wood raw materials and products using the developed semi-automated dryer; and 4. To determine the drying efficiency (reduction in cost and time) of the developed prototype semiautomated multi-purpose dryer	Year 1: A 2.40 cu m capacity semi-automated FTD shall have been designed and constructed Year 2 Lumber samples, bamboos and other materials shall have been collected for trial runs/performance evaluation Conducted performance testing/evaluation of the developed FTD Gathered data on heat balance and drying cost Determined the technical and financial feasibility of the semi-automated FTD Drying schedule of 2 tree plantation species and 1 bamboo species Terminal report Publications: Information Bulletin one (1) and articles (2) on Developed semiautomated Furnace Type Dryer (FTD) Patents: One (1) Patent application on the process/technology developed Products: Semi-automated Furnace Type Dryer for the lumber, bamboo and other raw materials for the forest-based industries People Services: Train personnel (15) on the operation of the developed semiautomated FTD Places and Partnership: FPRDI with 3 Lumber, bamboo and other raw material forest based industries partners/ cooperator Policies: Policy Advocacy (1) on Post harvest processing of Industrial Tree Plantation (ITP), and other NTFP is imperative to improve product quality	FPRDI	Lumber, furniture, handicrafts and non-wood forestbased industries	01-Oct-17	30-Sep-19	NEW	4,996,450	3,485,600
	Improvement in the Hatchery and Nursery Production of Green Mussel (Perna viridis) (Old Title: Project 4. Increasing Survival of the Green Mussel (Perna viridis) Larvae and Juveniles through Improved Water and Food Facilities)	Rapid, inclusive and sustained economic growth	To improve survival of the hatchery-produced mussel through improved water and food facilies to augment mussel population	1. Improved natural food and water facilities in mussel hatchery; 2. Increased survival of the green museel from fertilized eggs 3. Improved technology of holding spats in the nursery prior to seedling them to grow-out farms; 4. Improved mass production of apparently healthy hatchery-produced green mussel seeds 5. Evaluated the growth and survival of the F1 hybrid	UPV	mussel growers	01-Oct-17	30-Sep-19	NEW	4,999,980	2,564,490
	Intellectual Propery Rights (IPR) Protection of PCAARRD-Funded Research Projects	Rapid, inclusive and sustained economic growth	As a Government Funding Agency (GFA) mandated to fund projects to develop technologies in agriculture, aquatic and natural resources, there is a need for PCAARRD to ensure that appropriate ownership of research products are accorded to its projects through applicable IPR. This will also provide adequate leverage for it as a GFA and its R&D institutes (RDIs) as technology generators in technology transfer, which can also be appreciated when a proposed technology transfer agreement shall be evaluated by the Fairness Opinion Board pursuant to Republic Act No. 10055, otherwise known as the "Philippine Technology Transfer Act of 2009". To provide IPR protection for PCAARRD-funded research projects	Year 1: 20 patents/utility model applications and 5 industrial design applications Year 2: 5 patents/utility model applications and 5 industrial design applications	TAPI	Research Partners/Network of PCAARRD	01-Oct-16	30-Sep-18	ONGOING	5,773,374	3,209,920
	Intervening Pest Management Strategy for Coconut Scale Insect, Aspidiotus rigidus, in Zamboanga Peninsula	Poverty reduction and empowerment of the poor and vulnerable	General To develop rapid and efficient pest response to A. rigidus infestation in Zamboanga Peninsula using Integrated Pest Management Strategy Specific 1. To develop combination of control measures based on the level of CSI infestation; 2. To establish satellite rearing facility of C. calaunica in strategic locations in Zamboanga Peninsula; and, 3. To assess the efficiency of the CSI pest response in Zamboanga	The deliverable of this proposed project is the development of a system that will provide the necessary information to launch a response on detection of CSI in Zamboanga Peninsula.	DLSU	Coconut farmers, extension workers, academe, researchers, other stakeholders, and decision makers in Zamboanga Peninsula.	01-Dec-17	30-Nov-19	NEW	5,000,000	2,667,672

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Kuroshio Current Observing System in the Philippines: Remote observations of the interactions of the Kuroshio with Internal Tides and Mesoscale Currents in Luzon Strait by High Frequency Doppler Radio Scatterometer	Integrity of the environment and climate change adaptation and mitigation	The main objective of the project is to deploy two systems of land-based High Frequency Doppler Radio Scatterometers (HFDRS) on the North coast of Luzon, with the eventual aim of mapping the surface currents, surface waves and wind direction hourly over a three-year period. Specifically, the proposal seeks to: • Generate key information on the horizontal structure of internal wave trains and the interactions of the Kuroshio with internal tides and mesoscale currents in southern Luzon Strait such as meanders and eddies formation; • Provide information about internal tide generation, propagation and energetics over topography between the Batanes and Babuyan Group of Islands; and • Evaluate the HFDRS data based on existing ocean observing means, and to verify the HFDRS products with sea-truth and remote sensing data.	Products • Database of surface currents and in-situ data • Time-series oceanographic data Publication • 3 Scientific Journals People Services • 10 Trained Personnel • 5 Graduate Students - 4 MS Marine Science students - 1 PhD student Partnerships • MOA with University of Hawaii and Woods Hole Oceanographic Institution Policy • S&T based information that will input into policy or guidelines for conservation and management of marine resources for Southern Luzon Strait	UPD	Philippine government agencies/ academe/ researchers who use surface current maps for maritime safety, search and rescue operations, weather forecasting, maritime enforcement, marine science, oceanographic research and fisheries.	01-Oct-17	30-Sep-20	NEW	35,609,106	8,217,956
	LAMP Detection Assays for Anthracnose, Stem-end rot and Scab Disease Pathogens in Philippine 'Carabao' Mango (Mangifera indica Linn.)	Rapid, inclusive and sustained economic growth	General The main objective of this project is to develop a loop-mediated isothermal amplification (LAMP) assays for the detection of the highly pathogenic fungi including the causative agents of anthracnose, stem end rot, and scab diseases of Philippine 'Carabao' mango (Mangifera indica Linn.). The specific objectives are the following: 1. Identification of causal fungus using various characteristics (morphology & phylogeny); 2. Designation of requirements of LAMP analyses, such as 6 primers, concentration of samples; 3. Development of LAMP and analyses using crude samples; 4. On-site field testing of the developed LAMP; 5. Capacity building by organizing seminar on the proper use of LAMP; and 6. Publication of results in Journal Citations Reports (JCR).	⍰ At least 50 major and emerging fungal pathogens of Philippine 'Carabao' mango isolates collected/characterized/ identified and deposited in Philippine cultural collections. ⍰ List and profiles of major fungal pathogens of Philippine 'Carabao' mango with special emphasis on anthracnose, stem end rot, and scab diseases, including the following information: -Signs and symptoms of disease -Locality where the pathogen was collected ⍰ Sequence data for deposit to GenBank and MycoBank ⍰ List of novel species including the following: -Scientific identification to include taxonomic position and etymology -Morphological description -Scientific photo plates ⍰ Developed and field tested Loop-mediated isothermal amplification (LAMP) kit for the rapid detection of highly pathogenic fungi of Philippine 'Carabao' mango ⍰ 2-3 papers for publication to ICR ⍰ Lecture-seminar on the proper use of the developed rapid detection method by LAMP ⍰ At least two (2) peer reviewed abstract or proceeding presented in an international meeting.	PUP	1. Farmers 2. Mango exporters 3. Scientists/ Academicians/ Students 4. Public consumers 5. Fungicide manufacturers/industry	01-Jul-17	30-Jun-20	NEW	5,195,668	1,480,000
	Low Salt Fermented Mussel Sauce as a Potential Functional Food and Ingredient	Rapid, inclusive and sustained economic growth	The project intends to adapt and change traditional fish sauce made by methods like fermentation into health product with functional and bioactive properties. As a final product, packaging requirements will be determined to protect the nutritional components and properties of the product as as its shelf stability at ambient conditions. 1. Develop processing method in the production of low-salt mussel sauce and its by-product; 2. Establish product characteristics (proximate, sensory) and nutritional composition (amino acid, lipid minerals) profile; 3. Assess functional and bioactive properties; 4. Determine packaging and shelf stability requirements of the developed products	1. Low salt fermented mussel sauce with functional and bioactive properties; 2. Product nutritional profile, shelf-life and packaging requirements	UPV	Food industry, consumers, mussel farmers	01-Apr-17	31-Mar-19	NEW	4,979,746	3,328,186
	Management and Commercialization of Technologies Generated from PCAARRD-funded Research Projects in UPLB	Rapid, inclusive and sustained economic growth	The general objective of this study is to manage and to commercialize the technologies generated from PCAARRDfunded research projects from Year 2010 to Year 2015. Specifically, the study aims to: 1. To determine the status and level of development of the IP protection of PCAARRD-funded projects from Year 2010 to Year 2015 for prioritization for commercialization; 2. To evaluate the potential of each technologies based on prioritization for IP generation and protection; 3. To determine the different IP protection applications and value of the prioritized technologies generated from PCAARRD-funded projects and; 4. To commercialize the prioritized technologies generated from PCAARRD-funded projects	Stage 1. Audit and Prioritization ⍰ Research with Technology Potential Assessment Report ⍰ Priority list of technologies for protection and for commercialization Updated IP/Technology Profile Database ⍰ Capacity building for researchers and staff through IP management and technology commercialization trainings ⍰ Initial IP protection (copyright and/or trademarks) applications and filings Stage 2. IP Creation and Protection ⍰ PAS report ⍰ University fairness opinion report ⍰ IP Protection Draft and Application (copyright, trademark, utility model, patent and plant variety) ⍰ Invention Disclosures Assignment of Deed ⍰ Royalty sharing agreement ⍰ Technology Valuation Report ⍰ IP application receiving documents Stage 3. Technology Commercialization ⍰ Business plans ⍰ DOST Fairness opinion report ⍰ Licensing agreements or commercialization contracts Standard forms, contracts, and other templates ⍰ Monitoring report of commercialized IPs ⍰ Investment kits and other marketing collaterals ⍰ Journal publications on technology commercialization	UPLB	University Researchers and Agriculture Sector	01-Aug-16	31-Jul-18	ONGOING	4,954,655	1,008,703
	Management Strategies on the Control of Coconut Scale Insect, Aspidiotus rigidus, at PCA-Zamboanga Research Center Coconut Genebank and Zamboanga City	Poverty reduction and empowerment of the poor and vulnerable	To develop an S&t protocol on the utilization of the parasitoid and enhancement of natural controlling factors for the sustainable management of CSI at the PCA-ZARC and Zamboanga City	1. Determined and analyzed level of infestation of CSI and natural enemies; 2. Identified most preferred host 3. Established the most effective mode of parasitoid release	PCA	researchers, extension workers, coconut farmers	01-Dec-17	30-Nov-18	NEW	5,000,000	5,000,000
	Mangrove Crab (Scylla serrata) Production in Alabat Island, Quezon Province Using an Aquasilviculture System	Rapid, inclusive and sustained economic growth	1. Evaluate the productivity and profitability of mangrove crab culture in Aquasilviculture systems in terms of growth, survival, yield; 2. Analyze impacts of Aquasilviculture of mangrove crab on the water quality 3. Describe the acceptability of Aquasilviculture system by the coastal communities in Alabat, Quezon	A. Benefits of aquasilviculture technology B. Profitability analysis of the production performance of mangrove crab in aquasilviculture system C. Acceptability of aquasilviculture technology by the community	SLSU	Coastal communities, marginal fishers of Alabat, Quezon, farmers, environmentalist, researchers, medical practitioners, different sectors of the community	01-Sep-17	31-Aug-19	NEW	4,466,737	2,809,306
	Mapping the Distribution of Abaca Bunchy Top in Different Cropping Systems and Analyzing Epidemic Risks in the Zamboanga Peninsula	Poverty reduction and empowerment of the poor and vulnerable	Mapping disease distribution, with new technologies like Geographic Information System (GIS) and predicting the course of its spread from foci of infection, with forecasting models, provide an opportunity to formulate management strategies designed to avoid epidemic intensification. These maps, likewise, allows the identification of growing areas that can be categorized with low risk of vulnerability to environmental change in the Zamboanga Peninsula. Specific Objectives: To survey the prevalence and incidence of abaca virus diseases in the Zamboanga Peninsula;to use Geographic information system (GIS) technology in creating maps of abaca virus disease distribution on the regional, provincial, town and barangay level; to determine the most and least vulnerable areas for new abaca plantations in the Zamboanga Peninsula based on cropping systems and GIS maps; to determine abaca distribution and varieties grown in the Zamboanga Peninsula; to describe the cropping systems practiced in abaca farms in the Zamboanga Peninsula including planting methods, population density, fertilizer management (if any), pest management, harvesting procedures, etc.;to assess the occurrence of aphid vectors in individual fields;to identify the species of aphids occurring in abaca plantations; o analyze rates of disease increase and spread from survey data; and to assess risk of future abaca virus disease epidemics due to climate change using the bunchSim computer simulation model.	1. GIS maps of abaca cropping areas and virus disease distribution in time indicating intensification, and in space indicating spread, in the Zamboanga Peninsula 2. Knowledge/Information of cropping systems and abaca varieties being planted in the Peninsula and possible relation to abaca bunchy top progression 3. Estimates of rates of disease increase and graphs of simulated epidemics and forecasts of risk of epidemics in abaca growing areas in the Peninsula 4. Formulation of appropriate abaca virus disease management strategies based on the above results 5. Better collaboration among government agencies and private growers on strategies regarding abaca virus disease management 6. No less than 3 technical articles to be published with possible titles as follows: a. Spread and intensification of abaca bunchy top in the Zamboanga Peninsula b. Using simulation modeling to predict risk of abaca bunchy top epidemics in the Zamboanga Peninsula c. Agronomic and cultural practices in abaca production in the Zamboanga Peninsula	Jose Rizal Memorial State University - Tampilisan, UPLB	Abaca growers/ farmers, government institution (DA-PhilFIDA), and researchers	01-Feb-16	31-Jan-18	ONGOING	4,995,080	2,243,028
	Mass Production and Release of the Parasitoid, Comperiella sp. Against Coconut Scale Insect, Aspidiotus rigidus	Poverty reduction and empowerment of the poor and vulnerable	General To mass produce efficiently the Comperiella sp. for inoculative release in the field particularly in the new areas of coconut scale insect invasion Specific To develop a mass rearing protocol for Comperiella sp.; To determine the best field release strategy for Comperiella sp.; To evaluate the success of establishment and spread of Comperiella sp. in the release site of Comperiella sp. particularly in the new area of coconut scale insect invasion; and To measure the effect of insecticide(s) including biopesticide(s) on Comperiella sp. to ascertain the field conservation of Comperiella sp.	The rearing method that will be developed for Comperiella sp. will be able to mass produce the parasitoid the shortest time to respond quickly to new invasion of A. rigidus in other parts of the country particularly in northern Luzon, the Visayas and Mindanao coconut growing areas. The most efficient release strategy that will be selected from the test will ensure the viability of the parasitoids and stable establishment for a sustainable biological control system. Establishment and spread of the parasitoids will be attained. Natural spread with significant increase in population of parasitoid will be the outcome of the initial release of the parasitoid and not relying on repeated releases in the same area. Compatibility of the chemical control (synthetic insecticides or biopesticides) will be identified to conserve the presence of the biological control agents in the coconut plantations. This will ensure that the level of population of the coconut scale insect be maintained significantly at a low level which will make the pest status of coconut scale insect as just minor pest.	DLSU	Local coconut farmers, farming communities, extension workers, stakeholders, decision makers, researchers	01-Sep-15	31-Aug-17	ONGOING	4,978,150	917,467
	Mechanizing the Production Systems in Philippine Seaweed Farms and Improving the Seaweed Culture Facility at PSU-MSL	Rapid, inclusive and sustained economic growth	To address the slow and intricate procedure of preparing, deploying and harvesting of seaweed planted lines; To efficiently utilize manpower including the women and school children in seedling/planting materials preparation To standardize the procedure in capturing the "seaweed drips" which were known to contain plant growth promoting residues	Atleast one (1) Prototype of low-cost "Amphibious Utility Vehicle" (AUV) One (1) Prototype of Seaweed Harvester One (1) Prototype of Tie-Line Planting Table and Mechanical Line Planter Atleast two (2) Applications for IPR Protection (e.g. patent, utility model or industrial desings) filed with IPOPHL	Palawan State University	Seaweed industry, Seaweed farmers, Bureau of Fisheries and Aquatic Resources (BFAR), Academe, Researchers/Scientists, LGUs and NGAs	01-Mar-17	28-Feb-18	NEW	1,295,090	1,295,090

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Morphology-based Diagnostics of Armored Scale Insects (Hemiptera: Diaspididae) and Their Natural Enemies Infesting Coconut and Associated Crops - Phase 2	Poverty reduction and empowerment of the poor and vulnerable	General To develop morphological diagnostic tools for armored scale insects and associated natural enemies to facilitate the formulation of appropriate management strategies for scale insect. Specific 1. To study the taxonomy of coconut-infesting and related species of the genus Aspidiotus and other armored scale insects of the tribe Aspidiotini; 2. To conduct taxonomic revisions of armored scale insect genera belonging to the tribes Diaspidini, Lepidosaphini and Parlatorini, with emphasis on those that include complexes or species that infest coconut and associated crops; 3. To survey natural enemies of armored scale insects infesting coconut and associated crops in the Philippines; and 3 Project Objectives 4. To study the taxonomy of insect parasitoids and predators attacking armored scale insects infesting coconut and associated crops in the Philippines	1. One (1) set of morphology-based identification keys of armored scale insects and their natural enemies and Illustrated diagnostic guides incorporating morphological data from other life stages of armored scale insects 2. Compendium of scale insects attacking coconut 3. Baseline information on the natural enemies of armored scale insects infesting coconut and associated crops in the Philippines 4. Checklist of natural enemies of armored scale insects infesting coconut and associated crops in the Philippines 5. Reference collection of natural enemies of armored scale insects infesting coconut and associated crops in the Philippines 6. IEC Materials - publication, pamphlets 7. Four (4) or more peer-reviewed scientific publications	UPLB	The clientele in pest management and diversity studies will be farmers, planters, plant quarantine officers, PCA researchers and officers, researchers, non-research staff, students and the interested public. This could support the conservation of the natural enemy species attacking armored scale insects infesting coconut and other associated crops. More importantly, this could help the clientele to identify the potential natural enemies that could efficiently control injurious armored scales insects in the future.	01-Oct-16	30-Sep-17	ONGOING	3,462,905	380,095
	Multi-location evaluation of naturally selected Saba strains with short stature and field evaluation of irradiated Saba/Cardaba	Poverty reduction and empowerment of the poor and vulnerable	To evaluate naturally-selected and irradiated Saba/ Cardaba strains with short stature (4 meter or less) and early maturity (harvestable at 12-16 months). (1) To mass propagate and evaluate the agronomic, yield and economic performance of different Saba strains with short stature (4 meter or less that are harvestable in 12-16 months) in a total of at least 10 ha in selected locations (Isabela, Nueva Vizcaya, Laguna, Oriental Mindoro, Davao City and Butuan), under farmerâ€™s field condition. (2) To study the acceptability and antioxidant properties of collected Saba strains with short stature to determine the best possible variety to be recommended to the farmers. (3) To conduct technology/ variety promotion and dissemination of promising naturally-selected Saba with short stature. (4) To conduct field evaluation of irradiated short-statured Saba/Cardaba. (5) To evaluate promising strains and selected irradiated mutants of Saba for resistance against Banana Bract Mosaic Virus and Bugtok.	Short statured (4m or less) early fruiting (harvestable in 12-16 months) Saba	UPLB, ISU, NVSU, BPI-DNCRDC	Banana growers, Agricultural officers/technicians, Non-government organizations, Researchers	01-Dec-14	30-Nov-17	ONGOING	17,383,389	3,555,620
	Multi-location Trials of Oligo-carrageenan for Improved Productivity of Mungbean and Peanut in Regions II, III, VII, and X	Rapid, inclusive and sustained economic growth	In general, the project aims to increase crop yield, reduce damages due to insect pests and diseases, and sustain the availability of quality seeds of mungbean and peanut in major growing areas in Regions 2,3,7 and 10 through foliar application of oligo-carrageenan as plant bio-stimulant. Specifically, the project aims to: 1. To determine the effects of oligo-carrageenan on insect pest infestation (pod borer and cutworm) and disease infection (Cercospora leaf spot and rust) on mungbean and peanut; 2. To determine the effects of inoculant; fertilizer and oligocarrageenan on the production time or cropping cycle of mungbean and peanut 3. To evaluate the stability and efficacy of oligo-carrageenan on mungbean and peanut as plant bio-stimulant after storage (3 months to 1 year) under ambiaent room conditions; 4. To promote the use and application of oligo-carrageenan as plant bio-stimulant for mungbean and peanut and a new Package of Technology (POT) for farmers' adoption in Regions 2,3,7 and 10; and 5. To register the carrageenan as plant bio-stimulant for mungbean and peanut with FPA.	1. New POT on the use and application of carrageenan as plant biostimulant in Regions II, III, VII and X for mungbean and peanut to increase seed yield by 25-30%, and shorten the production period by 7-14 days; 2. Reduced insect pest and disease damages by at least 25% and improved crop protection systems for management of insect pests (pod borer and cutworm) and diseases (Cercospora leaf spot and rust); 3. Technical Bulletins (i.e., cultural and management practices on 3 mungbean and peanut production incorporating foliar application of carrageenan --- rates and modes of application); 4. Articles published in scientific journals; 5. Cost-Benefit Analyses on the use of Oligo-carrageenan on mungbean and peanut as Plant Bio-stimulant; and 6. Carrageenan product registration as plant bio-stimulant for mungbean and peanut.	PNRI, PSAU, DA II, DA III, DA VII, DA X	1. Rice and corn farmers (legumes as sequential crops) 2. Mungbean and peanut growers 3. Seed producers 4. Researchers and scientists	16-Nov-16	15-Nov-18	ONGOING	4,995,497	2,010,925
	National Research & Development Project for Watershed Management in the Philippines (Phase 2)	Rapid, inclusive and sustained economic growth	The project generally aims to develop a network of learning watersheds and watershed management decision support system. Specifically, it aims to: a) establish wireless sensor networks that will provide real-time information on water quantity and quality, local climate and soil conditions of selected watersheds;b) establish networks of permanent biodiversity monitoring plots; c) assess the interrelations of watershed and ecosystem services with human and natural factors;d) develop and/or validate models and tools on hydrology, biodiversity and land allocation; e) develop a data-integration and information-management system that synthesizes data from the watershed networks into real-time spatial estimates of water balance, sediment yield, flood and landslide risks; g) develop culture of research among graduate and undergraduate students in watershed management and allied fields; h) build up capacity of local government units, schools and other local stakeholders for watershed monitoring and for the use of watershed databases in planning and decision making; and i) generate data and information that will feed into the SARAI project and other related projects, and that will be useful in local and national policy development.	Year 1 New Watersheds Stakeholders mobilized, organized and agreements forged Established wireless sensor networks that provide real-time information on surface hydrologic and local meteorological conditions of the watersheds Established permanent biodiversity monitoring plots in all Learning Watersheds Watershed profiles Old and New Watersheds Validated water balance models Water-use efficiency characteristics of the key tree species Prototype of WDSS	UPLB. MMSU, ISU, ERDB, CMU, BUCAF	LGUs, farmers	01-Mar-15	31-Aug-17	ONGOING	14,873,800	603,636
	Pilot Testing and Utilization of Rapid Bioassay for Pesticide Residues (RBPR) System in the Philippines	Poverty reduction and empowerment of the poor and vulnerable	1.) Adopt the RBPR technology for acetylcholinesterase and pyrethroid tests for pesticide residues; 2.) Set up production areas of RBPR test kits for utilization and training of core analysts to be based on identified major trading posts; 3.) Develop protocol for pesticide residue monitoring of vegetables for pre and post harvest monitoring for vegetables using RBPR; 4.) Pilot test RBPR stations in strategic areas of vegetable trade in Metro Manila, Benguet, Laguna, and Quezon; 5.) Establish the utilization of RBPR technology in monitoring the pesticide residue of vegetables in the Philippines for farmer growers; and 6.) Promote the RBPR technology to appropriate regulatory bodies.	10 agricultural technicians and 6 market inspectors trained for monitoring vegetables in farms and markets; 10 vegetable researchers and chemists trained for monitoring pesticide residues as pre and postharvest test; Proposed system for pesticide residue monitoring of vegetables in the Philippines for policy adoption; Guidelines on the implementation of RPBR in the Philippines; Pilot tested RBPR kits for use in trading posts in Benguet, Quezon, and Laguna markets and for Government Regulatory Agencies and organic certifying bodies; Data on pesticide residues in vegetables in Benguet, Laguna, and Quezon farms using the different farming practices; Data on pesticide residues in major trading posts in Benguet, Laguna and Quezon; and Scientific publication and IEC material on RBPR	BSU, UPLB	Target beneficiaries are vegetable consumers in general, researchers and extension workers who work closely with vegetable farmers. If RBPR will be adopted by BAFS and require organic certifying bodies to use RBPR to monitor the accredited organic farms and farmer groups for self-regulation. The data generated can also be a basis for policy or regulation by government agencies dealing with food safety	01-Sep-15	28-Feb-18	ONGOING	8,000,000	449,874
	Pilot Testing of a Local Riding-Type Transplanter	Rapid, inclusive and sustained economic growth	General: To conduct pilot testing and assess the acceptability of the local riding-type rice transplanter performance in rice farmer's fields. Specifically the project aims to: To assess the actual field performance of the local ridingtype rice transplanter allowing the farmers to operate the commercial prototype. Fine tune the commercial prototype based on the actual field performance, durability test results, and the preference of the farmers" in terms of operation. Determine the appropriate materials needed for reliable and quality unit. To determine technical viability (machine performance), economic viability (benefit-cost) and social acceptability (machine operation and cost) of the prototype; and	A technically efficient, economically viable, and socially acceptable riding-type rice transplanter that is being manufactured by accredited manufacturers. Drafted IPR claims ready for submission to IPO Philippines prior to deployment to pilot areas Deployed at least 3 (three) prototype units in the pilot areas (Luzon, Visayas, Mindanao) Determined the readiness of cooperators to operate and maintain the transplanter Determined the technical performance and cost of operation of the technology Improved initial design of the developed technology Detailed engineering drawing of the different parts and components of the transplanter Trained at least 3 cooperators	PhilRice	Farmers/Seed Growers Seed Centers/Cooperatives Irrigators Association NGO's Private Company (Local Manufacturers)	01-Nov-16	31-Oct-18	ONGOING	4,527,613	2,374,048
	Pilot Testing of Combined Conduction and Far Infrared Radiation Dryer (Old Title: Pilot Testing of Far-infrared Radiation Paddy Dryer)	Rapid, inclusive and sustained economic growth	To pilot test the FIR paddy dryer using rice hull husk gasifier as a heat source.	1. 3 pilot testing sites established 2. 3 manufacturers trained on fabrication, assembly and installation 3. trained dryer operator farmers 4. Filed IPR claims and licensing of local manufacturers 5. detailed engineering drawings 6. cost-benefit and break even analysis	PhilRice	Farmers, farmer cooperatives, rice traders, millers, local manufacturers	01-Oct-17	30-Sep-19	NEW	4,997,557	1,673,876
	Pilot Testing of Impeller-Type Compact Rice Mill in Selected Rice Growing Regions	Rapid, inclusive and sustained economic growth	General The project aims to evaluate the socio-economic and technical viability and acceptability of the pilot-commercial unit to prospect end-users. . Specific (1) To determine the specific operational and management requirements to safely and profitably utilize the developed rice mill technology; (2) To identify various socio-economic factors that enhance/hinder the utilization of the developed rice mill technology; and, (3) To determine the economic implications in the use and adoption of the technology.	Drafted IPR claims ready for submission to IPO 3 Philippines prior to deployment to pilot areas Deployed at least 6 (six) prototype units in the pilot areas (Luzon, Visayas, Mindanao) Determined the readiness of cooperators to operate and maintain the rice mill Gathered socio-economic data in the field Determined the technical performance and cost of milling of the technology Established the physical characteristics of the output of the rice mill Improved initial design of the developed technology 54 sheets of detailed engineering drawing of the different parts and components of the rice mill Established possible market price of the developed technology Developed and updated user"s manual of operations Trained at least 6 cooperators	PhilMech	Farmers /Farmers-cooperatives – for the processing of their household requirements; Custom rice mill operators – given an alternative type of rice mill with less operating and maintenance costs; and Local manufacturers	01-Jan-16	31-Dec-17	ONGOING	3,667,983	954,211
	Pilot Testing of Longline Method for Green Mussel Culture in Traditional Areas	Rapid, inclusive and sustained economic growth	The project will pilot test the longline culture method of P. viridis in traditional culture areas in the Philippines.	Year 1 1. Comparative analysis of the production and economics of mussel using stake and longline culture methods in different pilot sites 2. Comparative analysis of the environmental effect of stake and longline mussel culture farms Year 2 1. Enhanced protocol, manuals and IEC's for establishment of longline 2. Information on the medium-term impact/effect of mussel longline method on yield 3. Information on the factors that influence adoption of mussel longline method 4. Information on the inputs that influence production efficiency 5. Policy recommendations for mussel culture 6. Publications	UPV	Private investors, fisherfolks, BFAR extension personnel, LGUs, educators, researchers	01-Sep-17	28-Feb-19	NEW	4,721,300	3,243,200

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Pilot Testing of Pre-, On-, and Post-, Harvest Facilities for Mango Production in Island Garden City of Samal (IGACOS), Davao del Norte	Rapid, inclusive and sustained economic growth	General To pilot-test and assess the acceptability and viability of the innovative technologies (spray nozzle, fruit picker and integrated postharvest facility) to the mango farmers, contractors and other agencies in IGACOS Specific conduct a verificatory field survey that determines pre-, on, and post-, harvest needs of mango growers in the Island Garden City of Samal: conduct hands-on training on the operation and maintenance of the developed technologies; fabricate the developed technologies and prototypes; conduct field testing to selected farmer-cooperators to further enhance or fine-tune the developed technologies; and determine and improve the economic and technological viability, and social acceptability of the mango tools and equipment/facilities	a. Trained export mango producing farmers – One (1) regional mango producers cooperative based in Samal and another Cooperative to be helped to develop to become an exporting entity in Davao Oriental b. Exportable volume of mangoes shall increase from baseline data of around 4Mt to an estimated volume of 6 MT per annum, effect of nozzle application of flower induction increases number flowers, Moreover, the technology reduced the volume of chemical spray losses by as much as 50% of the conventional loss. For harvesting, latex stain reduces by 73.00 % (27.4 to 7.3%) for the trigger type picker and 69.00 % (27.4 to 8.5%) for the pull type picker with insignificant number of fallen and mechanically damaged fruit. Reduce the anthracnose infestation by 85 to 94% using hot water treatment and increase the volume of exportable mango in IGACOS. c. Aware mango farmers of the technologies for its massive adoption and implementation d. Export-quality mangoes that would increase the value of cultivar "Carabao" for economic upsurge that will lead to less and minimal rejected mangoes therefore increasing the export-quality mangoes for 90%. e. Established technologies for mango production in IGACOS: The technologies in IGACOS are from the PAO tin tandem with the City Agriculturist Office of IGACOS and the Mango producers Cooperative in the Island. A memorandum of agreement shall be made between the Cooperative and the LGUs of the Province and IGACOS. f. Filed Patent/Utility Model for Mango Power Sprayer Nozzle	USeP	LGUs of IGACOS Mango farmers in IGACOS Mango contractual/ cooperators in IGACO	01-May-17	31-Jul-18	NEW	2,862,359	2,531,943
	Pilot Testing of Protein Enriched Copra Meal (PECM): A Valuable Protein Feed for Swine and Poultry (Phase II)	Rapid, inclusive and sustained economic growth	The general objective of this project is to establish a bioprocess system for the pilot scale production of Protein Enriched Copra Meal (PECM) and determine its feeding value in swine and poultry. Specific Objective: 1. To establish and develop the process design for the pilot scale production of PECM 2. To test and optimize process conditions for the production of PECM at pilot scale level 3. To produce PECM at pilot scale level and evaluate quality control parameters 4. To perform shelf life studies and stabilization methods for PECM 5. To carry out distribution and commercial testing of PECM to collaborating farms 6. To evaluate production cost based on business models generated 7. To develop sustainability strategies for the procured equipment and facility enhancements made	Year 1 Established optimum level for pilot scale production of PECM Established upstream and downstream processes of the pilot scale production of PECM Year 2 Product quality data and performance of PECM in swine and poultry Intellectual Property (IP) protection for the technology and product Promotion of PECM technology and commercialization initiatives Generated business models for producing PECM Developed sustainability strategies for the equipment purchased and facility enhancements made Publication: At least 3 published papers Patent: 1 patent for pilot scale production of PECM 1 patent for PECM microbial inoculant Product: At least 24 tons of PECM produced (after optimization) At least 500 kg PECM powder inoculant People and Services: Organized 2 trainings and 2 seminars for the technology 1 PECM Pilot Plant Facility Places and Partnership: 1 Established quality control and testing laboratory At least 4 MOAs for feeding trial experiments At least 1 Technology transfer agreement	UPLB	Swine and Poultry Farmers Feed Millers and Processors Copra producers	01-Nov-17	31-Oct-18	NEW	24,355,676	1,922,588
	Pilot Testing of WiltCure as a New Biocontrol Agent Against Fusarium Wilt of Solanaceous Crops	Rapid, inclusive and sustained economic growth	The project is the continuation of the project on Development and Promotion of New and Enhanced Biofertilizers, Biostimulants and Biopesticides for Increased Crop Productivity. It will deal wtig the utilization of Wiltcure as a new biocontrol agent against fusarium wilt of tomato, hot pepper and eggplant in multilocation trials over two cropping seasons. Field testing will be done in Laguna, Quezon, Nueva Ecija, which are major producers of the solanaceous crops that will be studied.	Year 1: Best application method, optimum dosage and frequency of application of WiltCure as a biocontrol agent against Fusarium wilt of solanaceous crops Year 2: Validated technical and economic efficiency of WiltCure; Increased capacities of stakeholders including farmers and technicians through conduct of trainings.	UPLB, CLSU	Farmers, consumers, entrepreneurs, researchers, students	01-Oct-17	30-Sep-19	NEW	5,000,000	2,647,179
	Piloting a Profitable and Sustainable Commercial Scale Zampen Native Chicken Breeding Operation	Rapid, inclusive and sustained economic growth	The proposed project aims to evaluate the economic potentials and sustainability of commercial scale production of breeder Zampen native chickens. Specificifically, the project aims to: validate the breeding efficiency and production performance of breeder quality Zampen native chickens in larger scale at SRPPF and JHCSC. establish and evaluate the economic viability of Zampen native chicken in commercial scale operations. enhance the capability of native chicken farmercooperators, SRPPF employees and inmates and JHCSC animal science faculty in establishing a sustainable native chicken production units.	30,000 quality day-old Zampen native chicks 3,000 quality breeder Zampen native chickens 30 soon-to-be released inmates trained in sciencebased native chicken breeding and selection	WMSU	The project beneficiaries are: SRPPF soon to be released prisoners Student, staff and researchers of WMSU Student, staff and researchers of JHCSC Native chicken raisers in Zamboanga peninsula	01-Nov-16	31-Oct-18	ONGOING	4,499,812	2,012,135
	Plantation Management Strategies for Natural Stands and Newly Established Stands of Sago Palm in Visayas and Mindanao	Rapid, inclusive and sustained economic growth	The project aims to conserve and sustain the productivity of existing natural sago stands in Mindanao through appropriate management practices and evelop pilot scale sago plantation in selected areas in Visayas and Mindanao for sustained productivity and support dwindling supply of sago starch from natural stands	Established 6 hectares of new sago plantation. - Rehabilitated 9 hectares of natural sago stands - Trained at least 40 sago growers/LGU technicians - Develop 1 type of IEC material (print) on protocol for managing natural sago stand and developing new sago plantations - Policy recommendation on the management of natural and established sago stands/plantations	VSU, ASU, CarSU	sago palm farmers	01-Mar-16	28-Feb-19	ONGOING	4,996,810	1,446,806
	Policy Studies and Development to Promote the Resiliency of Philippine Watersheds	Transparent, accountable, and participatory governance	This study will identify and assess major policy issues and concerns crucial to resilience and sustainability of watersheds: 1) Identify and assess facilitating and constraining factors related to 4 key areas of concern 2) Explore potential interventions and reforms needed to enhance enabling policy environment 3) Devise institutional mechanisms that will facilitate institution of policy reforms 4) Identify resources required to implement needed policy actions 5) Formulate and package identified major policy actions crucial to resilience and sustainability of watersheds	1. Policy on institutionalization of Payment of Environmental Services (PES) 2. Policy institutionalization of Formation of Multi Sectoral Management Council 3. Guidelines for Promotion and Development of watershed-based comprehensive land use, allocation, development planning and regulation 4. Watershed Policy Forum 5. Two (2) scientific journal publications	UPLB	DENR, LGUs, stakeholders	01-Jun-17	31-May-19	NEW	4,844,232	2,640,996
	Potato Seed Production through Aeroponics (Phase I: Technology Development)	Poverty reduction and empowerment of the poor and vulnerable	General To develop a low-cost technology aeroponics system for clean white potato seed production. Specific Objectives 1. To design an aeroponics facility (greenhouse and mist system) specific for potato seed production; 2. To formulate a nutrient solution most suitable for highland potato seed production; 3. To determine the best planting material for aeroponics potato seed production system; and 4. To compare aeroponics potato seed with conventionally-produced potato seed in farm trials.	Year 1: Started re-designing of existing greenhouse at DA-NMACLRC and mini-greenhouse at IPB-UPLB Collected micro- environment data at UPLB Collected data on the growth of potato Evaluated different nozzle/mist system in aeroponics Started evaluation, optimization, and improvement of the CIP nutrient solution Year 2: A prototype of a greenhouse and an aeroponics system specific for potato seed production Nutrient formulation for aeroponics system for potato seed production under Philippine conditions Year 3: Compared aeroponically and conventionally produced seed potato in farm trials for two seasons A cost and return analysis between aeroponically-produced planting materials and conventional method A production manual on technology for the production of diseasefree potato mini-tubers as potato seed and a protocol on aeroponics system.	UPLB, DA-NMACLRC	Highland vegetable farmers and commercial seed growers in Regions 10, 11 and CAR	01-Nov-14	30-Apr-18	ONGOING	4,999,382	1,430,802
	Pre-Commercialization of Forage-based Pellet Feeds for Goats: Feasibility Analysis	Rapid, inclusive and sustained economic growth	General: This project aims to increase technology readiness of forage-based pellets for goat in preparation to commercialization. Specific: 1. To produce 3,000 kg each of two variants of forage-based pellets for growing goats and 4,000kg each for lactating goats in pilot scale; 2. To conduct field testing and evaluation of the different variants of forage-based pellets feeds; 3. To determine potential demand for forage-based pellets; and 4. To scale-up promotional activities for forage-based pellet feeds.	The following are the expected outputs of the project: a) Production of 3,000kg each of the two variants for growing goats and 4,000kg each for lactating does b) Feeding value of forage-based pellets to growing and lactating goats c) Shelf life characteristics of the pellets d) Design and packaging and application for copyright and trademark e) Acceptability study f) Feasibility analysis g) Business plan h) IEC materials and a website to showcase the product and the technology through the social media. i) Established linkage between CLSU and goat raisers and potential investors j) Process documentation	CLSU	3 goat raisers operating at 3 different production levels 90 goat raisers from 3 sites 30 members of association 18 agricultural suppliers	01-Nov-16	30-Apr-18	ONGOING	2,175,910	511,302
	Pre-Commercialization Services of Rice Transplanter Attachment (RTA) and Rice Harvester Attachment (RHA) for Hand Tractor	Rapid, inclusive and sustained economic growth	General: To support the commercialization of the RHA and RTA technologies through the conduct of pre-commercialization activities. Specific: - To facilitate the filling of IP protection for the RHA technology and prosecution of the patent application for the RTA technology; - To evaluate the potential and determine the commercial viability of the RHA and RTA technologies through the conduct of a feasibility study and business plan analysis; - To determine the market viability of the RHA and RTA technologies through the conduct of a full blown market study; - To promote the technology to potential adopters/investors through participation in various trade events, technology fora and exhibits	People: 1 Market Study Report prepared, 1 Feasibility Study Report prepared, 1 Business Plan prepared Patent: RHA technology applied for IP protection Publication: At least 2 IEC materials developed for promotional activities	MIRDC	Farmers, rice field owners and planters, agri-cooperatives and local fabricator shops	01-Jun-17	30-Nov-18	NEW	4,508,333	3,554,328

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Processing and Wood Quality Evaluation of Paper Mulberry (Broussonetia papyrifera L.) L'Herit ex Vent) for Furniture, Handicrafts, and other by-products	Rapid, inclusive and sustained economic growth	General: Establish potential utilization of paper mulberry wood based on physico-mechanical and processing properties. The utilization of this invasive species can be a potential strategy to regulate the invasiveness of the species as well as take advantage of the opportunity to make use of the species as a resource and raw material for the wood-based industry and for livelihood and enterprise of community where the species abound. Specific: 1. Determine the wood density, shrinkage and strength properties of paper mulberry; 2. Establish an appropriate sawmilling technique for optimum lumber recovery; 3. Develop a suitable kiln drying schedule; 4. Determine the bending quality of paper mulberry for handicrafts and furniture production; 5. Develop prototype furniture and test performance based on ISO standards; 6. Assess the suitability of the species for handmade paper, charcoal/briquette and pyroligneous liquor production; and 7. Prepare a pamphlet/primer on wood properties and potential utilization of paper mulberry.	Year 1: ? GIS base map of potential sources of log supply ? Data on lumber recovery and grading ? Data on physic-mechanical properties ? Wood bending quality rating for paper mulberry ? Bentwood components for furniture and handicrafts ? Kiln drying schedule for paper mulberry ? Evaluated machining properties of paper mulberry ? Production of paper mulberry for handmade paper , charcoal and pyroligneoud liquor Year 2 ? Production and analysis on charcoaling/ briquetting and handmade paper making ? Consolidated data/information on properties and processing of paper mulberry ? Terminal report with primer on paper mulberry processing and utilization	FPRDI	Furniture, handicrafts, handmade paper and charcoal producers; private tree farmers	01-Apr-17	30-Sep-18	NEW	1,584,826	1,145,917
	Production of Quality Planting Materials of Selected Vegetables, Legumes, Herbs and Fruits Trees(Old Title:Technology Demonstration on Organic Production of Lowland Vegetables and Legumes)	Rapid, inclusive and sustained economic growth	1. To establish techno demo area on organic production of lowland vegetables, selected field legumes and fruit trees; 2. To showcase nursery management on seedling production of lowland vegetables, herbs and fruit trees; 3. To disseminate organic vegetable production technologies to farmers, students, technicians and interested individuals	1. A Technology Demonstration Area for package of technologies on selected lowland vegetables, legumes, herbs and fruits; 2. Conducted at least 2 field days	BPI-LBNCRDPSC	Local and international organizations, local government technicians, farmers and individuals	01-Mar-17	31-Aug-18	NEW	3,911,990	2,639,499
	Refinement of Mussel Transplantation Techniques for Developing Mussel Farming Industry in Quezon (old title: Establishment of Green Lipped Mussel (Perna viridis) Nursery Farm in Tagkawayan, Quezon)	Rapid, inclusive and sustained economic growth	The primary objective of the study is to improve the mussel transplantation techniques for developing mussel farming industry in Quezon. Objectives of the study include the following: 1. Test developed transplantation protocol in establishing reproductive population. 2. Determine financial feasibility of using the transplanted mussels. 3. Develop management strategies for sustainable mussel transplantation	Year 1 3 Partnership with other State Universities and Colleges, LGU and other organization in mussel culture Year 2 Established transplantation protocol in reproductive population of mussel Financial analysis of mussel transplantation in Tagkawayan, Quezon with or without transplanted mussel publications, IEC materials fliers or brochures of the refined technology Developed management strategies for sustainable mussel transplantation	SLSU	There are many potential micro- entrepreneurs in the Philippines who cannot afford to conduct their own product development and who would welcome a new type of business activity. Other beneficiaries include mussel farmers, vendors, processors, exporters, researchers, technicians/extensionists, policy makers, and consuming public.	01-Aug-17	31-Jul-18	NEW	2,500,000	2,500,000
	Rehabilitation and Restoration of Typhoon-Damaged Research Facility of the PCAARRD Multi-Agency Research and Development Program on Conservation, Improvement and Profitable Utilization of Philippine Native Pig at the Marinduque State College in Torrijos, Marinduque	Integrity of the environment and climate change adaptation and mitigation	Requests for a rehabilitation and restoration financial assistance for the PCAARRD Multi-Agency Research and Development Program on Conservation, Improvement and Profitable Utilization of Philippine Native Pig at the Marinduque State College in Torrijos, Marinduque Specifically: 1. To re-construct the typhoon-damaged research facility of the Native Pig R&D Program. 2. To develop and improve the forage plantations with installation of water system in anticipation of the dry spell after the typhoon.	1. Re-constructed Infrastructures 2. Developed forage Areas	MSC	PCAARRD Multi-Agency Research and Development Program Research Facility in Marinduque State College in Torrijos, Marinduque	01-Mar-17	28-Feb-18	NEW	452,270	452,270
	Rehabilitation Strategies for Critical Mangrove and Coastal Forests in Coastal Communities of Western and Northwestern Leyte (COASTAL FORESTS REHAB PROJECT)	Rapid, inclusive and sustained economic growth	? Assess the current socio-economic and biophysical condition of the prospective mangrove and coastal forest areas which will serve as a basis in the identification and implementation of alternative rehabilitation strategies ? Identify and develop through participatory process site- and situation specific mangrove and coastal forest rehabilitation approaches ? Adopt and implement IEC approaches to increase awareness, understanding: and appreciation of coastal communities on service value of mangrove and beach forests to mitigate climate change and for conservation of biodiversity ? Identify and evaluate possible gender roles of and responsibilities affecting men's and women's participation in the rehabilitation efforts ? Determine the impact of the project on the ecological and socioeconomic condition of covered communities ? Make policy recommendations for responsive and sustainable management and protection of critical mangrove and coastal forests while providing livelihood opportunities to local communities	1. Baseline socio-economic and biophysical profile of selected mangrove and coastal forests sites produced to include maps and situation analysis. 2. Local mangrove and coastal forests rehabilitation and management plan put in place in every partner local community. 3. Established mangrove and coastal forests Rehabilitation cum demo sites in selected coastal communities which are expected to serve as effective protective greenbelt against strong winds, big waves and storm surges, and as training-demo sites for local communities. 4. Creation of mangrove and beach forests-based livelihood opportunities for local communities 5. Created and/or strengthened local POs for coastal and mangrove forests management and protection 6. IEC materials (such as booklets and videos) on mangrove and coastal forests rehabilitation developed and disseminated 7. Established local mechanisms and/or governance alternatives for sustainable management and protection of critical mangrove and coastal forests sites (eg. local declaration of critical mangroves as protected mangrove sanctuary, local ordinance for coastal forest protection and sanctuary establishment, etc.) 8. Established and/or strengthened linkages with LGUs of Baybay City and Isabel, Leyte, DENR-CENROs in Baybay City and Albuera, Leyte, BFAR, DILG, DOST 8, NGOs/POs, and private companies such as PASAR Smelting Plant 9. Improved ecological and socio-economic value of critical mangrove and coastal forests sites for coastal community protection, biodiversity conservation and livelihood. 10. Improved awareness and appreciation of local communities on the protective, ecological, and economic value of mangrove and coastal forests. 11. Improved local capability and sustained participation on mangrove and coastal forests rehabilitation, management and protection. 12. Increased level of economic living of participating households and covered communities	VSU	The target beneficiaries of this proposed project will be the typhoon affected coastal communities of Baybay City in Western Leyte, and Isabel in Northwestern part of Leyte. Local governments at the barangay, municipal and city levels will also be benefited in terms of technical support through the capacity-building activities of the project such as training and in planning and/or program development for mangrove and coastal forests rehabilitation, management and protection. Owners and operators of economic establishments in the coastal areas such as beach resorts, coastal ecotourism parks and restaurants, and industrial establishments are part of the stakeholders who will be directly benefited. This project will also serve as support activity to the coastal resources management programs of line agencies such as the Department of Environment and Natural Resources (DENR), Bureau of Fisheries and Aquatic Resources (BFAR) and the Department of Interior and Local Government (DILG).	01-Aug-15	31-Jul-18	ONGOING	3,500,000	866,337
	Revitalizing the Abaca Industry through S&T Interventions for Higher Crop Productivity Using High-Yielding and Virus-Resistant Abaca Hybrids	Poverty reduction and empowerment of the poor and vulnerable	The general objective is to reinvigorate the abaca industry by improving the farm productivity to 1.2 mt/ha/year through the use of high-yielding and virus-resistant abaca hybrids and its package of production technologies, thus improving income of abaca farmers. Specific: To assess the agronomic and economic performance of new BTV-resistant abaca hybrids in the multi-location trials; to promote and distribute nationwide the propagated 2.5 million seedlings of the new BTV-resistant abaca hybrids, including in the Yolanda-hit areas; to further characterize and evaluate reaction of new BTV-resistant abaca hybrids to the other abaca virus diseases â€" mosaic and bract mosaic; and to determine the performance of the hybrids if employed with different package oftechnologies, including drip irrigation and fertilization/fertigation.	? Assessed the abaca hybrids against other major diseases ? Established 11 nurseries and 4 demonstration farms/trials ? Demonstrated abaca hybrids and POT including drip irrigation/fertigation ? Distributed 2.5M seedlings to 1,568 abaca farmer	BU, CarSU, CatSU, PhiFIDA V, PhilFIDA VIII, PhilFIDA XI, UEP, USEP, USM, UPLB, VSU, WMSU	Farmers/Farmer Cooperatives, nursery operators, Local Government Units (LGUs), and abaca processors	01-Mar-16	28-Feb-19	ONGOING	45,670,799	12,229,879
	Rubber, Coffee and Cacao: Building Site Matching Functions for Improved Upland Development	Poverty reduction and empowerment of the poor and vulnerable	The project aims to develop site matching functions for four economically important tree crops to aid farmers in selecting the best sites in planting these crops. Specific objectives include a) Assessment of the performance of rubber, cacao and coffee in different parts of the country; b) Identify and determine the site condition favorable for the growth, survival and good yield of these species; c) Develop site matching functions of each of the species/varieties and to use these functions in developing a site-matching software.	1. Assessment of the performance (growth, survival and yield) of selected species in different areas in the Philippines; 2. Environmental information of site favorable for the plantation establishment of selected tree species; 3. Computer software for species-site matching of selected species; and 4. Set of policy recommendations regarding species-site compatibility.	ERDB	Rubber, cacao and coffee farmers, processors and traders	16-Nov-16	15-Nov-18	ONGOING	3,473,853	944,577

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	S&T Action Frontline Emergencies (SAFE) on Flood Prone and Soil Erosion Intensive Areas Using Bamboo in the Province of Maguindanao, ARMM	Rapid, inclusive and sustained economic growth	To demonstrate how to reduce soil erosion along Rio Grande de Mindanao in the province of Maguindanao by plpanting bamboo along the riverbanks	Year 1: Products: 30,000 bamboo seedlings produced in the central nursery and sub-nurseries Publications: 3 New IEC materials published and distributed to different beneficiaries (for barangay officials, for the peoples organizations and another one for the high school students) about essentials of bamboo for riverbank rehabilitation, soil erosion and flood control and manual on the propagation and growing of bamboo One video documentation on the status in terms of riverbank erosion and flooding and of Rio Grande De Mindanao Five training module written People and Services: 90 persons trained on bamboo appreciation for riverbank rehabilitation and nursery establishment, maintenance and utilization Places and Partnerships: 3 MOAs signed between the barangay and MSUMaguindanao on the establishment of sub-nurseries. Established linkage with major projects that utilize bamboo for riverbank rehabilitation Policy: Policy on riverbank stabilization through bamboo technology Year 2: Products: 30,000 bamboo seedlings produced Publications: 3 new IEC materials written and distributed for bamboo entrepreneurs (shoot for food, handicrafts and furniture). 2 PCAARRD IEC material on the bamboo utilization translated on the local dialect Production of one page flyer Patents: Developed methods and mechanisms for preservation of bamboo shoots for food People and Services: 60 persons trained on bamboo for food preservation (20), handicrafts (20), and furniture utilization (20) Places and Partnerships: Established linkage with least two bamboo product processing plant Policies: 1 policy developed after local stakeholder consultation for the protection of bamboo for overharvesting and utilization of bamboo products. Year 3: Products: 30,000 bamboo seedlings produced 1,500 bottled bamboo shoots 500 pcs bamboo handicrafts (handbags and wallets) 100 pcs bamboo furniture (chairs and tables) 78 km bamboo plantation established, protected and maintained Publications: One publication on the effectiveness of bamboo for river stabilization using the scheme utilized. 1 video documentation on the status of riverbank erosion and flooding along	MSU-Maguindanao	The target beneficiaries of the project are the farmers, fishermen and residents along the 78 km Rio Grande de Mindanao traversing within the political boundary of the Province of Maguindanao and the small scale bamboo entrepreneurs in the province.	01-Apr-17	31-Mar-20	NEW	4,874,434	2,233,052
	S&T Based Farm on the Use of Trichoderma Microbial Inoculant (TMI) for Increased Survival and Early Establishment of Tree Crops in Cacao-Coffee Agroforestry System for the Aytas (Magbukun Tribe) in Kanawan Negritos Reservation Area in Morong, Bataan (Old Title:Establishment of Species-based Cacao-Coffee Agro-forestry System in Kanawan Negritos Reservation Area (KNRA) in Morong, Bataan)	Rapid, inclusive and sustained economic growth	General: To integrate the use of compost and Trichoderma microbial inoculant (TMI) in Aytas agroforestry system to ensure higher survival rate and establishment of tree crops in reforestation site and in farm lots of Ayta families in Kanawan Negrito Reservation Area in Morong, Bataan, thereby presenting a long term livelihood option for the IPs as well as conserving and expanding the remaining forest in the reservation Specific: 1) To Improve the coffee, cacao and other tree seedlings' survival and establishment in the grassland site (10 ha) and increase Ayta farmers' annual crop yields (200 m2) with the use of TMI and Trichoderma-generated compost; 2) To engage the Aytas to plant coffee and cacao and maintain their tree crops in their family farm lots; and 5 3) To continue reforestation of brush land (10 ha) contiguous to the remaining forest patches in KNRA.	Year 1 1. Change in attitudes and responses of the Aytas to the agricultural interventions presented by the project; 2. Strategy for Ayta families' adoption of planting of coffee and cacao in their farm lots; 3. 30% increase of yield of Aytas annual agricultural crops; 4. expansion of forest cover in the reservation from 28 ha sec forest to 30 ha; viable agroforestry system in the reservation; Year 2 5. 20% increase of growth rate of cacao and coffee from the model Aeta farm (2ha farm lot) in comparison to the performance of trees in the other farmer's farm lots 6. 20% increase in survival rate, growth and shorter gestation period of planted coffee/cacao on grassland site 7. expansion of forest cover in the reservation from 30 ha sec forest to 38 ha; viable agroforestry system in the reservation; 8. Publishable journal article drafted;	UPLB	The Magbukún Aytas in the KNRA in Morong, Bataan	27-Oct-16	26-Oct-18	ONGOING	3,151,235	806,604
	S&T Based Social Enterprise Development and Piloting for the Marginalized Sectors of Los Baños	Transparent, accountable, and participatory governance	General Objective: Develop and pilot test S&T-based Social Enterprises for the drug related vulnerable populations Specific Objectives 1. Describe the socio-economic profile and specific circumstances of selected respondents fron the identified marginalized sectors of Los Baños 2. Determine their values, aspirations, skills and knowledge 3. Identify S&T based social enterprise that match their aspirations, skills and knowledge 4. Assess the social enterprise landscape in Los Baños; 5. Identify the existing S&T based social enterprises which match the values, attitude, skills, and knowledge of the selected respondents of the identified marginalized sectors, or establish new S&T based SE 6. Develop and pilot test S&T-based business models or enhance existing ones 7. Foster multi-stakeholder partnerships and linkages including policy makers for social enterprises in Los Baños 8. Ensure the sustainability of the project by fostering multi-stakeholder partnership and including linkages particularly with the LGU of Los Baños	1. Socio-economic profile and specific circumstances of those considered vulnerable to illegal drugs; 2. Assessment of needs and opportunities of economic productivity and social integration of those considered vulnerable to illegal drugs; 3. Documentation of the values and aspirations of those considered vulnerable to illegal drugs; 4. Profile of social enterprise landscape in Los Baños; 5. Identification of the needs and opportunities of the social enterprises in Los Baños; 6. Number of trainings and workshops conducted for capacity building of social enterprises; 7. Business models developed and pilot tested for enhancing existing or new social enterprises; 8. Establishment or enhancement of multi-stakeholder partnerships and linkages for social enterprises in Los Baños 9. At least one paper for journal publication	UPLB	1. People who surrendered due to illegal drug use and drug trading, including their family members 2. Municipal government of Los Baños, and especially the village study sites 3. Local NGO's People's or community-based organizations 4. Government agencies such as DSWD, PNP, DA, DOST	15-Nov-16	14-Nov-18	ONGOING	4,992,454	1,083,364
	S&T Community Based Farm on Strengthening the Abaca Production Through Rehabilitation and Nursery Management in Sogod, Southern Leyte	Rapid, inclusive and sustained economic growth	1. To improve farm productivity and increase the productivity and increase the production of quality fiber from the current 20kg/ha/yr to 1200 kg/ha/yr starting 2017 due to use of high yielding and virus-resistant hybrids (HYVs). 2. To showcase the S&T based farming of abaca through the establishment of 2 demonstrations and 4 nursey farms for HYVs abaca. 3. To provide common service facilities to the 4 identified barangays. 4. To build capabilities of beneficiaries through trainings. 5. To build and enhance active linkages with other NGAs, SUCs, LGUs, farmer groups, processors and market clients.	1. Established four (4) nurseries for HYVR abaca. 2. Established two (2) demonstration farms at 0.5 hectare each for HYV abaca. 3. Developed one (1) training module on hybrid abaca production. 4. One marketing agreement forged. 5. Trained at least 10 abaca farmers and 10 personnel from partner member agencies/project staff on the appropriate S&T interventions for abaca production (Training on abaca fiber grading and classification/sorting. 6. Improved cultural management and post harvest facilities. 7. Increased yield through the use of improved stripping machines as common service equipment in the four (4) barangays.	DOST 8	NGAs, SUCs, LGUs, farmer groups, processors and market clients	01-Dec-14	30-Nov-17	ONGOING	3,812,664	1,806,490
	S&T Community-Based Farm for Oyster Mushroom Production as an Alternative Source of Livelihood in Disaster Vulnerable Areas in Region 1	Rapid, inclusive and sustained economic growth	To provide alternative source of livelihood to the disaster vulnerable communities of Region 1 using the Mushroom production technology through STCBF approach.	Product: 5 technologies transferred; 9000 fruiting bags (3000 per province); 10,500 kg mushroom (3x3500 kgs) People and Services: 3 farm clusters (1 per province); 15 technicians trained (from PLGU and MLGU) 15 trainings (5 trainings per province); 225 trainees; 3 laboratories established (1 per province) Places and Partnerships: 4 MOA/MOU signed (1 per province: SUC-LGU-Cluster; and 1 MOA among SUCs); Publications: 3 IEC materials developed, translated and distributed (3 x 1000 = 3000 copies); 5 training modules; Patents: 3 publication with copyright Policies: 3 marketing policy/guidelines	UNP	-Farmers - Fishermen - Women's Organizations	15-Apr-17	14-Apr-19	NEW	4,043,006	2,247,003

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	S&T Community-based Farms (STCBF) for a Sustainable Cacao Production in Bukidnon	Rapid, inclusive and sustained economic growth	General objectives: This project aims to promote cacao HYV new plantations for a Climate Change-Primed and Sustainable Cacao Production in Bukidnon / Northern Mindanao through the Science and Technology Community-Based Farms (STCBF) approach. Specific Objectives: a) To establish one hectare organic cacao HYV bud-wood garden and nursery (accredited by BPI) in CMU, Bukidnon; b) To capacitate the rural people of Bukidnon in organic cacao HYV budwood garden and nursery operations and intercropping with annuals; c) To showcase and encourage wider adoption of organic HYV budwood garden and nursery and intercropping with annual crops for cacao; d) To enhance the active participation of and empower the community, particularly, the LGU/s and local organizations in promoting HYV budwood garden and nursery, intercropping with annuals, and water impounding for cacao production; and e) To identify and evaluate the norms, roles and responsibilities of men and women in the production of cacao	Year 1 a. Established and maintained at least eight linkages with various cacao stakeholders; b. Organized four (4) clusters of 37 cacao farmers from four (4) municipalities; c. Capacitated at least 42 cacao farmers, CMU staff, and LGU technicians on cacao nursery, budwood garden and plantation establishment and management; d. Established onehectare accredited cacao nursery and budwood garden under the CMU management; e. Promoted cacao nursery-budwood garden technologies thru Technology Field Day and/or cross visits; f. Developed, translated and/or distributed at least one IEC materials/ training modules and videography; Year 2 g. Maintained at least eight linkages with various cacao stakeholders; h. Maintained the onehectare accredited cacao nursery and budwood garden under the CMU management; i. Capacitated at least 42 cacao farmers, CMU staff, and LGU technicians on new cacao plantation establishment and management with intercropping; j. Established 9.25 hectares of new cacao plantation cum demo farm (0.25 hectare per farmer) with intercropping in four (4) municipalities; k. Promoted cacao plantation technologies thru Technology Field Day and/or cross visits; l. Developed, translated and/or distributed at least one IEC materials/ training modules and videography; m. Conducted an initial gender-sensitive business and sustainability planning; n. Conducted gendersensitive policy consultation for cacao industry Year 3 o. Established and maintained at least nine linkages with various cacao stakeholders; p. Maintained the onehectare accredited cacao nursery and budwood garden under the CMU management; q. Maintained 9.25 hectares of new cacao plantation cum demo farm (0.25 hectare per farmer) with intercropping in four (4) municipalities r. Promoted cacao production technologies thru Technology Field Day and/or cross visits; s. Developed, translated and/or distributed at least one IEC materials/ training modules and videography; t. Developed a gender-sensitive business and sustainability plan for cacao production; and u. Developed a gender-sensitive policy recommendation for cacao industry.	CMU	Cacao tree growers and other farmers	01-Aug-16	31-Jul-19	ONGOING	4,724,073	839,767
	S&T Community-based Farms (STCBF) on Promoting Rubber Plantations in the Province of Basilan, ARMM	Rapid, inclusive and sustained economic growth	General Objectives: To upscale the application of S&T interventions and expand the area for rubber through massive production of high quality planting materials, thereby, increasing productivity of rubber in Basilan Province. Specific objectives: 1. To promote wider adoption of the recommended technologies through the community-based STBF modality of at least 100 rubber farmers, including members of 3 ARB cooperatives; 2. Establish a central nursery and budwood gardens that will cater and sustain small rubber growers and would-be growers by 2015 onwards; 3. Assist the agrarian reform beneficiaries (ARBs) cooperative for sourcing out new clones that could be used in the expansion and rehabilitation of rubber farms in Basilan; 4. Assure rubber growers with highly productive and certified clones; 5. Encourage small farmers through the cooperatives to engage integrated rubber farming in support to environmental protection and conservation and help relieve the pressure on the natural resources; 6. Contribute to the demand gap of natural rubber; 7. Support the rubber industry under the National Rubber Development Program (NRDP), the One Town One Product (OTOP) Program, High Value Commercial Crop Program (HVCC), and the Provincial/Municipal Comprehensive Development Plan; and 8. To enhance active participation and empower the community, particularly, the LGUs and local organizations in promoting the application of the recommended technologies.	a. Established one accredited rubber nursery (0.5 ha) and budwood garden (0.5 ha) as an IncomeGenerating Program under the management of Basilan State College, Sta. Clara Campus; b. Organized four clusters of rubber farmers who are interested to pursue rubber clonal plantation and processing in those four barangays of Lamitan City; c. Capacitated 30 BSC IGP staff, existing nursery operators, LGU technicians and interested nursery operators on various skills related to nursery and budwood garden establishment and management; d. Capacitated around 65 farmers, LGU technicians and interested smallholders on various skills related to rubber plantation establishment and management; e. Established and maintained at least nine linkages with various h. Established four demonstration farms (1.0 hectare each) for rubber plantation, production and processing in four barangays of Lamitan City; namely, Lumuton, Boheyawas, Sta. Clara and Limo-ok; i. Promoted various rubber plantation/production technologies through Technology or Farmer's Field Day and/or cross visit sponsorship at least once during year two; j. Developed, translated and/or distributed 250 copies of IEC materials on rubber plantation/production; k. Developed a gendersensitive business and sustainability plan to ensure the continuity of the project; and iii Project Executive Brief As of January 12, 2016 /atr5 Rubber 15 STCBF 2016 5 of 40 rubber stakeholders, namely: USM, PLGU-Basilan, LGULamitan City, two ARB coopertives, DOST-ARMM, DAFARMM, DTI-ARMM, and PCIEERD; f. Developed, translated and/or distributed 250 copies of IEC materials on rubber plantation/production; g. Initiated discussions and plans with DAF-ARMM, DTI-ARMM and/or PCIEERD for supporting the expansion of rubber plantations, establishing a shared service facility for rubber processing, and developing other support mechanisms for the rubber industry, respectively, in Basilan. l. Initiated and/or developed a gender-sensitive policy recommendation related to the promotion of rubber plantation in Lamitan City or Basilan.	BASC, DOST ARMM	Rubber tree growers/ farmers	01-Mar-16	28-Feb-18	ONGOING	2,000,000	1,390,041
	S&T Community-based Model Farm on Bamboo and Bamboo Woven Products: An Eco/Agri Tourism Theme Park in Maasin, Iloilo City	Rapid, inclusive and sustained economic growth	General objective: Showcase tourism-technology convergence through the demonstration of S&T-based technologies on increasing bamboo production in Maasin, Iloilo as an ecotourism destination; Specific Objectives: 1. Develop a model that would showcase S&T-based technologies in managing bamboo farm for increased and sustained production of bamboo poles as a special feature in Maasin, Iloilo as an ecotourism destination; 2. Promote wider adoption of science-based technologies on bamboo rehabilitation and plantation development; 3. Enhance active participation of local community members adjacent to Maasin, Iloilo, particularly farmers from the municipalities of Alimodian and Janiuay; 4. Identify the gender roles and responsibilities of men and women participating in the production of woven bamboo products in Maasin, Iloilo.	1. Established the following model farms, each with its own special feature: a. Model bamboo nursery of Buntalan; b. Model farm of Daja featuring rehabilitated bamboo plantation; c. Model farm of Abay for a newly-established bamboo plantation in plain/flat areas; d. Model farm of Dagame for a newly-established bamboo plantation in hilly/sloping areas; and e. Model facility of Bolo for bamboo post-harvest processing and weaving. 2. Established and/or strengthened six (6) linkages --- namely, DOST-PSTU-Iloilo, DOT R6, DTI-Iloilo, LGU-Maasin, LGU- Alimodian and LGU-Janiuay 3. Launched and established the eco-/agri- tourism business development plan for Maasin, Iloilo 4. Promoted the "ISP-based technology convergence" as a techno tourism or techno radiation program to at least two neighbouring municipalities 5. Developed at least one local (gender-sensitive) policy/ordinance relevant to the bamboo ISP 6. Conducted at least two capacity building activities; 7. Developed at least one video documentation for bamboo; 8. Documented the roles of men and women in the production of woven bamboo products in Maasin ,Iloilo.	ERDB	Bamboo growers/ Weavers	01-Mar-16	28-Feb-19	ONGOING	3,758,812	1,044,604
	S&T-Based Agricultural Farming Interventions on Resilient Pili Nursery and Plantation Rehabilitation Typhoon Nona Stricken Mondragon, Northern Samar	Rapid, inclusive and sustained economic growth	General: To increase the propagation of high quality Pili trees to revitalize the Pili industry in Northern Samar and enhance the capabilities of Pili farmers in nursery and orchard management. Specific: 1. To establish and operate two typhoon-resilient Pili nursery and scion groove of one hectare per site for the propogation of high yielding Pili planting materials 2. To distribute and propogate 20,000 Pili seedlings using NSIC-accredited Pili varieties/lines identified in Northern Samar 3. To rehabilitate at least 100 hectares of existing Pili farms and establish an additional 100 hectares Pili plantation throughout the province. 4. To train and assist the farmer-cooperators/beneficiaries in the establishment/re-establishment, nursery care maintenance of Pili farms using recommended cultural management practices. 5. To develop a protocol for nursery and orchard establishment and management available under local conditions.	People and Services: 1,000 farmer-beneficiaries/cooperators; 3 trainings conducted on:-2 nursery establishment/re-establishment and orchard management conducted - 1 policy conforming to LGU conducted at the end of project; 1 existing UEP Nursery and Socion Groove to be utilized and rehabilitated Partnerships: 4 partnerships/linkages to be established between the LGUs, Academe, NGAs and farmer groups (3 production and 1 marketing); 2 MOAs to be drafted/signed by and between PCAARRD & DOST-8; and DOST-8-UEP-LGU Mondragon; Policy: 2 protocol for Pili nursery and Plantation Management; 1 local ordinance from the provincial level and 1 resolution at municipal level on establishment/re-establishment of pili plantation as part of the greening program Product: 20,000 new NSIC Pili trees planted Publication: 2 Protocol for Pili Nursery and Plantation Management in English and Vernacular version; 3 Training Module on Nursery Establishment, Nursery Care & Management and Pest Management English and Vernacular version; Patents: 2 Protocol for Pili Nursery and Plantation Management in English and vernacular version (for Copyright Application)	DOST Regional Office No. VIII	Pili farmers, farmers' associations in Mondragon, N. Samar	01-Jul-17	30-Jun-18	NEW	2,392,310	2,100,310
	Science and Technology Community-Based Farm (STCBF) on Spray Chrysanthemum Production	Rapid, inclusive and sustained economic growth	General To upscale the S & T intervention found to be profitable in the regular STBF that would increase income and uplift economic status of small scale farmers. Specific: 1. To promote wider adoption of the recommended technologies for chrysanthemum production through the community-based STBF modality 2. To increase production of Class AA (80 cm length) quality spray-type chrysanthemum cutflower by 50% (at least 2 dozen per square meter) 3. To produce at least one (1) Technoguide on spray type chrysanthemum production 4. To enhance the active participation and empower the farming communities and local organizations of La Trinidad in promoting the application of recommended technologies to improve mum cutflower productivity	Product: Improved quality of spray mum cutflower People and Services: Clustered & trained farmers Places and Partnerships: Stronger partnership with LGU- La Trinidad, LATCOGA and BSU-CCAARDEC Publications: Spray-mum cutflower production technoguide (1) Policies: Advocate to the LGU adoption of good agricultural practices (GAPS) for spray chrysanthemum production	BSU	La Trinidad CutFlower and Ornamental Growers Association (LATCOGA)	01-Apr-17	31-Mar-19	NEW	3,855,963	1,617,915

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Science and Technology Community-based Farms (STCBF) on Improved Nursery Management, Budwood Garden Establishment, and Intercropping Schemes to Promote and Expand Rubber Farming in Cotabato Province	Rapid, inclusive and sustained economic growth	General objectives: This project aims to showcase the recommended budwood garden and nursery management and intercropping schemes to improve the productivity and profitability of the rubber smallholders in selected pilot areas of Makilala and Kidapawan City in Cotabato province through the S&T Community-Based Farm (STCBF) approach. Specific Objectives: 1. To integrate S&T interventions into existing budwood garden and nursery management practices of the nursery operators to produce at least 100,000 quality planting materials (QPMs) of the HYRCs per year (or 10,000 per nursery cooperator) to augment the needed planting materials for the expansion of rubber plantations in the province and in other potential areas in the region; 2. To promote the superior and high-yielding rubber clones, namely: PB217, PB235, PB260, PB311, PB330 and USM1 for adoption by prospective rubber farmers in the region in particular, and in the country in general; 3. To showcase the best practices in nursery and budwood garden establishment and management, in plantation management; and in rubber latex production; 4. To introduce high-value crops, particularly, banana (Lakatan and Latundan), coffee and cacao as intercrops of rubber to provide supplemental sources of higher income among farmers not only during their waiting period but also over a longer period of time; 5. To increase farm productivity (or income) per unit area by more than 50% with the existence of the HYRCs in tandem with the high-value intercrops; and 6. To identify and optimize gender norms, roles and responsibilities of men and women participating in the local rubber production.	1) Organized the 10 nursery operators (three of which represent existing cooperatives) from the municipalities of Makilala and Kidapawan City into two clusters with 5 members each; 2) Organized the 5 rubber farmers from the municipality of Kidapawan City into one cluster to showcase the three modules of intercropping technology; 3) Capacitated and accredited the said 10 nursery operators from the municipality of Makilala and Kidapawan City on the establishment & management of budwood garden and nursery; 4) Capacitated at least 30 rubber farmers on intercropping technology for rubber trees with banana, coffee and cacao as sources of supplemental income ----- at least 15 rubber farmers per year; 5) Established at least ten linkages with rubber stakeholders, namely: PLGUCotabato; LGUs: Kidapawan City and Makilala; Platinum Rubber Dev"t, Inc., DTI-Kidapawan City, PCIEERD, DABPI, and three rubber cooperatives; 6) Established 5 hectares of budwood garden with nursery at Makilala and Kidapawan City; 7) Provided the nursery operators with additional production of more or less 3,000 rubber seedlings of HYRCs per beneficiary or additional income of PhP75,000.00 per season; 8) Established 5 hectares of rubber plantation cum demo farm for intercropping with three high-value crops (lakatan / latundan banana, coffee and cacao) as sources of supplemental income; 9) Provided initial income of more or less PhP5,000 from banana after 9 months and additional supplemental income after 2-3 years from other intercrops; 10) Provided more or less 50% increase in yield per hectare from the HYRCs by the end of the fifth year as compared to current or local yields; 11) Conducted Technology Field Day (a.k.a. farmers" field day) every year starting year two to showcase all the S&T interventions to other farmers in the province for possible replication; 12) Developed (or translated) and distributed 1,000 copies of IEC materials on nursery & budwood garden management and on rubber intercropping; 13) Developed a gender-sensitive business and sustainability plan to ensure the continuity of the project; 14) Formulated a gender-sensitive policy recommendation, particularly, on the nursery operation and marketing, and stability of prices of the ventured commodities of the beneficiaries; 15) Initiated discussions and plans with DTI and/or PCIEERD for establishing a shared service facility for rubber processing; 16) Developed a video material for the S&T interventions learned for easier promotion to other farmer-adopters.	USM	Rubber nursery operators and Rubber tree growers/ farmers	01-Jan-16	31-Dec-20	ONGOING	4,993,620	1,071,660
	Science and Technology Model Farm (STMF) on Integrated Rice and Rice-based Package of Technologies	Rapid, inclusive and sustained economic growth	General: To showcase the economic advantages of applying the recommended package of technology into a commercial scale of rice and rice-based products Specifically, the project aims: 1) To promote wider adoption of tested/recommended high yielding Rice Integrated Crop Management (ICM) practices in rice production through STMF modality 2) To achieve 5-10% increase in yield during wet and dry seasons through the use of best high yielding inbred and hybrid rice varieties and pre-identified and tested BMPs on rice 3) To further capacitate the trained farmer cooperator and farmer-adopters on improved rice and rice-production package of technology 4) To create and strengthen linkage/partnership with development stakeholders, local and institutional markets of marketable products to be produced	1) Established 20-25 ha rice production areas through the adoption of rice ICM and rice-based POT in Masalasa, Tarlac 2) Obtained 10 tons (DS) and 8 tons (WS) from rice production through use of best high yielding inbred and hybrid varieties and pre-identified and tested BMPs on rice 3) Capacitated farmer beneficiaries on integrated farming systems 4) Established linkages/partnership with local and institutional markets and other stakeholders	PhilRice	Rice farmers	01-Jan-16	31-Dec-18	ONGOING	4,579,270	1,973,280
	Science and Technology Model Farm (STMF) on Mango Production in Pampanga	Rapid, inclusive and sustained economic growth	General Objective: To showcase the economic advantages of applying the package of technology (POT) into a commercial scale of mango farm. Specifically, the project aims: 1) to promote wider adoption of the POT on mango through the STMF modality; 2) to capacitate the farmer cooperator and adopters on improved crop management and practices on mango production; 3) to establish collaboration and convergence of various stakeholders, LGUs, NGAs and local organizations on extensive technology transfer initiatives and commercialization of the S&T interventions.	1. Established STMF adopting the POT for mango consisting of 200 fruit bearing trees (10 years old) 2. Practiced improved crop management practices for mango 3. The farmer cooperator acquainted with major insect pests and diseases of mango and management interventions relative to crop phenology 4. Established collaboration and convergence of various stakeholders, LGUUs, NGAs and local organizations on extensive technology transfer initiatives on mango production 5. Formation of mango grower association or farmer cluster composed of 15 members 6. Trained at least 20 farmers on ICM, PQM and IPM 7. Packaged IEC and Technology Guide on Mango Production based on STMF experience and protocol	BPSU	15 Mango growers	01-Mar-15	31-May-17	ONGOING	1,357,440	40,100
	Screening for Radionuclide Contamination from the Fukushima Accident by Iodine-129 Measurement in Corals from the Philippines	Integrity of the environment and climate change adaptation and mitigation	a. Assess radioactive contamination from the Fukushima Daiichi nuclear power plant accident (FDNPPA) to the Philippines. b. Generate historical radioactive contamination across the northeastern coast of the Philippines, which include baseline radioactive levels before the accident, contamination from nuclear bomb tests in the 1960s, and baseline radioactive levels before anthropogenic nuclear era (before 1950s). c. Investigate transport mechanism/s of radionuclide contamination from FDNPPA to the Philippines, particularly through the Pacific Ocean circulation and the Kuroshio Recirculation Gyre or KRG and its variabilities. d. Disseminate results and knowledge generated by the research project to relevant agencies and institutions (a) for better protection of the general public from the effects of FDNPPA and any possible similar incidents in the future; and (b) to encourage collaborations and/or further investigations.	Place • A laboratory for 129I/127I analysis Publication • 2 local and 2 international conference presentations. • 2 ISI publications Policy • Policies or guidelines for radionuclide contamination from the Fukushima accident to northeastern Philippines and for similar future incidents	PNRI	Regulatory Bodies, LGUs, Research Institutions, Academe, and the General Public	15-Sep-17	14-Sep-20	NEW	7,623,639	2,613,921
	Shelf-life study and commercial production of polyclonal antibody for abaca bunchy-top virus (ABTV)	Poverty reduction and empowerment of the poor and vulnerable	Study the shelf-life and stability of the generated antisera to determine the storability of the kit especially under practical conditions such as storage under ambient (room temperature) conditions or cold storage.	Data on the shelf-life and stability of generated antisera at ambient (room temperature) and cold storage conditions; Packaging materials for maintaining activity of the antisera during storage; 48 ml of ABTV antisera; and Cost and return analysis	VSU	Tissue culture laboratory operators, abaca growers, nursery operators and BPI personnel; extension workers; researchers	01-Feb-13	31-Mar-15	ONGOING	2,008,508	26,400
	Socio-economics of the Emergency Agricultural Food Supply Chains for Internally Displaced Persons (IDPs) affected by the Marawi Crisis	Rapid, inclusive and sustained economic growth	To contribute to the Government's efforts to alleviate the condition of Marawi's internally displaced persons through an inter-agency collaborative effort. Specifically, the project aims to provide relief assistance to internally displaced women and children affected by the Marawi Siege in Iligan City.	People & Partnerships ⍰ MOAs signed with LGUs ⍰ MOA/MOU signed with other stakeholders/partners People & Services ⍰ Project team members (staff & LGU) properly coordinated and mobilized ⍰ Complemented the basic nutritional need of children from 10,000 internally displaced households affected by the on going military operations in Marawi City Products ⍰ Distributed 10,000 milk packages Publications ⍰ Documentation report and lessons learned published	MSU-Maguindanao	Direct: Internally Displaced Households Indirect: PLGU and LGU Coordinators	01-Sep-17	31-Dec-17	NEW	4,999,680	4,999,680
	STCBF on Sutainable Mango Production in Pulilan, Bulacan	Rapid, inclusive and sustained economic growth	General: To increase the productivity of mango growers and upscale the application of science and technology (S&T) interventions on mango farms in Pulilan, Bulacan. Specific: a. To establish technology demonstration mango orchards that would showcase the different technologies that were applied for the mango orchards; b. To enhance capacity and active participation of the organized mango cluster of local partners in improving productivity and in disseminating the technology; c. To provide the most appropriate technologies on improved management practices that would increase yield through collation with other agencies and the S&T community-based farms modality; and d. To evaluate the profitability of the S&T intervention through cost and return analysis of each mango orchard.	Industry Level One (1) mango-based farm cluster adopting S&T-based intervention on mango production Established STCBFs using the S&T interventions for mango production in a total of around 10 ha land area (1,000 trees) in Pulilan, Bulacan Improved management practices in mango production of 20 farmers Average increased yield by 10-15% per season (from 9.12 MT ha-1 – baseline average yield attained from phase 1 of the 2014-2015 project, to 10.03 MT ha-1 – 2016 and 11.03 MT ha-1 – 2017) Produced quality mango fruits Mango growers linked to institutional buyers Capacity Building Trained additional 40 mango growers in the province The 20 mango grower-cooperators acquainted with major insect pests and diseases of mango and management interventions relative to crop phenology S&T Services Produced three (3) forms of information dissemination materials, i.e., video, pamphlets/techno guides and souvenir items/tokens	BASC	30 coconut farmers in Barangay Lawaguin, Nagcarlan, Laguna	01-Nov-15	30-Jun-18	ONGOING	2,758,390	721,519

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Strategic Communication Planning and Development of Communication Support Materials for the DOST-PCAARRD Innovation and Technology Center (DPITC)	Rapid, inclusive and sustained economic growth	1. Provide technical advice and support in evolving appropriate messaging for PCAARRD's awareness and information dissemination tools 2. Provide guidance in the following areas of the communication planning process: a. Need analysis b. Formulation and Development of messages and materials c. Pretesting of the materials d. Development and implementation of communication materials distribution plan, and e. Monitoring and Evaluation 3. Finalize and prepare for reproduction of communication materials that can highlight and strengthen the relevance of R&D initiatives in overall national development agenda, and 4. Foster sustainability by conducting a series of capability-building training-workshops for DPITC staff on relevant aspects of materials development and production	1. Communication Plan for the DPITC 2. Communication strategies and communication support materials as may be identified during the workshop (e.g. newsletters, brochures, compendium, etc.) 3. Four (4) Audio-visual presentations (video documentation) of S&T products and R&D initiatives 4. Trained PCAARRD Staff and consortium partners	UPLB	0	08-May-17	07-May-18	NEW	1,800,000	1,800,000
	Strengthening the Partnership of the Consortium and the Stakeholders in Western Visayas to Promote S&T Action for Emergencies and Risks in the Agriculture, Aquatic and Natural Resources Sector	Rapid, inclusive and sustained economic growth	General To strengthen DOST and PCAARRD programs, projects and other tie-ups through closer partnerships and collaborations with each of the DOST Regional Offices across the nation Specific 1) To enhance our AANR technology transfer efforts in the regions through increased partnerships of PCAARRD and the DOST Regional Offices; 2) To promote more S&T innovations and strategies especially those supported by PCAARRD and/or DOST in the AANR sectors for countryside rural development 3) To integrate the involvement of DOST and assist PCAARRD-funded technology transfer activities and projects in the regions, particularly, during periodic reviews and monitoring and evaluation of technology transfer endeavours	1) Packaged and approved at least seventeen (17) technology transfer and promotion projects in 17 regions; 2) Assisted at least seventeen (17) communities across the nation; 3) Strengthened network and linkages with the 17 regional offices 4) Forged and signed seventeen MOAs with the DOST regional offices	DOST Regional Office No. 6	to assist communities in emergency- and hazardaffected areas, marginalized farmers and fisher folks, upland dwellers, indigenous communities, agrarian reform beneficiaries (ARB's), even drug rehabilitees, as well as groups of women, out-of-school youth, seniors/elders, rebel returnees, especially those from the poorest of the poor provinces in the country	15-May-17	30-Sep-17	NEW	300,000	300,000
	Suitability assessment and database development for enhanced mussel culture management using geospatial technologies	Rapid, inclusive and sustained economic growth	The project will assess and analyze suitable areas for mussel culture in the Philippines using available geospatial technologies. Specifically, 1. Identify potential sites (including non-traditional areas) for mussel culture based on established criteria; and 2. Develop of database to identify suitable areas for mussel culture	Year 1 ? Identified/Surveyed potential sites for mussel culture. ? Maps of monthly chlorophyll-a, sea surface, temperature and salinity in the Philippine area Year 2 ? GIS-based maps of suitable areas for mussel culture in the Philippines based on physico-chemical and biological parameters ? Database for suitable areas for mussel cultur	UPD, UPV	The present research initiative is foreseen to augment the program in providing the basic information and management decision to planners/ policy makers/researchers/regulators and stakeholders. Other stakeholders that would benefit from the results of the projects includes: Private investors in suitable area, fisherfolk who will be culturing mussel for supplemental livelihood, BFAR Extension Personnel, and Local Government Unit and educators/Researchers	01-Jul-16	30-Jun-17	ONGOING	2,282,572	1,129,842
	Support to the Issuance of Fairness Opinion Report for Technology Transfer Activities of PCAARRD	Rapid, inclusive and sustained economic growth	To provide support to RDIs in their request for fairness opinion by the DOST Secretary as a legal requirement for technology transfer activities of government-funded research projects by covering the costs associated in the expert engagement of the Fairness Opinion Board	Year 1: Seven (7) proposed transactions granted with fairness opinion by the DOST Secretary Year 2: Seven (7) proposed transactions granted with fairness opinion by the DOST Secretary	TAPI	Research Partners/Network of PCAARRD	01-Oct-16	30-Sep-18	ONGOING	5,891,968	1,156,655
	Support to the Preparation of Freedom to Operate (FTO) in the Technology Transfer Activities of PCAARRD-funded Projects	Rapid, inclusive and sustained economic growth	General Objective: To implement the Freedom to Operate Analysis of PCAARRD-funded technologies. Specific Objectives: 1. Assist PCAARRD and the technology developer(s) understand the threat of patent litigation on a particular technology; 2. Assess the potential of a technology for commercial application; 3. Ensure that the commercial application of a technology, marketing, and use of the new product, process or service does not infringe on the intellectual property rights of other entities; 4. To train staff from TAPI, PCAARRD, DOST RDIs and SUCs with PCAARRD-funded projects on FTO; and 5. To establish an FTO Unit at TAPI-DOST.	1. At least 14 technologies are assessed for Freedom to Operate 2. Trained 25 DOST Personnel and SUC Researchers on FTO review 3. Established FTO Unit at TAPI-DOST	TAPI	PCAARRD Management and Secretariat / Research Partners/Network of PCAARRD	01-Oct-16	31-Mar-18	ONGOING	5,000,000	1,010,324
	Sustaining Crop Productivity in Climate Vulnerable Areas in Ilocos Norte through STCBF on Climate Resilient Technologies	Integrity of the environment and climate change adaptation and mitigation	The project is envisioned to lead to a more effective and efficient production of climate resilient crops, PH and marketing for the commodity crops for sustainable production. Developed, refines and user-friendly crop-based technologies will be extended and adopted by the beneficiaries to help farm production.	1. Established 10 demo projects to showcase the potential of varios crops resilient varieties; 2. Increased farm productivity through utilization of integrated appropriate crop-based farming technologies; 3. Enhanced the capability of 500 stakeholders 4. Produced, translated and distributed 5 titles of POT on various climate resilient crops; 5. Conducted one school on the air on climate change 6. Enhanced participation and empowerment of the community members 7. Assisted 400 technology adoptors on recommended technologies 8. Initiated policy development and advocacy together with various stakeholders; 9. Conducted M&E on technology adoption	MMSU	community members from the different drought, typhoon flood-stricken municipalities in Ilocos Norte.	01-Jul-17	30-Jun-19	NEW	4,915,348	2,458,674
	Technology Assessment of PCAARRD-Funded Research Projects	Rapid, inclusive and sustained economic growth	In general, the project aims to assess the research outputs from projects that received funding support from PCAARRD on the stage or level of readiness for commercialization. Specifically, to determine if PCAARRD-funded research projects have potentials for: (1) intellectual property protection; (2) commercialization; and (3) further research.	Year 1: 20 projects and 30 technologies assessed as to the stage or level of readiness for commercialization potentials. Year 2: 20 projects and 30 technologies assessed as to the stage or level of readiness for commercialization potentials.	TAPI	PCAARRD Management and Secretariat / Research Partners/Network of PCAARRD	01-Oct-16	30-Sep-18	ONGOING	5,782,794	1,207,052
	Technology Demonstration and Capacity Building for Lowland Vegetable Production	Poverty reduction and empowerment of the poor and vulnerable	General: The project aims to demonstrate matured technologies on vegetable production through modalities in a year-round basis taking into consideration the principles of productivity, creativity, and profitability. Specific: 1. To establish demonstration areas for matured and packaged crop production technologies on tomato, eggplant, pole sitao, and bitter gourd; 2. To showcase NSIC-approved lowland and open-pollinated varieties of vegetables, use of biological control agents, botanicals, microbial inoculants, and other matured production technologies; and 3. To promote economically-viable vegetable production through trainings, field days, and distribution of IEC materials.	1st year – established a technology demonstration area for POTs and serve as a learning venue for actual viewing of the public 2nd year- Increased number of POTs implemented in Technology demonstration area. Catered visitors from various sectors. Techno-trainings with on-farm immersion activities in the technology demonstration area 3rd year- Increased number of POTs implemented in Technology demonstration area. Catered visitors from various sectors. Techno-trainings with on-farm immersion activities in the technology demonstration area. Profitability analysis of an organic and a conventional vegetable production. Developed IEC materials for distribution to clienteles.	BPI-LBNCRDPSC	Local and international organizations, students from state colleges and universities, local government technicians, farmers, and individuals who frequently visit Los Baños to acquire information and technologies on vegetable production.	05-Jan-15	04-Jan-18	ONGOING	4,999,365	1,122,518

Program Title	Project Title	Key Result Areas (KRA)	Description of Program/Project/Objectives	Expected Output/Target	Implementing Agency	Beneficiaries	Start	End	Status	Total Project Cost	2017 PCAARRD GIA
	Testing and Evaluation of Machinery Generated from PCAARRD-funded Projects	Rapid, inclusive and sustained economic growth	General: To develop standards and conduct testing and evaluation of agricultural machinery generated from PCAARRD-funded projects. Specific: 1. To classify the machines funded by PCAARRD-funded projects that are ready for commercialization with existing Philippine Agricultural Engineering Standards, those with international standards, and those with no standards yet. 2. To develop standard test methodologies for machines without national of international standards. 3. To test and assess the performance characteristics of the following machines ready for commercialization using the available standards or developed standards methodology: a. Milkfish Automatic Fry Counter b. Milkfish Mechanical Bottom Feeder c. Milkfish and Shrimp Automatic Surface Feeder d. Superheated Steam Treatment System for Stabilized Brown Rice Production e. Fluidized Bed Dryer for the Stabilized Brown Rice Production f. Compact Rice Mill Impeller g. Hand Tractor attached Rice Harvester (9 Hp) h. Hand Tractor Rice Transplanter (7 Hp) i. Portable Mango Power Sprayer Nozzle j. Mechanical Fruit Picker k. Integrated Mango Postharvest Facility l. Rice Transplanter (riding-type) m. Rice Seeder (riding-type) n. Rice Combine Harvester (riding-type) o. Infrared Grain Dryer p. Drip Irrigation for Peanut and Sugarcane q. Pelletizing Machine for Goat feeds production r. Peanut Stripper s. Peanut Sheller t. Bulk Storage for Peanut, and	Publication, Policies: 1. Philippine Agricultural Engineering Standards (PAES) on Specifications and Methods of Test for the following machinery shall be developed: a. Milkfish Automatic Fry Counter b. Milkfish Mechanical Bottom Feeder c. Milkfish and Shrimp Automatic Surface Feeder d. Mango Hot Water Treatment e. Drip Irrigation System f. Peanut Stripper g. Bulk Storage for Peanut h. Feed Pelletizer People and Services: 2. Test reports of the following machines that were generated from the PCAARRD-funded projects shall be prepared: a. Superheated Steam Treatment System for Stabilized Brown Rice Production b. Fluidized Bed Dryer for the Stabilized Brown Rice Production c. Compact Rice Mill (Impeller-type) d. Rice Combine Harvester (attached to hand tractor) e. Rice Combine Harvester (riding-type, self-propelled) f. Rice Transplanter (attached to hand tractor) g. Rice Transplanter (riding-type, self-propelled) h. Rice Seeder (riding-type, self-propelled) i. Portable Mango Sprayer Nozzle j. Mechanical Fruit Picker k. Integrated Mango Postharvest Facility l. Infrared Grain Dryer m. Drip Irrigation (for peanut and sugarcane) n. Feed Pelletizer (for goat feeds production) o. Peanut Stripper p. Peanut Sheller q. Bulk Storage for Peanut r. Millkfish Automatic Fry Counter s. Millkfish Mechanical Bottom Feeder t. Millkfish and Shrimp Automatic Surface Feeder	UPLB	1. Technology Generators (SUCs, RDIs) 2. Technology Adopters (Machinery users, Manufacturers/Fabricators) 3 Other Agricultural Machinery Industry Stakeholders	16-Jun-17	15-Dec-18	NEW	2,126,931	2,126,931
	Towards a Strengthened Technology Commercialization Process through Facilitation and Preparation of Business Plan of PCAARRD-Generated/Assisted Technologies	Rapid, inclusive and sustained economic growth	General: To strengthen the technology commercialization process through the development of appropriate market-responsive business plans for specific agriculture/aqua industry-based technologies funded/generated by DOST through PCAARRD. Specifically, the project aims to: 1. Ensure appropriate matching and engagement between consultancy firms and innovators, following pertinent government rules and processes in acquiring and involving consultancy services of firms; 2. Serve as liaison channel amongst concerned stakeholders for the delivery of outputs: and 3. Ensure the timely and quality preparation of business plan and technical reports through efficient monitoring and validation activities.	People and Services: At least 15 Business Plans for PCAARRD-generated/assisted Technologies; at least five project staff trained on procurement process Publications: 15 house business plans published in-house Patents: 15 copyrights Partnerships: PCAARRD-TAPI partnership; at least four TAPI-service providers partnership	TAPI	- Technology Adopters/Investors - Technology Generators - Research and Development Institutes/State Colleges and Universities - DOST (particularly PCAARRD and TAPI)	01-Jun-17	30-Nov-18	NEW	4,920,085	4,484,409
	Toxicological Study and Pilot Testing of Nutrio™ Biofertilizer for Improved Production of Sugarcane in Regions III and VI(Old Title: Toxicological Studies of Newly Developed Biofertilizers for Various Crops)	Rapid, inclusive and sustained economic growth	General: To conduct toxicological study of Enterobacter sacchari S18, the microbial component of NutrioTM to ensure the biosafety of the inoculant and to validate under field condition the NutrioTM biofertilizer's performance for improved production of sugarcane in Regions III and VI. Specific: ⍰ To assess the safe use of NutrioTM for sugarcane production; ⍰ To conduct pilot testing of NutrioTM for sugarcane production in Regions III and VI; ⍰ To introduce NutrioTM to farmers, agricultural technicians and other interested stakeholders; and ⍰ To evaluate the technical and economic viability on the use and adoption of the technology	⍰ Year 1: Data/Information generated from the results of toxicity test of NutrioTM ⍰ Year 2 and 3: Validated technical and economic efficiency of Nutrio biofertilizer; increased capacities of stakeholders including farmers and technicians through conduct of trainings; package of Nutrio biofertilizer technology for sugarcane.	UPLB	⍰ Farmers, consumers, entrepreneurs, researchers, students	16-Nov-17	15-May-20	NEW	5,000,000	2,348,747
	Use of Carrageenan Plant Food Supplement (PFS) for Selected Cool-Season Crops (lettuce, broccoli, cabbage, and strawberry) in Protected Production System	Rapid, inclusive and sustained economic growth	General: To determine the effect of foliar carrageenan PFS and synthetic fertilizer combinations on the growth, quality, and yield of selected cool-season crops (lettuce, broccoli cabbage, and strawberry) under greenhouse conditions. Specific: 1. To evaluate the effects of various levels and frequency of carrageenan PFS applications on the growth and yield of selected cool-season crops; 2. To identify the optimum levels and frequency of carrageenan supplement application to maximize yields of the test crops; 3. To evaluate the effects of carrageenan PFS on the incidence of major insect pests and diseases of selected crops; 4. To determine the effect of carrageenan PFS on the quality of produce; 5. To validate preliminary test results in selected farmers' fields; and 6. To conduct a benefit-cost analysis on the use of carrageenan PFS in the production of the selected crops	a. Increased yields of the test crops by at least 20% per cropping b. Reduced quantity of chemical fertilizer use by as much as 25% c. Reduced requirement and use of insecticides by as much as 25% d. Improved quality of produce in terms of sugar and nutrient contents without any contamination e. Benefit-cost analysis of the proposed intervention f. IEC materials and scientific paper on the use of carrageenan PFS in production of selected crops g. Conducted training of farmers on the use of carrageenan PFS	BSU	⍰ local farmers engaged in the production of cool-season crops ⍰ seaweed farmers and processors who could benefit from the increased demand for their products ⍰ consumers who would gain access to safer and better quality fruits and vegetables	01-Oct-16	30-Sep-18	ONGOING	5,000,000	2,819,992
	Utilization of DNA Marker Selection in Breeder and Commercial Swine Farm Units	Rapid, inclusive and sustained economic growth	The proposed R&D project that will be implemented thru privatepublic partnership aspires to promote the utilization of the newly developed gene marker technology in breeding and selection in local swine population to increase productivity and improve production efficiency of the Philippine swine industry. 1) Promote the utilization and adoption of molecular methods of selection by local swine raisers to improve prolificacy and production efficiency thru the use of a private-sector operated swine genomics service laboratory. 2) Validate and estimate the effect of favorable genotype on different traits both at the level of nucleus (purebred GGP, GP) and commercial herds. 3) Provide assistance in the use of genomic information in the breeding program for individual herds.	1) Adoption of the gene marker technology by the swine industry 2) Fully operational swine genetic analytical service laboratory for the identification of positive genes and screening genetic defects of swine 3) Laboratory to screen swine genetic diseases 4) Science based data for the formulation of enabling policies for the swine industry to improve its productivity and efficiency	PCC	1) Swine Breeder Farms 2) Pork producers (Commercial Farms) 3) Academe and Researchers 4) Students	01-Oct-16	30-Sep-18	ONGOING	4,998,389	2,736,841
	Utilization of Modified Drip Irrigation for Production of High Quality Onion and Garlic	Rapid, inclusive and sustained economic growth	Increase yield in vegetable production by 30% through the use of low pressure drip irrigation technologies	Y1:Low-cost, modified drip irrigation system for onion and garlic for both off-season and on-season production Water/irrigation management system Y2: Increased yield of good quality onion and garlic by 30%. Increased water use efficiency in garlic and onion production by 30% 200 farmers trained Training module and technoguides for onion and garlic production	CLSU	⍰ Onion and garlic farmers ⍰ Researchers, agricultural technicians, students ⍰ Government agencies, research & academic institutions	01-Sep-16	31-Aug-18	ONGOING	4,832,152	1,835,076
	Utilization of plant-based natural anti and pro-oxidants for farmed tilapia	Rapid, inclusive and sustained economic growth	The project will produce plant-based products a anti and pro-oxidants for farmed	Protocols for improved health management of Tilapia. Products for better performing tilapia.	ISU	(a) 4 hatchery operators in Nueva Ecija and Isabela; and 10 Tilapia growers in Isabela; 10 fishfarmers in Cagayan Valley Region	01-Oct-16	30-Sep-18	ONGOING	4,702,008	903,841

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	Valuation of Technologies Generated from PCAARRD-Funded Research Projects	Rapid, inclusive and sustained economic growth	This project forms part of PCAARRD's Technology Transfer Pathway, wherein outputs of which would determine the fate of the subjected research projects and technologies whether they shall be commercialized or can only be disseminated, promoted, or rolled out for free to intended beneficiaries. If technologies would be commercialized, the value of the technologies which will be offered to potential adopters should be determined. Together with appropriate IP protection this would provide great leverage to PCAARRD and/or its R&D institutes (RDI) during licensing negotiations. Likewise, the Fairness Opinion Board (FOB), specifically requires technologies to be valuated prior to securing a Fairness Opinion Report (FOR). As such, this project will cater to valuation of IPs in partnership with the private firms conducting technology valuation. Objectives: To assess the value of the research outputs from projects that received funding support from PCAARRD.	16 technologies valued within 2 years	TAPI	PCAARRD Management and Secretariat / Research Partners/Network of PCAARRD	01-Oct-16	30-Sep-18	ONGOING	5,916,899	1,667,307