

Guidelines for Joint Research Proposals with Companies in the Can Tho University Improvement Project

1. Background of Joint Research Program

In July 2015, the Japan International Cooperation Agency (JICA) provided Yen Loan of 10,500 million JPY for the Can Tho University to implement the Can Tho University Improvement Project from 2015 to 2022. Can Tho University (CTU) is one of the international model universities and has played a key role of modernizing universities in Vietnam.

The aim of the Project is to support the development of human resources to contribute to promote growth of agriculture and aquaculture industry in Vietnam, and to solve environmental issues in the Mekong Delta River through enhancement of CTU' research and education capacity in the fields of agriculture, aquaculture and environment, cooperating with Japanese universities.

This joint research program which is one of the Project components aims to finance CTU's research studies jointly conducted with Japanese universities/companies with a total budget of 447 million JPY. This Guidelines defines outlines of procedures for companies to jointly prepare proposals for joint research with CTU and Japanese universities.

2. Outlines of Joint Research Program

There are 36 research programs: 16 programs in agriculture, 8 programs in aquaculture and 12 programs in environment for which companies can make joint proposals with CTU. Please see more information in Appendix.

The research proposals which meet the following requirements shall be highly appreciated:

- | Urgencies and sustainability in terms of adaptation to climate change in the Mekong Delta of Vietnam;
- | Feasibility from the viewpoints not only of research team's capacity, team members' past achievements, and facilities/equipment;
- | Impact to the Mekong Delta communities/industries;
- | Potential international journal publications (in terms of becoming an internationally recognized research university);
- | Introduction of interdisciplinary research approaches; and
- | Availability of partnerships with Japanese universities

3. Financial matters and Company's Eligibility for Joint Proposals

(1) Financial Matters

The total budget of each program shown in Appendix indicates its upper limitation. The budget is to loan the amount to CTU, not to directly finance any expenses to companies. Cost sharing between CTU and companies, and so on shall be determined in the joint proposals.

(2) Company's Eligibility for Joint Proposals

Registered companies in Japan and/or Vietnam

4. Timing of Call for Applications

Kick-off (6 programs): completed

First Batch (16 programs): Around April, 2017

Second batch (14 programs): Around January, 2018

5. Procedure of Joint research programs up to acceptance of the proposals

- 1) CTU uploads the Guidelines for Joint Research Proposals with Companies on CTU's Project website at "Research Project" menu at <http://pmuoda.ctu.edu.vn/en/>. Companies which are interested in joint research proposals send necessary information to Project Management Unit (PMU) in charge and PMU puts them to the company list.
- 2) At the same time, CTU requests JICA and a JICA Technical Cooperation Project ("Building Capacity for Can Tho University to be an excellent Institution of Education, Scientific Research and Technology Transfer") to share information on potential companies by research program.
- 3) CTU prepares the list of the companies who show express of interests. (To know their interests, the Guidelines for Joint Research Proposals with Companies are distributed to potential companies.)
- 4) CTU delivers the company list to all CTU's scientists before call for the proposals and if scientists have any interests, they contact the companies and discuss possibility of joint research proposals.
- 5) If companies agree with CTU research teams, they shall jointly prepare the proposals with CTU and Japanese universities and the proposals are submitted by due day according to call for the proposals.
- 6) The Scientific Committee for Can Tho University Improvement Project finally examines the proposals and PMU informs the proposers of the results.
- 7) For successful proposals, the agreement is concluded between the companies and CTU.

The agreement shall determine treatment of Intellectual property rights and so on in detail.

1) Reporting requirements

The research progress and results shall be monitored and evaluated by CTU and JICA. The companies with joint research partners (CTU and Japanese universities) shall submit the following reports to PMU and accept CTU's examination. The contents of the reports, and timing of review and evaluations meeting shall be determined separately.

- 1) Quarterly report
- 2) Semi-annual review meeting
- 3) Annual evaluation
- 4) Final evaluation

2) Intellectual property rights

Rights and ownership to all intellectual property rights (herein after referred as "IPRs") generated by research activities such as patents, trade secrets and copyrights shall be vested on researchers in accordance with the Vietnamese laws and CTU regulations. JICA and the Japanese university(s) and companies can use these IPRs for academic purposes under a notice to the researchers. Regarding any other treatment with IPRs, CTU and companies shall be determined separately in the agreement which shall be concluded after acceptance of the proposals.

3) Contact

PMU: Research Management Unit, Can Tho University Improvement Project

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Appendix: List of 36 Research Programs

1. Agriculture (A)

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
A-1	Plant resources collection, evaluation and development (rice, other crops, animal forages, etc.)	To select, exploit and conserve major crop resources, animal forages and aquatic plants in MDR to improve the quality of plant varieties	36 months	60,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 4/13 - Number of conferences/workshops: 3 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 6 - Number of short trainings: 3 - Number of trainees: 30 	Kick-off
A-2	Application of genetic, breeding and cell culture technologies for new varieties of rice and other crops with improved quality and adaptability to climate changes and other environmental stresses	To improve productivity, quality and adaptability of major crops under climate change condition using genetic engineering, breeding and cell culture	36 months	90,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 7/23 - Number of published books: 3 - Number of conferences/workshops: 3 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained 	Kick-off

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					from/involved in the program: 3 - Number of graduate students involved in the program: 6 - Number of short trainings: 4 - Number of trainees: 90	
A-3	Collection, evaluation and development of native animal breeds	To conserve potentially genetic resources for producing commercial poultry products in the future	36 months	60,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 5/12 - Number of published books: 1 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 6 - Number of short trainings: 2 - Number of trainees: 50	First batch
A-4	Application of genetic and breeding technologies for new livestock varieties with improved quality and	To improve productivity and product quality of animals under the conditions of climate	36 months	75,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 6/15	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
	adaptability to climate changes and other environmental stresses	changes as well as to increase the competitiveness of animal products on markets			<ul style="list-style-type: none"> - Number of published books: 3 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 100 	
A-5	Developing integrated crop management (ICP) for improvement of product quality and adaptation to climate changes	To develop sustainable crop production and improve cash crop tolerance to unfavorably environmental conditions such as pests, salinity and submergence stresses etc.,	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of published books: 3 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 100 	
A-6	Studies on insect pests and diseases and development of alternative plant protection technologies	To enhance the capacity in research and application of environmentally friendly strategies for management of insect pests and plant diseases on rice in the MD of Vietnam, from which provides the best means of sustainable and integrated plant protection strategies, and thus elevates the competitiveness for agricultural products on national and international markets. In addition, to enhance research capacity of staffs in area plant protection such as biology and ecology of	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of published books: 1 - Number of conferences/workshops: 2 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 1 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 12 - Number of short trainings: 5 - Number of trainees: 60 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
		pest, on biological control and other friendly environmental methods for controlling pest and diseases on rice in Mekong delta				
A-7	Studies on bio-remediation of MDR problem soil under impacts of climate change	To apply the microbial technology to mitigate soil/sediment pollution, and stimulate plant growth for sustainably agricultural production	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of published books: 2 - Number of conferences/workshops: 3 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 10 - Number of short trainings: 2 - Number of trainees: 60 	Second batch
A-8	Studies on sustainable soil uses	To improve soil fertility and soil quality for crop production on alluvial	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
		soils, acid sulphate soils and saline-affected soils toward improving soil constraints and adaptation to climate change in MD.			6/15 - Number of published books: 3 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 3 - Number of graduate students involved in the program: 10 - Number of short trainings: 2 - Number of trainees: 60	
A-9	Improve animal production systems for higher quality and safety of products	To study and apply new technologies to improve animal performance, product quality as well as to mitigate greenhouse gas emission and environmental pollution	36 months	75,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of published books: 1 - Number of conferences/workshops: 3 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of graduate students involved in the program: 10 - Number of short trainings: 1 - Number of trainees: 50 	
A-10	Molecular studies for detection and identification of animal diseases in MDR	To apply molecular techniques for disease control systems involved all types of pathogenic agents including bacteria, viruses, parasites and fungi, for improving animal health	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of published books: 1 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 50 	First batch
A-11	Microbial and pharmaceutical studies for animal disease treatment	To study strategies for prevention of microbial diseases and to develop pharmaceutical	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
		sources for animal and poultry treatment			<ul style="list-style-type: none"> - Number of published books: 1 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 50 	
A-12	Simulation of metal-organic frameworks (MOFs)	To develop techniques in simulation of metal-organic frameworks applied in advanced agriculture	36 months	25,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 4/8 - Number of conferences/workshops: 1 - Number of new technologies: 1 - Number of patent applications: 0 	Second batch
A-13	Agricultural machineries	To develop machinery and equipment systems applied for agricultural production in Mekong Delta	36 months	40,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 4/6 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 10 - Number of short trainings: 2 - Number of trainees: 100 	
A-14	Studies and development of post-harvest technologies for rice, plant and crop based-food products in MDR	To develop and/or improve post-harvest handling procedures and further processing technology for plant and crop products in MDR	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of conferences/workshops: 2 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 50 	First batch
A-15	Development of value added food products from agricultural	To develop advanced technologies for enhancing the value of	36 months	75,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
	products and by-products in MDR	some major agricultural products of the MDR			6/15 - Number of conferences/workshops: 2 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 20 - Number of short trainings: 2 - Number of trainees: 50	
A-16	Studies on food pathogens and antibiotics resistant bacteria	To identify origin of pathogens and antibiotics resistant bacteria and application of multiple treatments to control their growth in supply chain of catfish (<i>Pangasius hypophthalmus</i>)	36 months	75,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 6/15 - Number of conferences/workshops: 3 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					program: 12 - Number of short trainings: 2 - Number of trainees: 50	

2. Aquaculture and Fisheries (F)

No.	Program title	General objective	Program duration	Total budget (USD)	Expected outputs	Remarks
F-1	Climate change: Impacts and adaptation in aquaculture and Fisheries	The aims of project are to evaluate the effects of climate change on (i) Features of physiology, nutrition and health of aquatic animals in the Mekong delta, since then finding the solutions for management and development of suitable cultured systems; and (ii) Efficiency of coastal fisheries at the Mekong delta	36 months	300,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 15/50 - Number of published books: 3 - Number of conferences/workshops: 5 - Number of new technologies: 3 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 4 - Number of graduate students involved in the program: 12 - Number of short trainings: 3 - Number of trainees: 150 	Kick-off
F-2	Green technology innovation for aquaculture	General objectives are to develop and apply advanced and environmental friendly technologies in aquaculture in order for sustainable development of aquaculture in the Mekong Delta.	36 months	300,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 21/70 - Number of published books: 6 - Number of conferences/workshops: 7 - Number of new technologies: 6 - Number of new technologies applied: 6 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved 	First batch

No.	Program title	General objective	Program duration	Total budget (USD)	Expected outputs	Remarks
					in the program: 4 - Number of graduate students involved in the program: 16 - Number of short trainings: 2 - Number of trainees: 210	
F-3	Fisheries Resources management and Conservation	The aims of project are: (i) To evaluate the status and population dynamics of fisheries resources along the coast; (ii) To establish DNA database and update specimens for fish collection room; (iii) To recommend some solutions for sustainable fishing and management in Mekong Delta in climate change condition based on scientific evidence.	36 months	250,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 12/40 - Number of published books: 4 - Number of conferences/workshops: 4 - Number of PhD degrees obtained from/involved in the program: 3 - Number of graduate students involved in the program: 12 - Number of short trainings: 3 - Number of trainees: 120	Kick-off
F-4	Quality improvement of fisheries/aquaculture products	The overall objectives of this program include to stand, and to achieve a project of the research content to be highly evaluated in the world. To that end, it will be necessary for findings with the novelty to be provided.	36 months	250,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 12/40 - Number of published books: 5 - Number of conferences/workshops: 6 - Number of new technologies: 8 - Number of new technologies applied: 3	First batch

No.	Program title	General objective	Program duration	Total budget (USD)	Expected outputs	Remarks
		Furthermore, the fruitful results should be published in internationally-recognized scientific journals in this area. Following specific research themes are raised this time; (1) to enhance quality and food safety management of fisheries and aquaculture products and (ii) to develop the fisheries products processing technology for high quality and added value products.			<ul style="list-style-type: none"> - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 5 - Number of graduate students involved in the program: 12 - Number of short trainings: 4 - Number of trainees: 120 - Others: 4 processing procedures for domestic fish species on producing added value products 	
F-5	Environmental monitoring for aquaculture and fisheries	The overall objectives are to enhance capacity in monitoring and managing the aquatic environment in order to ensure sustainable development of aquaculture in the Mekong Delta.	36 months	180,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 10/32 - Number of published books: 3 - Number of conferences/workshops: 4 - Number of new technologies: 4 - Number of new technologies applied: 3 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 4 - Number of graduate students involved in the 	Second batch

No.	Program title	General objective	Program duration	Total budget (USD)	Expected outputs	Remarks
					program: 14 - Number of short trainings: 2 - Number of trainees: 120	
F-6	Biochemistry and pharmaceutical science in aquaculture and fisheries	The research aims to develop natural bioactive compounds, in order to: (i) enhance of fish growth and ; (ii) replace antibiotics/chemicals in the prevention and treatment of aquatic animal diseases.	36 months	120,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 4/12 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of new technologies: 2 - Number of new technologies applied: 2 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 12 - Number of short trainings: 2 - Number of trainees: 60	First batch
F-7	Engineering and information technology development and application in aquaculture and fisheries	The overall objectives are to study, develop and apply of engineering technology and IT for sustainable development of shrimp farming in the Mekong Delta	36 months	50,000	- Number of international peer-reviewed papers/total published paper (30%/100%): 1/4 - Number of conferences/workshops: 3 - Number of new technologies: 3 - Number of new technologies applied: 3 - Number of patent applications: 0	Second batch

No.	Program title	General objective	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 7 - Number of short trainings: 2 - Number of trainees: 90 	
F-8	Fisheries socioeconomic and management	Objectives (i) to evaluate socio-economic current status and roles of shrimp industry; (ii) to analyze shrimp value chain and to propose upgrading strategies for shrimp value chain; and (iii) to determine the roles and effect of regulations and policies to sustainable development of shrimp industry in the Mekong Delta.	36 months	50, 000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper (30%/100%): 2/6 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 4 - Number of short trainings: 1 - Number of trainees: 30 	Second batch

3. Environment (E)

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
E-1	Water and land resources monitoring	The goal of this research is to develop the integration database system for water and land resources in the Mekong delta of Viet Nam	36 months	72,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper: 6/20 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 6 - Number of short trainings: 5 - Number of trainees: 40 	First batch
E-2	Analyzing and modelling water and land resources	To simulate environmental changes to support for early responses and adaptations	36 months	72,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper: 6/20 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of graduate students involved in the program: 6 - Number of short training: 3 - Number of trainees: 40 	
E-3	Evaluating changes of the agro-ecological changes under great threats of the in-situ development and climate change	The aims of the project are to identify impacts of specific development activities/plans in the Mekong delta and climate change on agro- and aquatic ecosystems (1) in the deep flooding areas and (2) in the coastal complex areas	36 months	144,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper: 12/38 - Number of published books: 2 - Number of conferences/workshops: 2 - Number of new technologies: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the program: 6 - Number of short trainings: 4 - Number of trainees: 40 	First batch
E-4	Analysis of economic efficiency of natural resource uses and problems in natural resource uses and management	Natural resources management and environmental protection by using economic tools.	36 months	120,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper: 10/33 - Number of published books: 2 - Number of conferences/workshops: 1 - Number of PhD degrees obtained 	First batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					from/involved in the program: 1 - Number of graduate students involved in the program: 6 - Number of short trainings: 5 - Number of trainees: 40	
E-5	To study potential mitigation strategies to eliminate impacts of natural disasters on agriculture, aquaculture and water supply (including both urban and industry sections)	Study and develop solutions to mitigate impacts of natural disasters for sustainable development of agriculture and aquaculture in the Mekong delta	36 months	60,000	- Number of international peer-reviewed papers/total published paper: 4/13 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 2 - Number of short trainings: 1 - Number of trainees: 40	Second batch
E-6	To study possible techniques to treat soil, water and air pollution in the specific context of the Vietnamese Mekong Delta	The aims of the program are to establish techniques to mitigate environmental pollution from agricultural development, aquaculture, economy and climate change	36 months	192,000	- Number of international peer-reviewed papers/total published paper: 16/50 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of new technologies: 2	Kick-off

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					<ul style="list-style-type: none"> - Number of new technologies applied: 1 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 11 - Number of short trainings: 5 - Number of trainees: 40 	
E-7	To study changes of the farming systems to support elimination of pollutants added to the environment (including GHG)	The aims of this program are to (i) to eliminate nutrients, agro-chemicals and GHGs emission from by using potential activated carbon, (ii) synthesize valuable from byproducts of agriculture to remove metal ions from groundwater and (iii) Select suitable techniques and CSA models to reduce environmental pollution for rice in the Mekong Delta	36 months	108,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper: 9/30 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 5 - Number of short trainings: 3 - Number of trainees: 60 	Kick-off
E-8	To study the planning and managing	Planning and establish solutions of community based on natural resources	36 months	108,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published paper 9/30 	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
	mechanism of rural, urban and industrial zones to eliminate the pollutant added to the environment (including GHG)	management for reduction of environmental and resources deterioration			<ul style="list-style-type: none"> - Number of published books: 1 - Number of conferences/workshops: 1 - Number of new technologies: 1 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 6 - Number of short trainings: 4 - Number of trainees: 60 	
E-9	To study possible solutions to protect the existing biodiversity and natural resources	Study on status of biodiversity of the Mekong delta to establish the determinants for conservation and appropriate natural resources management under recent disturbances (Climate changes and Human activities)	36 months	120,000	<ul style="list-style-type: none"> - Number of international peer-reviewed papers/total published papers 10/35 - Number of published books: 2 - Number of conferences/workshops: 2 - Number of new technologies: 2 - Number of new technologies applied: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the 	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					program: 6 - Number of short training: 5 - Number of trainees: 50	
E-10	To study the socio-economic feasibility of the (above) solutions	Study on the socioeconomic feasibility of the <i>proposed/ potential options and solutions in the context of extreme weather events and environmental degradation</i>	36 months	144,000	- Number of international peer-reviewed papers/total published paper: 12/42 - Number of published books: 2 - Number of conferences/workshops: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 7 - Number of short trainings: 1 - Number of trainees: 30	Second batch
E-11	To study on the resilience of different farming systems in the context of extreme weather events and environmental degradation	Study of establishment of solutions coped with environmental changes and climate changes for sustainable development of agriculture and aquaculture at a small scale in Mekong Delta	36 months	96,000	- Number of international peer-reviewed papers/total published paper: 8/26 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of PhD degrees obtained from/involved in the program: 2 - Number of graduate students involved in the	Second batch

No.	Program title	General objective(s)	Program duration	Total budget (USD)	Expected outputs	Remarks
					program: 5 - Number of short trainings: 2 - Number of trainees: 30	
E-12	To study on the adaptation strategies on sustainable uses of natural resources in the context of climate change and environmental degradation	The goal of the project are to suggest national and regional policies on natural resources governance changes to adapt the existing farming systems changes on in the VMD under climate change	36 months	64,000	- Number of international peer-reviewed papers/total published paper: 5/18 - Number of published books: 1 - Number of conferences/workshops: 1 - Number of patent applications: 0 - Number of PhD degrees obtained from/involved in the program: 1 - Number of graduate students involved in the program: 4 - Number of short trainings: 1 - Number of trainees: 30	Second batch