

Appendix H.

**Sanchez Mira Campus
RDE Banner Programs and Projects
2018-2022**

The Cagayan State University at Sanchez Mira is mandated to promote research and extension services along its banner program on **organic agriculture** needed in the social, cultural, health, environmental, educational, and economic development of Northwestern Cagayan.

Through cross-college collaboration, external linkages and multidisciplinary approach, CSU at Sanchez Mira came up with a research agenda that are aligned with the current thrusts of the Philippine agenda, the regional agenda, its partner agencies, and as mandated by its charter with the following goals and objectives to work on for the next five years.

Goal:

To advance organic agriculture through research, innovation, development, and technology transfer while addressing food safety and security, climate change and degrading natural resources in Northwestern Cagayan.

Objectives:

To achieve the above goal, the CSU-SM RDE shall pursue the following objectives:

1. To disseminate, apply, and implement innovations and scientific knowledge consistent with the principles of organic agriculture;
2. To produce new and organically grown products, and processing technologies for waste utilization in the production of marketable products;
3. To design, develop and fabricate appropriate facilities, machineries, equipment, and tools for production, harvesting, processing and packaging of organic products;
4. To develop knowledge and technology information system and intensify technology transfer and commercialization in the University
5. To provide continuing education programs for farmers, students, specialists and extension workers on organic Agriculture through coordination with line agencies

Challenges

The pressing challenges in the implementation of the banner program include the following:

1. Instilling a research culture and research vocation among faculty and students;
and
2. Improving the research capability of faculty, research staff and students;
3. Increasing research productivity and raising research quality and impact

4. Providing institutional support for the research program

Plan Strategy

These are some ways in which sustainable organic agriculture could be enhanced:

1. **By ensuring immediate benefits:** While environmental soundness and resilience are paramount, farmers must experience an immediate benefit if they are going to change their practice. Only then can it be sustainable in the long term. Getting benefits from sustainable organic agriculture is not always quick though, as it takes time for new approaches to be adapted to different agroecological and socio-economic conditions and to show their impacts: rebuilding organic matter dramatically improves soil fertility and moisture, but it can take two or more years for this to happen. Improved variety of organic products that perform even better if grown using conservation practices could provide an incentive for farmers to adopt conservation agriculture. Improved access to market can also trigger farmers' motivation to invest in organic agriculture.
2. **By providing intermediate, appropriate technology:** To be attractive, sustainable practices need to be technically as well as economically efficient. Intermediate technological solutions such as light machinery and affordable tools can encourage small-scale farmers to test them. New tools and practices can be better tested to the local conditions through participatory research.
3. **By carrying out research and technical assistance:** Farmers know a lot, but they may not know about alternative options if these have not been introduced to them. Research and technical extension staff need additional resources to reach more farmers, and they need more training on 'non-conventional' farming methods and on innovative ways to share their knowledge.
4. **By Increasing coordination and planning:** Opportunities for open and honest conversation on sustainable organic agriculture should be provided to stakeholders. Although many of these actors already work on sustainable practices, their impact could be amplified by fostering synergies, making interventions more consistent and avoiding duplication of efforts.
5. **By increasing policy support and leadership:** Addressing technical and financial constraints is important, but policy coherence is essential for scaling-up. One way to reinforce policy advocacy for sustainable agriculture is by producing and consolidating evidence of its benefits, in contrast with the negative impacts of high-input intensive monocultures. A better shared understanding of these issues would provide common ground for local leader to pursue the changes that are needed in agricultural policy and practice.

Priorities /Res. Area	Program/Project/Study	Timeframe					Expected Output				
		2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Sustainable Organic Agriculture	<ul style="list-style-type: none"> conservation of indigenous vegetable crops, tropical fruit trees, ornamentals and forages and stingless bees 	<ul style="list-style-type: none"> collect different organic/indigenous vegetable varieties establish initial organic crop gene bank varietal trial of different varieties of organic crops and analysis of soil samples once a year 	<ul style="list-style-type: none"> Establish organic crop gene bank Experiment on organic crops, ornamentals and forages and analyze soil sample once a year 	<ul style="list-style-type: none"> Establish experiment on organic crops, ornamentals and forages and analyze soil sample once a year 	<ul style="list-style-type: none"> Establish experiment on organic crops, ornamentals and forages and analyze soil sample once a year 	<ul style="list-style-type: none"> Publish 4 papers on organic production 	<ul style="list-style-type: none"> enhanced collection of different organic/indigenous vegetable varieties started the establishment of organic crop gene bank 	<ul style="list-style-type: none"> established organic crop gene bank Established experiment on organic crops, ornamentals and forages and analyzed soil sample once a year 	<ul style="list-style-type: none"> Established experiment on organic crops, ornamentals and forages and analyzed soil sample once a year 	<ul style="list-style-type: none"> Established experiment on organic crops, ornamentals and forages and analyzed soil sample once a year 	<ul style="list-style-type: none"> Published 4 papers on organic production
	<ul style="list-style-type: none"> Develop and improve organic livestock based integrated 	<ul style="list-style-type: none"> Establish treatments for organic crop-organic-livestock model to popularize 	<ul style="list-style-type: none"> Apply treatments, record yield data Continue 	<ul style="list-style-type: none"> Apply treatments, record yield data Continue 	<ul style="list-style-type: none"> Apply treatments, record yield data Continue organic crop- 	<ul style="list-style-type: none"> Publish 4 papers on organic crop-livestock integration 	<ul style="list-style-type: none"> Established treatments for organic crop-organic-livestock model to popularize 	<ul style="list-style-type: none"> Applied treatments, recorded yield data Continue organic 	<ul style="list-style-type: none"> Applied treatments, record yield data Continue 	<ul style="list-style-type: none"> Applied treatments, record yield data Continue organic crop- 	<ul style="list-style-type: none"> Published 4 papers on organic crop-livestock

	farming systems	organic crop-livestock farming	organic crop-livestock trials	organic crop-livestock trials	livestock trials		organic crop-livestock farming	crop-livestock trials	organic crop-livestock trials	livestock trials	integration
	<ul style="list-style-type: none"> Develop and improve intercropping models and farming systems 	<ul style="list-style-type: none"> Record growth and yield data of different organic crops intercropped with tropical fruits with stingless bees Apply treatments and record growth and yield data of different organic crops and analyze soil samples 	<ul style="list-style-type: none"> Record growth and yield data of different organic crops intercropped with tropical fruits with stingless bees Apply treatments and record growth and yield data of different organic crops 	<ul style="list-style-type: none"> Record growth and yield data of different organic crops intercropped with tropical fruits with stingless bees Apply treatments and record growth and yield data of different organic crops 	<ul style="list-style-type: none"> Record growth and yield data of different organic crops intercropped with tropical fruits with stingless bees Apply treatments and record growth and yield data of different organic crops and analyze soil samples 	<ul style="list-style-type: none"> Publish 4 papers on organic production 	<ul style="list-style-type: none"> Different organic vegetables intercropped with tropical fruit trees with stingless bees 				

			and analyze soil samples	and analyze soil samples							
	<ul style="list-style-type: none"> • Soil and water management 	<ul style="list-style-type: none"> • Irrigation requirements for organic crops • Formulate new organic fertilizer mixer 	<ul style="list-style-type: none"> • Complete 14 pick recordings • Collect and analyze soil samples and leaf samples • Treatment applications for experiments • Analyze drainage samples and fertilize 	<ul style="list-style-type: none"> • Conduct experimental trials • Produce publications 	<ul style="list-style-type: none"> • Make irrigation and fertilizer recommendations for organic crop production 	<ul style="list-style-type: none"> • Publish 5 research articles on soil and water management of organic crops • Quantify nutrient losses from fertilizer application 	<ul style="list-style-type: none"> • Irrigation recommendation for organic crops • Recommendations of locally available fertilizer materials 	<ul style="list-style-type: none"> • Completed 14 pick recordings • Collected and analyzed soil samples and leaf samples • Treatment application for experiments • Analyzed drainage samples and fertilizer samples 	<ul style="list-style-type: none"> • Conducted experimental trials • Produced publications 	<ul style="list-style-type: none"> • Made irrigation and fertilizer recommendations for organic crop production 	<ul style="list-style-type: none"> • Published 5 research article on soil and water management of organic crops • Quantified nutrient losses from fertilizer application • Came up with new experiment on fertilizer application

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Environment and Climate Change	<ul style="list-style-type: none"> Adaption and Mitigation to Climate Change Effects to Reduce Vulnerability of Organic Crops and Animals to Climate Change Disaster preparedness and risk reduction management among organic farmers 	<ul style="list-style-type: none"> Vulnerability indices of the crop growing areas in Cagayan Potential use of organic intercropping for climate change mitigation Waste management and utilization Assess disaster preparedness and management among organic farmers 	<ul style="list-style-type: none"> Continuation of vulnerability assessment Conduct climate change impact assessment on organic farming 	<ul style="list-style-type: none"> Prepare indices for North-western Cagayan Collect monthly field data Prepare data base Conduct climate change impact assessment on organic farming 	<ul style="list-style-type: none"> Prepare indices for e Cagayan Prepare data base 	<ul style="list-style-type: none"> Started vulnerability assessment of crop areas of the province of Cagayan 	<ul style="list-style-type: none"> Continued assessment on climate change vulnerability of Cagayan 	<ul style="list-style-type: none"> Prepared indices for North-western Cagayan Collected monthly field data Prepared data base 	<ul style="list-style-type: none"> Prepared indices for Cagayan Prepared data base 	<ul style="list-style-type: none"> Published article 	<ul style="list-style-type: none"> Vulnerability indices of the Crop growing areas in Cagayan Assessed drought risk organic crops Identified degree of drought tolerance of organic crop varieties

Micro, Small, Medium Enterprises (MSMEs, informal sectors)	<ul style="list-style-type: none"> • Development of profitable production technology packages on organic products • Establishment of village level enterprises for organic products 	<ul style="list-style-type: none"> • Development of production technology packages on organic products 	<ul style="list-style-type: none"> • Value adding on organic products 	<ul style="list-style-type: none"> • Establish common quality standards for various organic products and processes 	<ul style="list-style-type: none"> • Production of value added organic products 	<ul style="list-style-type: none"> • Prepare cook book for organic products 	<ul style="list-style-type: none"> • Developed production technology packages on organic products 	<ul style="list-style-type: none"> • Produced value-added organic products 	<ul style="list-style-type: none"> • Established common quality standards for various organic products and processes 	<ul style="list-style-type: none"> • Produced value-added organic products • Improved product quality 	<ul style="list-style-type: none"> • Prepared cook book for organic products • Published research products
Capacity Development (institution, faculty, Students and farmers)	<ul style="list-style-type: none"> • Establishment of organic farm school • Development and validation of instructional materials on organic agriculture 	<ul style="list-style-type: none"> • Train and provide hands-on experience to faculty, students, farmers and to small and medium scale entrepreneurs to develop own industries • Train 1000 trainees on organic 	<ul style="list-style-type: none"> • Provide training on organic product production and value addition to farmers and housewives 	<ul style="list-style-type: none"> • Provide training on organic product production and value addition to farmers and housewives 	<ul style="list-style-type: none"> • Provide training on organic product production and value addition to farmers and housewives 	<ul style="list-style-type: none"> • At least 5 technology adapters 	<ul style="list-style-type: none"> • Established an organic farm school • Developed and validated of instructional materials on organic agriculture 	<ul style="list-style-type: none"> • Trained and provide hands-on experience to faculty, students, farmers and to small and medium scale entrepreneurs to develop 	<ul style="list-style-type: none"> • Provided training on organic product production and value addition to farmers and housewives 	<ul style="list-style-type: none"> • Provided training on organic product production and value addition to farmers and housewives 	<ul style="list-style-type: none"> • At least 5 technology adapters

		<p>food manufacturing</p> <ul style="list-style-type: none"> • Train 300 people on production and value addition 						<p>own industries</p> <ul style="list-style-type: none"> • Trained 1000 trainees on organic food manufacturing • Trained 300 people on production and value addition 			
Manufacturing and production	Development of a computerized networking system for farmers and entrepreneurs of organic products	<ul style="list-style-type: none"> • Establishment of workstation facilities connected on a local area network (LAN) 	<ul style="list-style-type: none"> • Provide an environment for storage and retrieval of both structured and semi- 	<ul style="list-style-type: none"> • Development of a system for collection, organization, storage and retrieval of 	<ul style="list-style-type: none"> • Establishment On-line shop for organic products. 	<ul style="list-style-type: none"> • Development of interpersonal communications allowing farmers and entrepreneurs communicate 	<ul style="list-style-type: none"> • Developed a system for collection, organization, storage and retrieval of information 	<ul style="list-style-type: none"> • Established On-line shop for organic products 	<ul style="list-style-type: none"> • Developed strong systems and guidelines to list products on organic shop 	<ul style="list-style-type: none"> • Developed interpersonal communications allowing farmers and entrepreneurs communicate efficiently and easily 	<ul style="list-style-type: none"> • New technologies developed

