APPENDIX D.

CSU Gonzaga
RDE Agenda
CY 2018-2022

Priorities/ Research Area	Program/Project/Study	TIMEFRAME					EXPECTED OUTPUT				
		2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Bamboo-based Agroforestry	**I. Ethnobotany and Socioeconomic Aspects of Bamboo Agroforestry** 1. Resource Inventory and Ecosystem Services, Current Production, Utilization Practices and Marketing of Bamboo in Cagayan 2. Assessment of the local knowledge of bamboo within the intended agroecological zone of establishment (local bamboo use, ecological distribution as well as taboos and belief systems about its cultivation and utilization) 3. GIS-Based Resource Inventory and Mapping 4. competitive advantage of bamboo (in terms of costs and benefits) 5. Farmers' perceptions of deforestation and erosion (including any perceived impact bamboo-based agroforestry on crop yields).	X X	X X X X						• Baseline Information on Bamboo Resources in Cagayan • GIS Map of Bamboo Resources • Documented Indigenous Production and Utilization of Bamboo in Cagayan • Documented Marketing of Bamboo Products in Cagayan	• Publication in Research Journals	

	II. Establishment of Bamboo Genebank and Nursery 1. Production of quality planting materials (campus and community-based) 2. Establishment of Clonal Propagator with Drip Irrigation System 3. Research on Rapid Propagation Technique	X	X X X	X	X	X			• At least 10,000 planing materials • Provincial Nursery • POTs on propagation of bamboo propagules	• IEC on Bamboo Planting Materials Propogation	
	III. Cultural Management of Plantation and Natural Stand of Bamboo for Shoot and Pole Production 1. Bamboo Gene Bank 2. Bamboo Plantation Establishment and Management 3. Cultural Management Practices 4. Watershed and Riverbank Management		X	X X					• Bamboo Genebank •	• POT on plantation establishment and management for shoot and pole production • POT on shoot and pole production of natural bamboo stand • POT on the production of deform bamboo • Community Bamboo-based Agroforestry Plantation established • Resilient-households with bamboo-based project for food, nutritio	Publication in Research Journals

	IV. Ecological Processes and Component Interaction Within Bamboo Agroforestry 1. Study on the tree-soil-crop interaction in tropical bamboo agroforestry system (Soil Fertility: Chemical, Soil Fertility : Physical, Soil Fertility: Biological) to define the best cultural practices applicable to specific bamboo species and agricultural crops.		x	x	x				•	• Bamboo Soil Fertility: Chemical, • Soil Fertility : Physical, • Soil Fertility: Biological	Publication
	V. Development of New Process of Bamboo Products 1. Development of Bamboo Soap and Pickles 2. Development of Bamboo Wine and Juice 3. Design, Fabrication, and Testing of Bamboo Slicer 4. Product Development		X X X X	X X X X	X X X X	X X X X			• POT on processing of bamboo products • POT on utilization of deform bamboo for fancy products • Food and non-food products developed and commercialized	Publication in Research Journals	

	VI. Development of bamboo-based silvopasture systems (Testing Bamboo Fodder for a Wide Range of Livestock 1. Documentation and identification of best practices of integrated tree/crop–livestock production systems in an intended locality; 2. Documentation of predominant livestock feeding practices; 3. Identification and documentation of priority fodder species and assess farmers' ethnobotanical knowledge about the species; 4. Determination of the nutritional and mineral profile of the prioritized livestock feed sources; 5. Assessing consumption patterns and digestibility of prioritized fodder species in comparison with bamboo; and 6. Evaluation of the growth and health (using haematological indicators and serum biochemistry) of livestock fed with fodder from common species in comparison with bamboo.		X X X X X X	X X X X X X	X X X X X X				•	• Bamboo-based Nutrition for Silvopasture	Publications

	VII. Development of Bamboo-Crop-Livestock Agroforestry Business Investments Standards Cost –Benefit Analysis 1. Bamboo-Pineapple Integration 2. Bamboo-Livestock Integration 3. Bamboo and other Crops Integration 4. Bamboo Handicrafts		X X X X	X X X X	X X X X				•	• Business Standards for bamboo-based investments	Publication
	VIII. Technology validation, Packaging, Promotion and Commercialization, Livelihood and Enterprise Development 1. "Isang Tahanan, Limang Kawayan" . Bamboos in Homegardens 2. Community-based Technology Demonstration on bamboo-based agroforestry Farms 3. Production of IEC Materials 4. Capacity Building 5. Bamboo-based Agroforestry Enterprise Development	X X	X X X X	X X X					•	• Community Bamboo-based Agroforestry Plantation established • Resilient-households with bamboo-based project for food, nutrition • Capacitated individuals • Materials developed, published and in wide dissemination	

	IX. Ecosystem & Environment Protection 1. The potential of bamboo-based agroforestry in restoring degraded forestlands and also as sustainable carbon sink 2. Bamboo as biomass for renewable energy 3. Bio-engineering for erosion control 4. Watershed management 5. Rainwater retention and soil moisture conservation 6. Mangrove forest rehabilitation and management 7. Wind Break			X X X X X	X X X X X	X X X X X			•	• Resilient-households with bamboo-based project for food, nutrition	
	X. Economics and Marketing 1. Value Chain Analysis of Bamboo and Bamboo Products 2. Product Market Validation (consumer preference, price ect) and Commercialization Studies				X x				•	• Bamboo and bamboo-based products value chain studies • Market and Commecialization Studies	Publication

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