



Environmental Sustainability Plan (ESP)

Project Title: KNOWLEDGE AND SKILL DEVELOPMENT ON COCONUT BASED SECONDARY AGRICULTURE (CAAST)

Name of the AU: KERALA AGRICULTURAL UNIVERSITY

Date of project implementation: 06.10.2019

Name of Nodal Officer (NO): Dr. Suma Nair

Contact Number of NO: 9446157139

Sl. No	Proposed Interventions/ Activities	Compliances applicable	Possible Environmental Impacts	Mitigation Measures	Scope for the integration of environmental Sustainability (Best Practices) concerns	Resources Required (budget, technical support etc.)
1.	Renovation of processing plants/ laboratories	Construction & Demolition Waste Management Rules, 2016 – Notification Municipal Solid Wastes (Management and	- Generation of debris - Public safety issues	- Debris will be put to alternate use such as landfilling in consultation with Local Bodies - Mixing operations can be done in less populated areas as all institutions have sufficient land area	- Contract MOU will enforce that debris will be properly handled, works will be carried out without causing difficulties to the public, no child labour is used and	- TOTAL ESP BUDGET = Rs. 48.00 lakhs (Rs. 20.00 lakhs civil works + Rs. 28.00 lakhs Operational Cost)

		Handling) Rules, 2000		<ul style="list-style-type: none"> - No involvement of child labour - Laborers will be insisted to use masks - Display boards on the premises to provide the people. - Covering of construction sites to prevent the spread of dust. 	<ul style="list-style-type: none"> no inconvenience and health issues to the workers involved - Safety of the public will be ensured through adequate display/information/caution boards 	<ul style="list-style-type: none"> - Technical supervision from engineering wing of KAU/ ESP project team
		Noise Pollution (Regulation & control) Rules, 2000	Issues of construction noise	<ul style="list-style-type: none"> - Ensuring construction equipment that use less noise in residential areas during night or near schools and hospitals 	<ul style="list-style-type: none"> - Less noisy equipment can be insisted from contractors - The noise level in any area / zone shall not exceed the ambient air quality standards in respect to noise 	
		The National Building Code of India (NBC)	<ul style="list-style-type: none"> - Use of low quality raw materials that affect the construction / infrastructure and environment - Lack of fire safeguard equipment leading to fire accidents - Lack of water and 	<ul style="list-style-type: none"> - Use of safe and quality raw materials procured from qualified/ reliable vendors - Safety measures for fire hazards will be established at all project venues - Setting up water harvesting facilities, 	<ul style="list-style-type: none"> - Integration of best practices of Environmental Sustainability concerns through water harvesting structures, solar panels, other methods of renewable energy integration, and scientific waste management 	<ul style="list-style-type: none"> - Wood quality testing laboratory facility at College of Forestry

			energy conservation measures	energy saving methods such as use of LED lighting and energy star rating equipment wherever possible		
		Hazardous Wastes (Management and Handling) Rules, 1989 and Amendment Rules, 2000 & 2003	<ul style="list-style-type: none"> - Environment safety issues - Waste Water from Lab - Risk of exposure to harmful chemicals and accidents - Management of bio/ agro wastes 	<ul style="list-style-type: none"> - Construction of separate outlet for collection and treatment of wastes / effluent - Upgrading existing facility for Common Effluent Treatment Plant (CETP) (with permission from the PCB) - Efficient hood system in laboratories to remove toxic and hazardous fumes, generated during use of organic solvent/or during acid digestion, from the work place - Laboratories will be provided with sufficient space, ventilation, lighting, regular supply of essentials like quality water 	<ul style="list-style-type: none"> - Waste water will be recycled for irrigation purposes - Hazardous waste management protocols will be enforced at all levels in all institutions - Accident safe guards will be followed - Successful models of agro-residue management can be set up 	Rs. 20.00 lakhs from Civil Works and Rs. 5.00 lakhs from Operational Costs for CETP

				<ul style="list-style-type: none"> - Labs will be equipped with fire safety equipment and first aid boxes, eye wash facilities etc - Prominent display of fire and lab safety instructions - Composting and other agro residue management techniques will be followed - SOPs will be made available in the laboratories 		
2.	Research, Processing & Value addition activities	Environment Protection Act (1986)	Spread of microorganisms to the outside environment may happen	<ul style="list-style-type: none"> - Measures to contain already in force and the guidelines as per the Act will be adhered to - The PCB will be contacted and accordingly the rules will be followed - Awareness trainings to ensure proper work environment in labs to all stakeholders 	<ul style="list-style-type: none"> - Good lab practices already followed by KAU 	
3.	Plant protection activities				<ul style="list-style-type: none"> - Use of biocontrol agents, biopesticides will be promoted and 	<ul style="list-style-type: none"> - Technical support from scientists of the University

					demonstrated to the stakeholders - Awareness trainings to ensure to all stakeholders regarding bio control agents and bio pesticides	
4.	Office, processing units and laboratory maintenance	E- waste (Management and Handling) Rules, 2011	- Radiation and heavy metal contamination of ground water /soil	- E – waste will be channelized through identified authorized agencies - Records of e-waste generated will be maintained and make available such records for scrutiny by the PCB - Trainings for all stakeholders for awareness and implementation at respective Centres		- A GoK company (Clean Kerala) is operational and provides solutions to management of e-waste, observing all guidelines
			- Issue of more energy use	- Energy saving/ efficient equipment will be procured and energy standards are maintained		

Signature:

Name and Designation of PI:

Dr. R. Sujatha
Professor & ADR (Coconut Mission)

Kerala Agricultural University
Dr. SUJATHA R.
Associate Director of Research
Coconut Mission
College of Agriculture
Padannakkad (P.O.)
Kasaragod - 671 314
Kerala

Signature:

Name and Designation of NO:

Dr. Suma Nair
Assistant Professor
KVK, Thrissur