



**CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR
ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.**

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI (M.S.) INDIA

Contact No. 02452_223002, 223802 Mob. 9422111232 Email: nahep.caast.vnmkv@gmail.com

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ENVIRONMENT SUSTAINABILITY PLAN (ESP)

Annexure VII

Environment Sustainability Plan (ESP)						
Sr. No.	Proposed Interventions/ Activities	Compliances applicable	Possible Environmental Impacts	Mitigation Measures	Scope for the Integration of Environmental Sustainability concerns	Resources Required (budget, technical support etc.)
1	Infrastructure Development: <ul style="list-style-type: none"> Repair and minor modification of Building (classroom, lab etc.); Raw material for construction, ventilation, energy source and devices, safety measures, and construction operations 	<ul style="list-style-type: none"> National building code of India, 2005 Energy Conservation Act 	<ul style="list-style-type: none"> Possibility of use of illegal mined or low quality material Dearth of space, poor ventilation and illumination, lack of basic facilities may lead to uncomfortable working condition Lack of fire safe guard equipment Leads to fire accidents 	<ul style="list-style-type: none"> Renovation work will be given to well authorize contractor through University Engineer. The laboratories will be provided with sufficient space, ventilation, lighting, regular supply of essentials like quality water. All labs will be equipped with fire safety equipment and first aid boxes, Display of fire safety instructions. Standard norms for renovation will be followed. 	<ul style="list-style-type: none"> Provision would be made for rain water harvesting structure. Recharge of tube wells Plantation of 500 plants nearby NAHEP centre 	Rs. 7 lakhs



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		•	• Open disposal of construction debris	• Whatever debris comes from the repair and minor modification work will be reutilized in University Campus.	•	• Already taken care.
		•	• Use of non-renewable energy contribute to emission	• Energy consumption will be reducing by using Energy efficient appliances. • LED/CFL lights will be illuminated using solar energy.	• Installation of solar panel for generation of energy	Rs 15.50 lakhs
		•	• Risk due to lack of safety measures and pollution	• Fire hazard safety tools will be fitted in office/ wherever essential. • The contractor has been instructed to strictly follow the safety norms and should provide with gloves, helmets masks to the workers.	• Installation of fire safety and CCTV in the premises.	Rs. 5 lakhs
2	Waste disposal	• Hazardous wastes (Management and Handling) Rules, 1989 and Amendment Rules, 2000 & 2003	• Open disposal of hazardous laboratory (liquid) wastes into gutter may contaminate the soil,	• Collection of waste separately in mini tub. • Consultation and visits of the PCB	Students and staff will be trained on laboratory safety guidelines. Best practice will be	• Rs. 10 lakhs for safe disposal of hazardous waste by handing it over to authorized agency.



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		<ul style="list-style-type: none"> E-Waste (management and Handling) Rules, 2018 	<p>groundwater etc.</p> <ul style="list-style-type: none"> Radiation Heavy metal contamination of ground water /soil 	<p>for advisory.</p> <ul style="list-style-type: none"> SOPs will be made available in the laboratories. E – Waste will be channelized through collection center or dealer of authorized producer or dismantler or recycler or through the designated take back service provider of the producer Will maintain records of e-waste generated by them in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board; 	<p>followed for disposal of waste.</p> <p>Agri. Waste into by-products like poultry feeds, cattle feeds etc</p> <p>Govt. policy/ pollution board procedure followed</p>	<ul style="list-style-type: none"> Rs.5 lakhs for setting facility for food waste utilization. Rs. 1.5 lakh
3	Capacity building of faculty and students	• N.A.	• NA	• NA	<ul style="list-style-type: none"> Concepts of conservation of natural resources and to bring attitudinal change among students and faculty 	Awareness workshops (Approx. Rs. 2 lakhs).



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					<ul style="list-style-type: none"> The courses are included in the modules. 	
4	Research themes of the centre	<ul style="list-style-type: none"> Insecticide Act 1968 	<ul style="list-style-type: none"> Use of pesticide that fall in the category of Class Ia, Ib, and II as per WHO classification will pollute the water, soil & air and effects biodiversity. 	<ul style="list-style-type: none"> Pesticides banned by WHO will not be used. Use of permitted pesticides/fungicides in the research trials as per the WHO classification. WHO Laboratory Safety Manual. 	<ul style="list-style-type: none"> The web-resource will also be helpful to farmers and students for identification of WHO recommended pesticides which are less harmful to environment. Formulation of research trials which can conserve natural resources such as Soil and Water and reduce environmental impact Development of web and mobile based application for choosing appropriate chemical pesticide/ fungicides as per the classification of WHO Best practice: Use of bio-control agents viz., <i>Trichogermia</i> sp., <i>Trichoderma</i> sp, <i>Verticillium likyani</i> 	<ul style="list-style-type: none"> Already being done <p>Rs 1 lakhs</p> <p>Rs 2 lakhs</p>



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					<p>Zygogramma beetles, etc</p> <ul style="list-style-type: none">• Use of drip system reduces the water wastage and improves soil conservation. <ul style="list-style-type: none">• Recycling of plastic waste by remolding back into use.	<p>Rs 2 lakh</p>
					Total Cost:	Rs. 51.00 Lakhs

Hon. Vice- Chancellor
VNMKV, Parbhani

DI & DEAN (F/A)
VNMKV, Parbhani

PRINCIPAL INVESTIGATOR (PI)
NAHEP CAAST VNMKV
PARBHANI (M.S.) INDIA

Environmental Safeguard (ES) Officer
NAHEP CAAST VNMKV
PARBHANI (M.S.) INDIA