



**JUNAGADH AGRICULTURAL UNIVERSITY,  
JUNAGADH-362 001 (GUJARAT)**

<b>Environmental Sustainability Plan (ESP)</b>						
<b>S. No</b>	<b>Proposed Interventions/ Activities</b>	<b>Compliances applicable</b>	<b>Possible Environmental Impacts</b>	<b>Mitigation Measures</b>	<b>Scope for the integration of environmental Sustainability concerns</b>	<b>Resources Required (budget, technical support etc.)</b>
	<b>Lab Upgradation</b>					
1.	<b>Disposal of clinical samples</b> like faecal, blood, milk, serum, skin scrapping, placentas, muscles, paper wastes, Laboratory kits, used materials in culture, bacterial/ viral vaccines, blood contaminated cotton swabs, dressing materials, linen, beddings, plaster casts etc.	Hazardous Wastes (Management and Handling) Rules, 1989 and Amendment Rules, 2000 & 2003.	Yes (Risk of dissemination of diseases from all kind of causative agents like viral, bacterial, fungal and parasitic etc.)	Disposal in Yellow polythene bag as per the direction of Bio-medical Waste Disposal Agency under the control of Gujarat Pollution Regulatory Board	Essential for environment sustainability	-
2.	<b>Laboratory animal house management</b>	Bio-Medical Waste (Management and Handling) Rules, 1998	Yes (Risk of Zoonotic disease transmission)	Biomedical wastes are regularly collected & disposed off by Bio-medical Waste Disposal Agency under the control of Gujarat Pollution Regulatory Board	-do-	-
3.	<b>Animal tissues &amp; carcass management</b>	Bio-Medical Waste (Management and Handling) Rules, 1998	Yes (Risk of Zoonotic disease transmission)	Pit disposal (Deep burial)	-do-	-
4.	<b>Disposable Plastic waste:</b> Disposal of surgical gloves, Catheters, Plastic bottles, Used empty blood / urine plastic containers/ bags etc.	Bio-Medical Waste (Management and Handling) Rules, 1998	Yes (Risk of dissemination of diseases from all kind of causative agents like viral, Bacterial, fungal and Parasitic etc.)	Disposal in Red polythene bag as per the direction of Bio-medical Waste Disposal Agency control of Gujarat Pollution Regulatory Board	-do-	-



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5.	<b>Disposable glasswares</b>	Bio-Medical Waste (Management and Handling) Rules, 1998	Yes (Risk of dissemination of diseases from all kind of causative agents like viral, Bacterial, fungal and Parasitic etc.)	Disposal in Blue polythene bag as per the direction of Bio-medical Waste Disposal Agency control of Gujarat Pollution Regulatory Board	-	-
6.	Farm waste management	do	Nil	Crop residue remain after harvesting is used for production of vermi compost, or NADEP Pit	Green manuring, In situ and ex situ manuring	
7	Biotechnology waste management	do	Yes (Risk of fungal and bacterial contamination)	Control discard of waste material and waste materials discard after pre-treatment.	-	
8	Protection against fire	do	Yes (Risk of catching fire during running any instrument due to short circuit)	Installation of fire extinguisher, proper insulated cable connection system in all buildings of JAU along with first aid facility		
9	Pesticide residue management in standing crop.	Insecticides Act 1968	Yes	New molecule is recommended as per pesticide residue act. By maintaining Gap between harvesting and pesticide spray. Based on pesticide residue results. Discontinuation of the pesticides banned by WHO	Application of bio-pesticides instead of harmful chemical pesticides.	
10	<ul style="list-style-type: none"> <li>• Civil Work Renovation &amp; Up gradation of Existing Laboratories</li> <li>• Site clearing</li> <li>• Wages to labour</li> <li>• Child Labour</li> </ul>	National Bulding code (2005) Energy Conservation Building Code (Energy Conservation Act 2001) & Minimum Wage Act for	Yes (loss of greenery by felling trees, clearing vegetation etc.) Chances of exploitation of labours by contractors Possibility of involvement of child labour.	Compensatory plantation of trees of local species should be done in equal or more number near the same site or suitable alternate site, Operations like mixing raw materials should be done in areas where people's movement is less and workers should use masks and removal of debris from site. Prevent exploitation and ensure even	Cleanliness is evitable Labour laws should be strictly followed	





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		labours Prevention of Child Labour Act		distribution and payment of wages as per govt. norms to men and women alike. Use of child labour should be avoided.		
11	Noise Pollution	The Noise Pollution (Regulation And Control) Rules 2000).	The construction equipment operation may cause inconvenience to the workers and by passers due to dust, noise etc. Inconvenience and health issues to the workers involved	<ul style="list-style-type: none"> <li>Will not allow construction during night at the areas residential complexes or near schools and hospitals.</li> </ul>	Appropriate Noise level must be maintained	
12	e-waste	e-waste (management and Handling) Rules, 2011	May pose choking hazard and serious health hazard	Proper collection and disposal by certified agencies.	Essential for environmental sustainability	
13	Electricity supply and safety.	National Bulding code (2005)	Irregular supply of and fluctuations in electricity may pose risk of serious health and safety hazard	<ul style="list-style-type: none"> <li>Regular and stabilized electricity supply (220-230 volts) preferably green and captive should be ensured</li> <li>Provision of standby source for power supply to sensitive and costly equipment.</li> <li>Ground all sources of power supply for human and equipment safety.</li> </ul>	Construction of green buildings should be encouraged	
14	Signs inside and outside of the building	National Bulding code (2005) Energy Conservation Building Code (Energy Conservation Act 2001)	May create confusion at the time of emergency	Proper labelling and installation of signs aids in effective disaster management and reduces confusion	Follow building code	



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	Safeguards					
15	Notice boards for display of information, fire and electrical safety arrangements	National Building code (2005) Energy Conservation Building Code (Energy Conservation Act 2001)	Lack of safety norm exposes to accidents and May create confusion at the time of emergency	Fire safety instructions should be displayed in the form of posters in the wall and all the students, technicians, housekeeping staff should be oriented on immediate response to accidental burns, acid spills, fire etc.	-do-	
16	Provision of alarms or hooters to alert building occupiers in case of emergency	National Building code (2005)	May create confusion and may pose serious health, safety and environment hazard	Proper alarming system in place helps to check and minimize the disaster in case of any emergency	-do-	
17	Clear demarcation of escape routes and assembly points for emergency	National Building code (2005)	Lack of this may create confusion and delay in taking action and appropriate measures during the state of emergency or any untoward incident.	Proper mapping and sign posting of the place helps to check and minimize the disaster in case of any emergency		
18	Provision of spacious and well lit parking	National Building code (2005)	May result in congestion and traffic and pollution	Reduces traffic congestion and pollution smooth transition around work place. Also aids in maintaining social safety		
19	Promotion of energy efficient lighting	Energy Conservation Act 2001	Increased energy/electricity consumption.	Increase in adoption of energy efficient light bulbs and tubes e.g. LED bulb and tubes. Reduction in energy charges	Yes Everybody has to do	
20	Use of Renewable energy sources	Energy Conservation Act 2001	Minimize the pressure on non-renewable source of energy	Promote use of Solar panels SPV and wind mills for clean energy generation	Yes Use of Solar light panels and wind mills	
21	Environmental friendly design and Green Building Certification	Energy Conservation Act 2001	Improper design leads to high energy/electricity consumption, and bills, poor ventilation poses health and safety hazard, poor work environment	Environmental friendly design with HVACs, good ventilation in labs and offices, proper lighting during day and night.	Construction of Green Building should be encouraged	

Signature of Vice-Chancellor

Date

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Date 17/5/19

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