

JSS Academy of Higher Education & Research (JSS AHER), Mysore, India

Compendium SDG Goal 13



SUSTAINABLE DEVELOPMENT GOAL 13 CLIMATE ACTION

1. Introduction to the goal

Climate change is increasing the frequency and intensity of extreme weather events such as heat waves, droughts, floods and tropical cyclones, aggravating water management problems, reducing agricultural production and food security, increasing health risks, damaging critical infrastructure and interrupting the provision of basic services such as water and sanitation, education, energy and transport.

There is no country that is not experiencing the drastic effects of climate change. Greenhouse gas emissions are more than 50 percent higher than in 1990. Global warming is causing long-lasting changes to our climate system, which threatens irreversible consequences. To limit warming to 1.5 C, global net CO2 emissions must drop by 45% between 2010 and 2030 and reach net zero around 2050. In this background, Goal 13 calls for urgent action to combat climate change and its impacts by strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries, by integrating climate change measures into national policies, strategies and planning, by improving education, awareness- raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning and by promoting mechanisms for raising capacity for effective climate change-related planning and management in least developed countries. The goal also aims to implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization.

2. A glance at efforts

- Abiding by JSS AHER Green policy
- Ensuring greenery in the college and hospital campus
- Conducting disaster preparedness mock drills
- Rainwater harvesting
- Training of ASHA workers on disaster preparedness and response
- Participation in disaster response activities
- Undertaking research projects among disaster affected population
- Dissemination of disaster related research as scientific publications

3. Brief of activities

- Curriculum enriched with environment concepts
- Awareness outreach activities towards climate change
- Abiding to the Green policy of JSS AHER

4. Green policy of JSSAHER

JSS AHER has its Green Policy which emphasizes on the following to be strictly followed in all its campuses.

- Maintenance of clean, green, and smart campus—waste segregation and planned disposal of waste through authorized agencies only.
- Disposal of biomedical waste, chemicals, and e-waste as per the norms of the Karnataka State Pollution control Board.
- Energy conservation strategies—For e.g. use of CFL/LED lights and Solar heaters and Air source heat pumps in the hostels.
- Plastic-free campuses.
- Conservation of water resources Rainwater harvesting and wastewater treatment.
- Reducing paper communication.
- Provision for natural light in all its buildings.
- The Institution also has included a subject Environmental Sciences in all courses as stipulated by UGC and organizes Environment Day and Water Day.
- The institution believes in preserving traditional medicine and has established medicinal plants garden and promotes its use by display of medicinal plants in exhibition at Suttur Jatra.
- To meet the needs and sustainable management of fresh water, the rainwater harvesting, and utilisation systems have been established in the girls hostel of JSSCPM to aid towards the greater objectives of water management and conservation and increasing recharge of ground water by capturing and storing rainwater, rainwater harvesting from roof top run-offs and natural waterbodies and the community development.

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Maintenance of clean, green, and smart campus





Energy conservation strategies – Use of CFL/LED lights and Solar heaters and Air source heat pumps in the hospital and hostels



Plastic-free campuses



Conservation of water resources - Rainwater harvesting and wastewater treatment

Provision for natural light in all its buildings Provision of an open court yard in the center of the building





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Reducing paper communication:

Use of electronic communication and patient management software

5. Activities conducted aligning to this goal

5.1 Academic Activities

Curriculum

"Education can play a major part in the required transformation into more environmentally sustainable societies, in concert with initiatives from government, civil society and the private sector," said a 2016 UNESCO report titled Education for people and planet which pushes for education as one of the tools for dealing with the environmental crisis caused by human behaviour.

Education and the core curriculum shape's values and perspectives of the young students who are undergoing courses. The syllabus contributes to the development of skills, concepts and tools that can be used to reduce or stop unsustainable practices and with this ideology the course of Environment studies was introduced in the first year bachelor's degree. The subject has core concepts and methods from ecological and physical sciences

and their application in environmental problem solving and make them understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.

The outcome which was intended to be achieved was to reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world and deepen the Understand the utility of environmental source.

5.2 Research Activities

Surgical gowns are most widely used in health care. Reusable and disposable gowns and drapes differ in material, durability, cost effectiveness and eco-friendliness. Hence a study was carried out to evaluate the cost of reusable and disposable surgical gowns and identify the cost effective and ecofriendly drape kit.

5.3 Outreach Activities through NSS- Out Reach Camps School cleaning and sapling plantation

The NSS volunteers representing the department at the annual NSS camp in Majjigepura village, Srirangapatna Taluka, Mandya District had conducted a special drive for planting sapling in the government school. Around 35 volunteers participated in the program of the department and nearly 50 saplings were planted in the school campus. The school children were involved in the planting drive and were encouraged to take the responsibility of the plants.





5.4 Cleaning Drive and awareness program - 50 NSS Volunteer students planned and carried out a cleanliness drive of the playground at the government school . They also educated the community about the importance of clean environment.





5.5 Environment experiment day- An environment experiment day was organised at the NSS camp. Mr Md. Asif Hussain, government school science teacher was invited as the guest speaker. His experiment of closed ecology has fetched him the young science teacher award by the Government of Karnataka.



By understanding the experiment, the students realised the value of environment and the interdependency of all creatures.

5.6 National Integration Camp 2020

The 6^{th} day of National integration camp was dedicated to field work, where school cleaning and sapling plantation drive was carried out .



5.7 Rain water harvesting and water conservation

To meet the needs and sustainable management of fresh water, the rainwater harvesting, and utilisation systems have been established in all the campuses of the university to aid towards the greater objectives of water management and conservation and increasing recharge of groundwater by capturing and storing rainwater, rainwater harvesting from rooftop run-offs and natural waterbodies and the community development. The below mentioned models are established in the various buildings based on the size of the building and the extent and topography of the land.

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- Land surface catchments a simple way of collecting rainwater by retaining the flows (including flood flows) of small creeks and streams in small storage reservoirs (on surface or underground) created by low-cost dams
- Collection of storm water The surface runoff collected in stormwater ponds/reservoirs is subject to a wide variety of contaminants and every effort is made to keep these catchments clean.

National Service Scheme, JSS Medical College Unit, had organized an educative session on rain water harvesting and water conservation at JSS High School, Bannimantap, conducted by the NSS volunteers and faculty of JSS Medical College.

This session was conducted under the JAL SHAKTHI ABHIYAAN of Government of India.

The programme was conducted at JSS High school by the students of JSS Medical College under the guidance of NSS Programme Officer, Dr. Bharath T. The audience consisted of 136 students of 8th, 9th and 10th standard of JSS High School.

The session began with a welcome address by Mr. Sanjay Jayachandran, NSS volunteer, followed by explaining them how ground water gets purified naturally with the help of a model of bio-sand filter made by the volunteers using sand, gravel and small stones in a bottle. The live demonstration of the same was also done. Then they were oriented to the importance of conserving water and the current scenario of the present water level. They were also asked to share what they got to learn with their friends and family. It was an interactive session with the students. The programme ended with vote of thanks by Dr Sunil Kumar, Associate Professor of Community Medicine.

6. Disaster Management

Mock Drill as part of Disaster Preparedness

Debriefing of the Mass Casualty Incident Mock Drill was held at 12:00noon, 13/03/2019.

Following people attended the meeting:

- Medical Director
- Resident medical officer
- Deputy medical superintendent
- EMD TEAM
- IP manager
- PRO in charge
- EMD Nursing supervisor
- Transfusion medicine in charge
- Hospital administration in charge

- Facility manager (housekeeping) in charge
- Security team
- Porter in-charge
- Front desk in-charge

Following points were noted during the meeting

- 1. The use of blue tags to all the drill participants was introduced this time in the Drill. This helped us identify the number, and assess the efficiency, of the participants. This allowed us to identify those that were present despite not having a designated role in the Drill, and whether they hampered the conduct of the drill.
- 2. All the red cases were given an IP file on arrival, which was a good practice. It saved the time needed for admissions.
- 3. As proposed after the last drill, Emergency Operation Officer was wearing a vest that allowed easy identification. This can also be extended to other members of the drill.
- 4. In this drill an Emergency Operations Desk was established where all the department-in-charges were available which allowed for smooth flow of information. Since the in-charges were themselves directly involved in the conduct of the Drill, there were times when they could not be present at the desk which did hamper the flow. This can be avoided by arranging one assistant or a representative to remain at the Desk in case the in-charge needs to be elsewhere. The porter in charge is tasked with making suitable arrangements for the establishment of such an Emergency Operations Desk for MCI events/drills as a part of their protocol.
- 5. The security had done a good job at the triage zone. They created a human barricade to keep the receiving entry free of crowding, thereby allowing smooth running of the triage. They also deployed female security guards who made a close circle in the front where the crowd were mostly girls while the male security guards formed an outer circle in case of a breach.
- 6. The security was jeopardized for a transient period during the visit of the VIPs which resulted in the attenders entering the disaster area hampering the treatment. A solution for this would be to cordon off a larger area around the lobby in front of the west gate to keep the attenders and the press far off from the entry and patientreceiving area. This will facilitate better crowd control and portray a better image for the press.
- 7. Coloured Triage tags if applied or tagged to the patient would help in easy identification and tracking in case of many casualties. The Front office was asked to maintain a stock of such coloured tags which may allow the recording of some important information on the tag itself as described by the Director.

- 8. The Triage desk should be physically well separated from the registration desk for smooth flow of patients through the triage and registration areas.
- 9. The ambient light in the designated yellow and green area needs improvement.
- 10. Personal Protective Equipment (PPE) should be available to all the personnel involved in the patient care. It should be available in adequate quantity and the personnel should use it appropriately. To aid this practice, one suggestion given was to make kits with the PPE and other basic equipment which can be provided to each Zone as and when required and the nurse in charge made responsible for the distribution of the same.
- 11. The pharmacy was very efficient during this drill. The disaster kits were supplied appropriate to the patient load. Distribution was directly to the in- charge-nurses on request.
- 12. The nursing staffs were more in number from the start of the drill. While their enthusiasm to participate is much appreciated and their value incalculable during an actual MCI, the extra staff were left uninstructed which interfered in smooth functioning as these extra staff gathered around hampering communication. One nursing in-charge must be appointed to each Zone who remains unchanged throughout the drill. They also carry the responsibility to maintain proper documentation of the patients in their Zone. The Red Zone should preferably deploy ED nurses during an MCI event as they are trained in managing such cases and have an already established rapport with the doctors which will aid in the smooth and efficient management of the patients.
- 13. All departments may arrange assistants for help and a list of such designated deputies should be provided to the EOO. This helps in differentiating the participants from onlookers. This can also provide us an opportunity to test the real capability of the departments and the participants for an actual MCI.
- 14. All the in-charges of departments including radiology, Laboratory, and blood bank should report to the EOO irrespective of the type of MCI declared. The EOO can later decide the requirement of personnel from the department depending on the type of disaster.
- 15. The mock drill should be followed with utmost precision as this is designed to test the real time response of different departments. In this drill as the nursing staff, the housekeeping and the porters had already been designated and kept waiting in anticipation of deployment, it did not allow for tracking the time for response and the number of people available in real time. While it is understood that compromising the normal functioning of a ward or section of the hospital for the sake of conduct of the Drill is unacceptable, testing individual response time and application of management methods to arrange additional personnel at short notice is of utmost importance for preparing for a real disaster. Therefore, while the in-charges will

continue to be notified in advance about the conduct of a Mock Drill in the future, they are urged to keep the information of time and date of the Drill to themselves and preserve some element of surprise for future Drills.

- 16. The press, VIPs and the attenders should be provided with separate waiting area away from each other, which is always well guarded. These waiting areas should have drinking water availability, easy access to a washroom and a PRO to address their needs always.
- 17. It was resolved that from the next Drill on the patients who are admitted would be physically moved to the ward/ICU/Operation theatre etc. and shifted to the bed. The time taken by porters and the nursing staff for the transfer and return of the trolleys and the equipment could then be tested as well.
- 18. The communication in the disaster drill was difficult due to poor signal on the cellular phones. This was rectified using alternate method of communication using runners who personally delivered information and collected reports and status. Provision of multiple landlines with intercom in at least two areas especially at the Emergency Operations Desk can overcome this loophole. IT department to be tasked with making suitable arrangements for lines and instruments. The ideal would be to acquire wireless radios, train and license the personnel for the use of the same.
- 19. The PRO should anticipate the response from society at large and NGOs who offer to help/provide volunteers. Suitable arrangements should be made to meet them and utilize this additional resource.
- 20. The different departments can also appoint separate personnel to observe their own response in a drill. An internal observer to help in identifying their merits and short comings. List of such observers should be informed earlier to the EOO to avoid confusion.
- 21. The DHO, the DC (Mysuru district), The Police, the DHO (Chamarajanagar district) and the Airport Authority of India (Mysuru Airport) were called upon to observe the disaster mock drill as it is a community cantered event. On the appointed day two representatives (Senior Medical Officers) deputed from Chamarajanagar came to observe the mock drill.
- 22. JSS has MOU with Apollo Hospital and Narayana Hospital, Mysuru in case of over burden to our resources. The involvement of other clinics and hospital in the immediate vicinity also needs to be tested in case of a major disaster. This can be part of the next Drill in coordination with the district authorities.
- 23. There was a proposal to designate an additional larger Decontamination Area with adequate resources outside the designated Triage Zone. This was discussed by the hospital administration representative, security in charge and the housekeeping in charge. This is to be setup before the next drill.

24. It is observed in the video that many unwanted and uninvited persons have taken their own role only for the purpose of editing themselves in the video. In the next drill, appearance of such unwanted persons appearing for only video shooting should be restricted completely.

The next MCI/ Disaster Mock Drill is to be planned again within 6 months as per NABH requirements.

REPORT OF THE MASS CASUALTY MOCK DRILL

Six patients were brought into the ED in an ambulance, with complaints of abdominal pain and multiple episodes of vomiting and diarrhoea after consuming food at a college picnic at Mahadevapura, of which one patient was of Priority I, two Priority II and three of them were Priority III. On further enquiry the patients revealed that about 120 students have consumed the same food and were expected to be sick and heading towards JSS hospital in multiple ambulances. The staff on duty reported the likely Mass Casualty Incident (MCI) to the HOD of Emergency Department, Dr. Rameshbabu Homanna Javali . The HOD then reported a probable MCI Level 3 to Dr.Guruswami, Medical Superintendent.

- Code ORANGE-Mock drill was alerted.
- The MS assumed role of Incident Commander and set up the Incident Command Center in his chamber .
- The senior emergency physician on the Emergency Department floor assumed the role of Emergency Operations Officer (EOO). He along with the nurse-in-charge established EM Operations Centre in the corridor leading to the West gate near the Speech and Hearing department.
- All the victims of the disaster were received at the West gate; a Triage Station, with one triage nurse and two Emergency Physicians, was established at the entrance of the West gate. The new yellow zone was made into Red Zone with one Emergency Physician, the lobby in front was the Yellow Zone with Emergency Physician and the wide corridor in front of the Speech and Hearing department was the Green Zone with two Emergency Physicians.
- All personnel including the PRO, security in charge, porter and housekeeping in charge, pharmacy in charge, lab in charge and the front office in charge were called by the Manager on Duty (MOD) and reported to the EOO.
- Security personnel were alerted to clear and cordon the ramp in front of the West gate to allow the flow of casualties from only one entrance.
- The Department of General medicine were informed and requested for extra staff . The laboratory in charge was informed and two phlebotomist reported
- A Registration desk was also set up near the Triage station responsible for all the patient data and demography which was managed by three front office secretaries.

- All the admissions at the registration desk were done on credit basis.
- Casualties started arriving at the West gate in small batches about 10-15min apart.
- PRIORITY I- 11 numbers (7 male and 4 female patients) were shifted to the established Red Zone.
- PRIORITY II-18 numbers (7 male and 11 females) were shifted to the established yellow zone.
- PRIORITY III-27 numbers (7 male and 20 female) were moved to the established green zone.
- PRIORITY IV-1 number (BROUGHT DEAD) one male was shifted to the Red Zone and later to the mortuary.
- The ICU nurse in charge was informed regarding the need for 11 ICU beds with at least 6 ventilators.
- Regular updates were given to the MS by the MOD and the EOO.
- Actors representing the DHO of Mysuru district, the DC, a local MLA and the central health minister along with the media were allowed to visit the patients and speak to the attenders.
- A mock press meet organized in front of the ART center, was attended by the DHO, the DC, the local MLA, the central health minister and the MS. All the queries were patiently answered by all officials.
- The MLA agreed to share half of the finance incurred by the hospital at the press meet!
- About 10 volunteer actors representing Mysuru Youth Student Foundation had come to extend their help; the MS spoke to them but were not allowed to participate.

7. Disaster relief activities

7.1 Participation in disaster relief activities in Kerala

Dr, Jose Jom Thomas, postgraduate in Department of Community medicine, JSS Medical college was involved in the flood relief activities in Wayanad, Kerala. He did volunteer medical service under the National Health Mission,







Wayanad at the on-site rescue and control center, established at Puthumala, where a massive landslide claimed 12 lives and seven were missing. The student was involved in providing emergency medical services, preventive medications, and Tetanus Toxoid injections to the rescue workers including Police force, army, and National Disaster Relief Force. He was also involved in flood relief camp management, and evacuation of residents in the area.

7.2 Training on disaster preparedness and management

A workshop and training on disaster preparedness and management for ASHA Workers

A workshop and training on disaster preparedness and management was organized by the Department of Community Medicine, JSS Medical College, at Primary Health Centre, Suttur. 11 Accredited Social Health Activists (ASHA) were trained through interactive sessions. Hands-on training with the help of audio-visual aids were given on various pre-disaster preparations like situational analysis, hazard analysis and vulnerability analysis. Basic life support measures and simple emergency medical procedures like wound care, fracture immobilization and triage were demonstrated to the participants by the resource persons. A mock drill was arranged as part of the programme to elaborate on the preparations and actions required during the occurrence of disasters in the village.



7.3 Demonstration of Fire Extinguisher



Fire extinguishing demonstration was given to the Teaching & Non-Teaching Staff of JSSDCH, Mysore by Mr. Satyanarayan, M/s Fire Cools, Mysore .

8. Awareness programme to ASHA



Awareness programme and training was organized to ASHA workers at Varuna village panchayath office. There are 22 ASHA workers participated in the programme. In the programme guest lecture was taken and explained about ill effects of tobacco and what are the techniques were available to stop smoking. All the participants told the programme is very much beneficial and asked us to conduct similar programmes in every 6 months.

8. Golden jubilee celebrations of NSS day celebrations

NSS Cell, JSS Academy of Higher Education & Research, Mysuru under the umbrella of National Service Scheme celebrated NSS Day and Golden Jubilee celebration of NSS with various activities. NSS Unit of JSS Dental College and Hospital, JSS AHER Mysuru organized all the activities on behalf of University in association with all NSS Units.

Various activities were organized, ESSAY WRITING COMPETITION of the topic of 'Problem caused by the plastic bags' was held at JSS College of Pharmacy, Mysuru. On the same day, in the afternoon DRAWING COMPETITION on the theme "Nature, Calamity and Service" was held at Faculty of Life Sciences campus, JSS AHER, Mysuru. DEBATE COMPITATION organized by JSS dental college and hospital and the theme was 'URBANIZATION IS BANE OR BOON'. Short film competition was held based on the

theme of "Water Resources Management" and event was organized by NSS Unit of JSS Medical College, Mysuru.

The winners in the above competitions were given prizes and certificates on NSS day celebrations held at Rajendra Auditorium, JSS College of Pharmacy, Mysuru.

A rally was organized to create awareness about menace of use of single use plastic. Rally started from the JSS College of Pharmacy, Mysuru premise and returned to the same place via, JSS Medical College premises, Hanumanthanagara, Highway Circle, LIC, Bannimantap and St. Joseph's Hospital. About 400 plus NSS volunteers participated in the rally.

Clean Chamundi Hill; Make it plastic free camp was organized at Chamundi hill jointly by NSS Unit of JSS Academy of Higher Education & Research, Mysuru, NSS Unit of Maharani's College, Mysuru and Clean Mysuru Foundation, Mysuru. This program was to make awareness about the hazardous use of plastics, a street play and rally was conducted at Chamundi hill to create awareness about cleanliness and not to use plastics. About 300 NSS volunteers of JSS Academy of higher Education & Research and volunteers of Clean Mysuru Foundation, Mysuru participated in the program. Three areas were identified to clean and make free of plastics, they were Nandi statue area, View Point area and Thavarekere area.

NSS Day and Golden Jubilee celebrations of NSS were held in the Sri Rajendra Auditorium, JSS College of Pharmacy, Mysuru. Dr. Yellappa Reddy, environmentalist and Former Forest Service Officer, Bengaluru inaugurated the function, Dr. B. Manjunatha, Registrar, JSS Academy of Higher Education & Research; Mysuru presided over the function. Dr. Kushalappa, Director, Academics, JSS AHER was grace the occasion. Awards for Best University NSS Volunteers and winners of various competitions were given. All the Principals of constituent colleges of JSS Academy of Higher Education & Research, Heads of University Department and Dr. K L Krishna, NSS Program Coordinator of JSS AHER were present in the functions as guests of honor.

All the activities were organized by NSS Unit of JSS Dental College and Hospital, JSS AHER Mysuru on behalf of University.



NSS volunteers gathered at Pillahalli where a demonstration was given by Fire Brigade Officers, Bannimantap. They emphasized the need to take precautions with respect to fire and also dealt with the ways to extinguish fire. An educative talk was organized in regard to the same. All children and locals including the NSS Volunteers were benefitted. An Educative talk on "Oral Hygiene maintenance for Children" was delivered by Dr Raghavendra Shanbhog. This benefited the children as it was very much informative.

9. Relief Goods sent to Coorg

A relief desk was opened near the Food Court of JSSAHER, Mysuru for the collection of different basic commodities and other donations. Clothes(dress materials, bed sheets & blankets), food items (such as rice, pulses, biscuits, rusk, tea/coffee powders), toiletries (tooth paste & brush, soap, shampoo) sanitary napkins, diapers (both baby and adult), cleaning kits etc were collected. Basic medicines were also collected on this day. Later the evening the collected items were transported to relief camps in Wayanad district, Kerala



Team segregating and packing the collected materials

10.Climate action

There is no country that is not experiencing the drastic effects of climate change. Greenhouse gas emissions are more than 50 percent higher than in 1990. Global warming is causing long-lasting changes to our climate system, which threatens irreversible consequences if we do not act. The college campus possesses a lush green campus with seasonal trees and maintenance of garden has been done from time to time to keep it neat and clean. For promoting green

environment resilience we initiated car and scooter pooling for the staff and students who resides in same locality. Shortly promotion of cycling will be done in the college campus along with 'No Vehicle Day'

once in a month. The students have already initiated this and few of the students ride their bicycles and come to college. In short term goal we are looking for organic farming to cater the need of vegetables and fruits have been proposed and for that land will be finalizing soon. The college has herbal garden where many medicinal plants are displayed which provides the fresh air and relives from the ailments. To maintain cleanliness, we are also looking for outsourcing the housekeeping facility in the campus. Planting of the tree sapling will be done in college and in tribal villages to keep environment green and eco-friendly.

11.Support and allownace to staff: Hill Area Living and winter allowance

The college regularly adding the hill and winter allowance as per government norms in salary structure to maintain the climate changes during winter.

SI. No.	NAME OF FACULTY (TEACHING / NON-TEACHING/ADMIN) (As on December 2019)	Hill Allowance	Winter Allowance
	TEACHING STAFF		
1	Dr. Dhanabal S. P., Principal	1500	500
2	Prof.Chinnaswamy, K, Professor	0	0
3	Dr.Meyyanathan S.N., Professor	1500	500
4	Dr.Duraiswamy B, Professor	1500	0
5	Dr.Chandrasekar.M.J.N. Professor	1500	500
6	Dr. Anand Vijaya Kumar P. R	1500	500
7	Dr.Gowthamarajan.K, Professor	1500	500
8	Dr. Ponnusankar S., Professor	1500	500
9	Dr.Senthil V, Professor	1500	500
10	Dr.Md.Afzal Azam, Vice Principal	1500	500
11	Mr. Nagarajan, J.S.K., Assistant Professor	1500	500
12	<u>Dr. Kalirajan (a) Manivannan,</u> Assistant Professor	1500	500
13	Dr.Suresh Kumar R, Assistant Professor	1500	500
14	Dr. Nagasamy Venkatesh, D, Assistant Professor	1500	500
15	Dr. Vadivelan R, Professor	1500	500
16	Dr.Krishnaveni N, Professor	1500	500

JSSAHER has strengthened the resilience and adaptive capacity to environmental conservation and climate change related hazards and activities. It has banned plastics in the campus and given more importance to enhance the green cover in and around the department. Also, sustainable environmental conservation strategies and planning has been initiated by declaring the campus as GREEN CAMPUS and implementing various plans of action to conserve the water, energy and greenery in the campus.

JSSAHER organized various awareness campaigns and cleaning drives to restore the various environmental components. Solar based lighting system and heating provisions have made sustainable environmental conservations. Paperless communications, water conservation by rain water harvesting, wastewater recycling and reuse, less energy consuming lighting and system utility, increased bicycle usage rate, waste to value added products, etc are the important initiations made for achieving SDGs related to climate change mitigation and actively involved research activities and publishing a good number of research findings in reputed journals and sharing related knowledge with global communities towards the mitigation of climate change and sustainable environmental management.

The beauty of nature is a gift of God, and as responsible citizens it is our duty to protect this gift. Hence, following actions are initiated by JSSAHE&R towards Green Initiative:

- a) Greenery / Plantation
- b) Prohibition on use of Plastic bags and bottles
- c) E scrape
- d) Use of Incinerators
- e) Solar Power, Water Heater, Cooking System





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Mahalaxmi e-Recyclers Pvt. Ltd. Plot no: J-5 (Part), Gokul Shirgoan MIDC, Tal: Karveer, Dist: Kolhapur | Website: erecyclebin.com



GREEN CAMPUS CLEAN CAMPUS
PLASTIC FREE CAMPUS













I WILL SALUTE
IF YOU
DON'T
POLLUTE

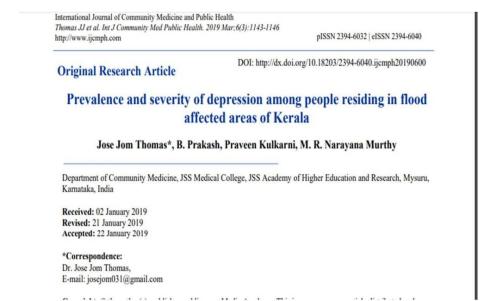
CCTV
SURVEILLANCE

Publications

- Jose Jom Thomas, Prakash B, Praveen Kulkarni, Narayana Murthy M R Prevalence, and severity of depression among people residing in flood affected areas of Kerala. International Journal of Community medicine and Public health. March 2019. Volume 6, Issue 3.
- 2. Jose Jom Thomas, Chandana H, Praveen Kulkarni, Prakash B, Narayana Murthy M R. Empowering frontline health workers to manage disasters at village level: a lesson from Mysuru, Karnataka. International journal of scientific research. September 2019. Volume 8, Issue 9
- 3. Jose Jom Thomas, Prakash B, Praveen Kulkarni, Narayana Murthy M R. Flood relief interventions in Kerala: A factsheet and critical analysis based on experiences and observation. International Journal of Health and Allied Sciences. October 2019. Volume 8, Issue 4.
- 4. Jose Jom Thomas, Prakash B, Praveen Kulkarni, Narayana Murthy M R, Krishna murthy. Awareness about climate change among high school students in Mysore. Indian Journal of Preventive Medicine. December 2019. Vol-7, Issue -2.
- Jose Jom Thomas, Chandana H, Praveen Kulkarni, Prakash B, Narayana Murthy M R Awareness about disaster management among accredited social health activists in field practice area of a medical college in Mysuru. International Journal of Community medicine and Public health. December 2019. Volume 6, Issue 12

Books/chapters contributed

Dr Praveen Kulkarni and Dr Sunil Kumar D, Associate Professors in the Department of Community Medicine have contributed a chapter on Climate Change and Health in IAPSM Text Book of Community Medicine. Publishers: Jaypee brothers, New Delhi.



Expenditure Incurred Towards Maintenance of Green Campus during the Financial Year 2017 - 18 to 2019 - 20

Sl. No.	Name of the Institutions	2017 - 18	2018 - 19	2019 - 20	Total
1	JSSMI Campus	2,080,417.00	2,392,412.00	2,282,592.00	6,755,421.00
2	JSSCPM Campus	349,310.00	480,214.00	371,783.00	1,201,307.00
3	JSSCPO Campus	6,427.00	7,216.00	11,181.00	24,824.00
4	TOTAL AMOUNT	2,436,154.00	2,879,842.00	2,665,556.00	7,981,552.00

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ENERGY CONSERVATION MEASURES

- Light Bulb Replacement
- Sticker Reminders as part of their 'Energy Awareness Campaign' is placed on switch boards to remind everyone to conserve energy by turning off the lights.
- Small pamphlets emphasizing the importance of energy saving shall be prepared and circulated to all the staff and students of the college.
- Solar water heaters installed in colleges and hostels and in guest houses.

ELECTRICITY - UNDERGROUND CABLE WORKS COMPLETED















Underground Cable works and power backup

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POWER / ELECTRICITY (Power back up: 24 x 7)

JSSAHE&R has created the facility of providing 24×7 power / electric supply either in the form of power connection through CHESCOM / TNEB and in case of failure in power supply, generators are installed in all the campuses for providing uninterrupted electric / power supply.

Campus	RR No.	Contracted Demand in KVA	Motor Constant	Date of Connection / Service	Generator
JSSMI Campus	HT – 166	450 KVA	2500	May 1995	2 dedicated generators of 450 KVA & 500 KVA capacity is provided with auto switch over facility
JSSCPM Campus	HT - 384	150 KVA	750	May 1995	82.5 KVA & 160 KVA
JSSCPO Campus	HT - 107	150 KVA	200	May 1995	100 KVA, 125 KVA & 150 KVA capacity is provided

Solar Projects



At the Institution level, solar panels have been installed which has considerably brought down the power consumption by at least 50% compared to earlier years. In order to set an example, the institution shares some of the electricity generated by solar energy to the

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local electricity board. Proper signages have been installed advising the users to always switch off the electricity when not in use.

Most of the lights have been replaced by energy saving bulbs and LEDs to save power. Continuous monitoring and maintenance of Air Conditioning, generators and other power appliances are being carried out to ensure that no power is being wasted under any circumstances



Emergency Power Backup & Smart Micro Grids



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Summary Of Power Generation With The Aid Of Solar Panels

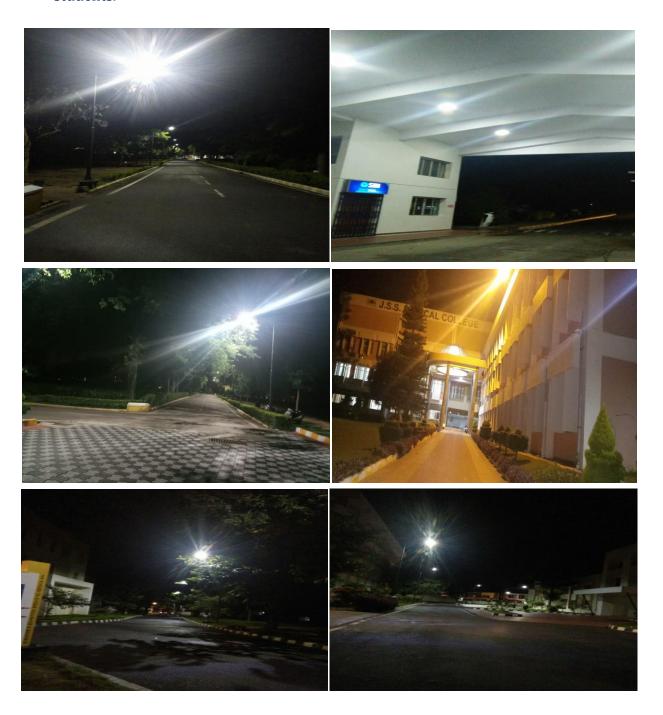
1			2			3		4	5	6
]	KEB			r Units erated	T	otal	KEB Rate	Saving
	A	В	С	D	A	В	A	В		
Month	Import Units KEB	Export Units from Solar	Actual Consumptio n of Units (2A-2B)	Amounts	Total Units	Amounts	Units	Amounts (2D+3B)		
Apr-19	144450	0	144450	1314716	0	0	144450	1314716	1314716	0
May-19	153225	0	153225	1419601	11909	73835.8	165134	1493436.8	1535134	41697.2
Jun-19	118150	75	118075	1096122	24708	153189.6	142783	1249311.6	1332678	83366.4
Jul-19	109425	450	108975	1023980	22879	141849.8	131854	1165829.8	1231164	65334.2
Aug-19	101250	1025	100225	944791	35607	220763.4	135832	1165554.4	1267196	101641.6
Sep-19	93125	4325	88800	850504	46215	286533	135015	1137037	1266547	129510
0ct-19	96375	7275	89100	852928	53755	333281	142855	1186209	1337953	151744
Nov-19	89025	10125	78900	764651	60973	378032.6	139873	1142683.6	1310793	168109.4
Dec-19	83575	9025	74550	720964	54812	339834.4	129362	1060798.4	1204710	143911.6
Jan-20	85600	3975	81625	781752	72663	450510.6	154288	1232262.6	1429742	197479.4
Feb-20	81425	17675	63750	628170	69004	427824.8	132754	1055994.8	1235333	179338.2
Mar-20	76300	19800	56500	560793	66086	409733.2	122586	970526.2	1132504	161977.8
Total	1231925	73750	1158175	10958972	518611	3215388	1676786	14174360	15598470	1424110

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Proper Lighting

All the institutions campus of JSSAHE&R at Mysuru and Ooty are provided with LED lightings to promote security in the campus and to increase the quality of life by artificially extending the hours in which it is light and for the safety of hostel students.



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STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT ISS AHER CAMPUS

Sl. No	Scientific name	Common name	Total no's	Uses
1	Morinda coreia	Indian mulberry ಮಡ್ಡಿ ಮರ	10	The bark is tonic, astringent, febrifuge and antiseptic.
2	Roystonea regia	Royal palm ರಾಯಲ ಪಾಮ್	67	Landscape usages
3	Pithecellobium dulce	Monkey pod ಬೆಟ್ಟದ ಹುಣಸೆ	25	Leaf decoction is taken for leprosy, jaundice and for proper growth of hairs. Plant paste is applied for poisonous bites.
4	Terminalia arjuna	White murdah ಅರ್ಜುನ್ ಮರ	05	Bark decoction is the best cardiac tonic and highly recommended for nervous debility. It also helps to reduce high blood pressure.
5	Terminalia catappa	Indian almond tree ಕಾಡು ಬಾದಾಮಿ	07	Bark powder is used as tooth powder in case of gum diseases, mouth ulcers and thrush in tongue. Leaves cooked with rice are eaten for gastritis.
6	Araucaria columnaris	Christmas tree ಕ್ರಿಸ್ಮಸ್ ಮರ	04	Landscape usages
7	Pongamia pinnata	Hongay oil tree ಹೊಂಗೆ ಮರ	64	Bark cooked with rice is eaten for three days in case of uterine diseases and conception failure. Bath with leaf decoction is recommended for arthritis and rheumatism.
8	Grevillea robusta	Southern silky oak -ಸಿಲ್ವರ್ ಮರ	56	Ornamental Fuel
9	Azadirachta indica	Neem ಬೇವಿನ ಮರ	52	Bark powder is recommended for septic wounds. Neem oil is applied for healing wounds and ulcers.
10	Albizia lebbeck	East Indian walnut ಬಾಗೆ ಮರ	28	Seed decoction is given for piles and to stop purgation. Leaf and bark powder are applied for ulcers as well as snake bite.
11	Swietenia mahagoni	West Indian mahogany ಮಹಾಗನಿ ಮರ	14	Timber
12	Cocos nucifera	Coconut ತೆಂಗಿನ ಮರ	70	Tender coconut water is the antidote for indigestion caused by beaten rice. Paste of leaf ash fried with ghee is applied for old chronic ulcers and wounds
13	Areca catechu	Arecanut palm ಅಡಿಕೆ ಮರ	20	Decoction made of its root, Cocos nucifera root and salt are used as a gargle for toothache. Young fruit (ground) is given as a sour agent for thrush in tongue.
14	Delonix regia	Royal gulmohur ಕತ್ತಿಕಾಯಿ ಮರ	17	Antispasmodic and antirheumatic.

15	Ficus benghalensis	Banyan tree ಆಲದ ಮರ	02	White terminal portion of prop root ground in milk is given for burning sensation and is a general tonic. Paste prepared from its bark, castor oil, bee wax and turmeric are used as a quick healer for cracks in feet.
16	Ficus racemosa	Cluster fig ಅತ್ತಿ ಮರ	02	Fruit juice is used for gastritis. Bark paste is applied to ulcers or boils on body due to excessive heat.
17		ರ್ವೆಟ್ರು ಮರ	10	
18	Wrightia tincto ria	Pala indigo ಬೆಪ್ಪಲ ಮರ	02	Leaf paste is filled into dental cavities for toothache and cavities. Leaf paste in coconut oil is applied for skin diseases.
19	Bauhinia purpurea	Butterfly tree ಬಸವನ ಪಾದ ಮರ	03	Stem bark decoction is given for diarrhoea, ulcers, swellings, leprosy, cough and menstrual irregularities
20	Lagerstroemia microcarpa	Virgin tree of the forest ನಂದಿ ಮರ	02	Leaf or young shoot tip paste is applied for cuts, wounds and for skin diseases
21	Albizia amara	Bitter albizzia ಸುಜಲ್ ಮರ	02	Medicinal and agroforestry
22	Ficus religiosa	Peepal tree ಅರಳಿ ಮರ	08	Young shoot tip ground and boiled in milk is given for dysentery and amoebiasis
23	Millingtonia hortensis	Indian cork tree ಆಕಾಶ್ ಮಲ್ಲಿಗೆ	42	Bark decoction is recommended internally for fever, cold, indigestion and diarrhoea
24	Acacia catechu	Red cutch ತಾರೆ ಮರ	01	Twig is used as toothbrush for strengthening teeth and gums. Bark decoction is used as a gargle for mouth ulcers
25	Plumeria rubra	Temple tree ದೇವಗಣಗಲೆ	32	Bark cooked with rice is taken for jaundice, venereal diseases and joint pain
26	Saraca asoca	Asoka tree ಅಶೋಕ ಮರ	171	Bark decoction is used for menstrual problems, dysentery, diarrhoea and as a blood purifier
27	Ficus benjamina	Golden fig ಜಾವ ಹತ್ತಿ ಮರ	01	Medicinal and agroforestry
28	Artocarpus heterophyllus	Jack fruit tree ಹಲಸಿನ ಮರ	07	Fruit is nutritive and it clears excretory system. Seeds are sweet with aphrodisiac action
29	Aegle marmelos	Bael fruit ಬಿಲ್ವಪತ್ರೆ ಮರ	03	Leaf juice is given to children suffering from stomach-ache. Leaf is eaten for diabetes.
30	Sapindus laurif olia	Soapnut ಅಂಟವಾಳ ಮರ	01	Folk medicine and insecticide
31	Thespesia populnea	Cork tree ಬುಗರಿ ಮರ	05	Fruit and bark decoction is much used to wash for septic wounds and ulcers
32	Prosopis cineraria	Indian mesoquite ಬನ್ನಿ ಮರ	02	Astringent and coolant
33		ತಬ್ಬುಬಿಯ ಮರ	28	

34	Tabebuia aurea	Caribbean trumpet-tree ಹಳದಿ ಪಾದಿ	40	Ornamental and timber
35	Tamarindus indica	Tamarind tree ಹುಣಸೆ ಮರ	09	Leaf decoction is poured over the body parts to relieve rheumatic pain. Steam of boiled fruit juice is given for pain.
36		ಯಾಮಿ ಮರ	02	
37	Cassia javanica	Pink shower ಕ್ಯಾಸಿಯ ಮರ	06	Widely planted as an ornamental. The wood is used for general construction, furniture and cabinet making
38	Cassia fistula	Indian laburnum ಕಕ್ಕೆ ಮರ	09	Bark paste is applied for skin diseases. Juice collected from heated fruit is taken to expel intestinal worms
39		ನೀಲಿ ಪಾದ್ರಿ ಮರ	02	
40	Alstonia schola ris	Indian devil tree ಹಾಲೆ ಮರ	01	Bark is used to treat asthma, heart disease, for chronic ulcers, and other ailments. Powder mixed with ginger is given to new mothers the first day after birthing to cleanse the blood and promote lactation.
41	Santalum album	Indian sandalwood ಗಂಧದ ಮರ	08	Sandalwood oil was used traditionally to treat skin diseases, acne, dysentery, gonorrhea,
42	Callistemon	Bottlebrush tree ಬಠಲ ಬ್ರಶ್	17	Antibacterial and ornamental
43	Holoptelea inte grifolia	Indian elm ತಾವಸೆ ಮರ	04	Oil prepared from its bark is used for chronic ulcers. Bark paste is applied to the spot of pit viper bite and to arrest bleeding from wounds
44	Hevea brasiliensis	Rubber ರಬ್ಬರ್ ಮರ	04	Rubber and timber
45	Mangifera indica	Mango tree ಮಾವಿನ ಮರ	06	Bark cooked with rice is given for gastritis. Seed kernel ground in butter milk is applied on head for dandruff
46	Michalea cham paca	Golden champa ಸಂಪಿಗೆ ಮರ	18	Agroforestry, fuels and oil
47	Elaeocarpus ganitrus	Woodenbegar ರುದ್ರಾಕ್ಷಿ ಮರ	02	Ground seed is given to small children for increasing intellect and memory power. Wearing its seeds as necklace is said to control CNS.
48	Melia dubia	Malabar neem wood ಹೆಬ್ಬೆ ಬೇವು ಮರ	18	Leaf juice or extract is used both externally and internally as a haemostatic agent
49	Annona reticulata	Bullock's heart ರಾಂಪಾಲ್ ಮರ	01	Fruit is beneficial for tuberculosis. Dried fruit extract is given for dysentery
50	Syzygium cumini	Black plum ನೇರಳೆ ಮರ	02	Seed powder or bark decoction is much used for diabetes. Bark decoction is recommended for ulcers in the mouth, diabetes, and liver disorders
51		ಗೋಲ್ಡನ್ ಸ್ವೆಫ್ರಿನ್	35	
52	Tectona grandis	Teak ಟೀಕ್	1450	Fresh leaf and fruit extract are applied for mouth ulcers and itches in the body. Seed and flower decoctions are diuretic

Various trees available in JSS College of Pharmacy, Ooty campus

Sl No.	Name of the Tree	Nos. available
1.	Acacia	39
2.	Cypress	10
3.	Eucalyptus	21
4.	Jacaranda	06
5.	Silver Oak	17
6.	Pynes	01
7.	Plums	31
8.	Peaches	10
9.	Bottle Brush	19
10.	Photo Creeper	20
11.	Jungle Wood	75
	TOTAL	249

Sd/-PRINCIPAL