

JSS Academy of Higher Education & Research
(Deemed to be University) (Accredited A+ Grade by NAAC)

COMPENDIUM ON SDG-15

LIFE ON LAND

**Compendium of Activities in Achieving UN Sustainable
Development Goals**



2021-22

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ABOUT SDG 15

Sustainable Development Goal 15 seeks to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Preserving diverse forms of life on land requires targeted efforts to protect, restore and promote the conservation and sustainable use of terrestrial and other ecosystems. Goal 15 focuses specifically on managing forests sustainably, restoring degraded lands and successfully combating desertification, reducing degraded natural habitats and ending biodiversity loss. All these efforts combined aim to ensure that the benefits of land-based ecosystems, including sustainable livelihoods, will be enjoyed for generations to come.

The nine “outcome targets” include: Conserve and restore terrestrial and freshwater ecosystems; end deforestation and restore degraded forests; end desertification and restore degraded land; ensure conservation of mountain ecosystems, protect biodiversity and natural habitats; protect access to genetic

resources and fair sharing of the benefits; eliminate poaching and trafficking of protected species; prevent invasive alien species on land and in water ecosystems; and integrate ecosystem and biodiversity in governmental planning. The three “means of achieving targets” include: Increase financial resources to conserve and sustainably use ecosystem and biodiversity; finance and incentivize sustainable forest management; combat global poaching and trafficking. Humans depend on earth and the ocean to live. This goal aims at securing sustainable livelihoods that will be enjoyed for generations to come. The human diet is composed 80% of plant life, which makes agriculture a very important economic resource. Plant life provides 80 percent of the human diet, and we rely on agriculture as an important economic resources. Forests cover 30 percent of the Earth’s surface, providing vital habitats for millions of species, and important sources for clean air and water, as well as being crucial for combating climate change

Terrestrial ecosystems provide a series of goods, raw materials for construction and energy, food and a series of ecosystem services including the capture of carbon, maintenance of soil quality, provision of habitat for biodiversity, maintenance of water quality, as well as regulation of water flow and erosion control, therefore contributing to reduce the risks of natural disasters such as floods and landslides, regulate climate and maintain the productivity of agricultural systems. Maintaining those ecosystems greatly support climate change mitigation and adaptation efforts. The protection of our land resources must be a high priority if we are to make a transition to a more sustainable society. adequate approach for promoting the conservation and sustainable use of biodiversity in various sectors, including agriculture, forestry, fisheries and tourism, among others, which are interconnected with food security, economic growth, human health, the improvement of living conditions and the enjoyment of a healthy environment. So maintaining biodiversity enhances these services.

A flourishing life on land is the foundation for our life on this planet. We are all part of the planet’s ecosystem and we have caused severe damage to it through deforestation, loss of natural habitats and land degradation. Promoting a sustainable use of our ecosystems and preserving biodiversity is not a cause. It is the key to our own survival.

Status in India

- 21% area is under forest cover
- 1,401 flora and fauna species threatened
- 5% protected areas
- Only 2.4% global land area, but India is home to 8% of world’s recorded species
- 44%of the total workforces in India in employed in agriculture
- 52% of India’s total land under agriculture is unirrigated and rain fed

FACILITIES AT JSSAHER SUPPORTING SDG 15

CARE FOR EXPERIMENTAL ANIMALS - CENTRE FOR EXPERIMENTAL PHARMACOLOGY AND TOXICOLOGY

Centre For Experimental Pharmacology and Toxicology JSS Academy of Higher Education & Research (JSS AHER) has endowed an extensive ABSL2 preclinical facility “Centre for Experimental Pharmacology and Toxicology” to support the comprehensive research activities of its constituent colleges (medical, dental, pharmacy, life sciences) and departments. The facility is licensed (261/PO/ReBi/S/2000/CPCSEA) by Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India, to conduct experiment on small animal models and breeding for in-house use. The vivarium is located in a serene and peaceful ambiance within the University campus. A built space of 7000 sq ft primarily constitutes rodent barrier facility, small animal clinicopathology labs and supportive suites. Animal facility plant is built in compliance with guidelines of National Institutes of Health (NIH), USA and CPCSEA, Govt of India

Physical Plant

- PT is a BSLII barrier facility with dual corridors, temperature, humidity, light, noise and differential air pressure monitored 24X7
- Epoxy terrazzo coated floor, concrete masonry walls, and moisture resistant ceilings
- Facility is provisioned with isolated ventilated cages
- Clinicopathology, test item control office, archive on site

Animal care is monitored on a daily basis including weekends and holidays

- Health monitoring within the animal facilities is ensured through a sentinel program, supplier reports, and environmental testing by trained veterinarians
- Sterilised Bedding, food and portable mineral water
- Consistent healthcare from study initiation to study completion
- Practice in force on humane endpoints policy to minimize pain and discomfort

Experience with and equipped to conduct studies in a wide array of species

- Rat
- Mouse
- Rabbit
- Guinea Pig

Scientific services

With cutting edge technologies in scientific research along with wide range of experienced professionals, CPT alliances with its partners to bring forth endless variety of disease models and preclinical services in the following areas- Pharmaceuticals, Medical devices, Agrochemicals and Pesticides, Food products and Nutraceuticals, Folklore Remedies



Biochemistry lab



PPE changing rooms



Air shower entry



Rodent room



Clean corridor



Cages autoclave



IVC cage



Stereotaxic apparatus



COLLABORATIONS

International

- NIAAA, NIH, USA
- Macquarie University, Australia
- Sultan Qaboos University, Oman
- University of Saskatchewan, Canada
- Seton Hall University, USA
- University of Johannesburg

National

- CSIR Central Food Technological Research Institute, Mysuru
- CSIRIITR, Lucknow
- IIT, Madras
- Department of Chemistry, University of Delhi
- National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore
- Birla Institute of Technology and Science, Hyderabad
- Annamalai University, Tamil Nadu

GREEN CAMPUS INITIATIVES SUPPORTING SDG 15

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 eco-friendly cultivation practices by organizing medicinal plants exhibition in JSS Urban Health Centre. To meet the needs and sustainable management of fresh water, the rainwater harvesting, and utilization 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 water bodies 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. • Simple roof water collection systems - Most of the rooftop rainwater harvesting has been completed by constructing five water storage structures with a storage capacity of 1000 m³. • 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 storm water ponds/ reservoirs is subject to a wide variety of contaminants and every effort is made to keep these catchments clean.

- Rain water harvesting and retention facility in the campus
- Collection of storm water and every effort is made to keep these catchments clean.
- Save water reminders

Smart Campus Initiatives

- Replacement of 50% of regular bulbs with LED bulbs
- Landscaping around the college
- Providing water purifiers in every floor of the institution
- Initiation of G health Digital store software
- Installation of two effluent treatment plants
- Software for patient management and payment

Objectives with regard to achieving SDG-15

1. Alternatives to animal testing
2. Medicinal plants and uses
3. 3R's Principles in research
4. CPCSEA and ICH guidelines for conducting research.
5. Green initiatives to save environment

List of activities planned to achieve the set objectives

1. Conducting awareness programs on green initiatives like rain water harvesting and use of solar energy

2. Seminar on alternatives to animal experimentation
3. Reduce and replace usage of plastics
4. Training students in proper waste disposal practices and sensitizing them on using the services of biomedical disposal certified agencies.
5. Encourage students for planting trees and animal adoption.

Poster competition, essay writing competition, role play on World Environment Day celebration

Greenery in campus



SMOKE FREE CAMPUS INITIATIVES

Provided 36 no's sanitary napkin incinerator to all the block for the benefit of girls students / women staff purchases of Sanitary Napkin Incinerators – Inci 100+ - FG 0082 **with smoke control unit**. at a total cost of Rs. 21,26,360/- inclusive of all (*Discount @ 10% + Freight charges + IGST @ 18%*) from M/s. Visaga Techno System, Coimbatore.

Following are the details of supply and installation of 36 no's of Sanitary Napkin Incinerators and the head of account under which expenditure is debatable:

Sl. No.	Name of the Institutions	No's.
1	JSS University, Mysuru	
	a) Admn. Annex Office	01
	b) Food Court	01
	c) Guest House	01
	d) Faculty of Life Sciences	01
	e) 3 Hostel – off Campus	03
2	JSS Medical College, Mysuru	01
3	JSS Dental College & Hospital, Mysuru	01
4	JSS College of Pharmacy, Mysuru	01
5	JSSU Girls Hostel, JSSMI Campus, Mysuru	
	a) A Block	3
	b) B Block	3
	c) C Block	4
	d) D Block	4
	e) E Block	4
f) PG Resident Hostel	4	
6	JSSU Girls Hostel, JSSCPM Campus	
	a) Girls Hostel Building	3
	b) Part of College Building	1
7	TOTAL	36

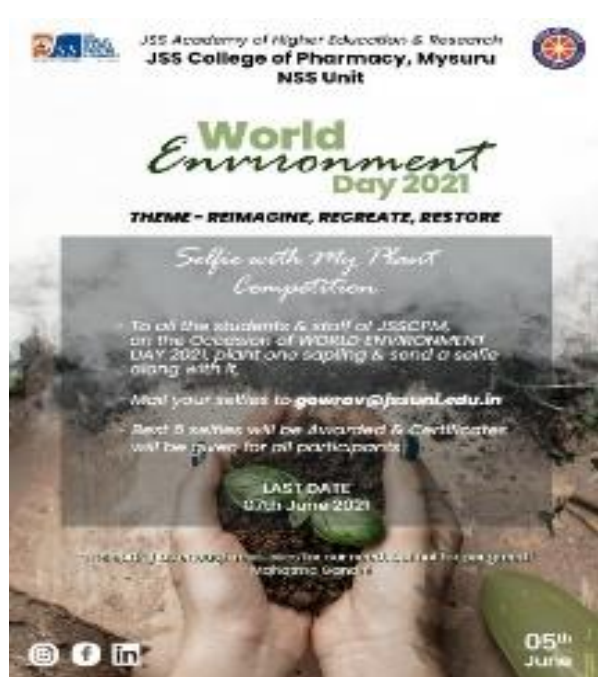
LIST OF ACTIVITIES PROMOTING LIFE ON LAND

National Service Scheme (NSS) Unit of JSS College of Pharmacy, Mysuru celebrated World environment day on 06th June 2022 by Sapling a plant in the premises of the college. The world environment day is celebrated every year on 5th June to raise global awareness to take positive environmental action to protect nature and the planet earth. It is a day that reminds everyone on the planet to get involved in environment friendly activities. People come together to pledge towards building a greener planet. Keeping this aim in view, NSS Unit of the college celebrated World Environment Day. NSS Volunteers were asked to plant a sapling to create a green corner.



Figure: Plantations of saplings in the college campus, as part of the awareness program organized during the celebration of world environment day.

National Service Scheme (NSS) of JSSAHER, Mysuru along with the constituent colleges celebrated World environment day on 07th June 2021 by conducting “Selfie with my plant” competition. More than 100 volunteers participated in the competition. Best selfie photos were given certificates along with prize.





The College as a body always extends support to organise events aimed at promotion conservation and sustainable utilisation of the land, including forests and wildlife. The Department of Pharmacognosy of the college annually organizes such events to promote the conservation of medicinal plants in the Nilgiris Biosphere.



The details of these events are hyperlinked in the weblinks.

<https://jssuni.edu.in/JSSWeb/UDDData/Docs/Thenutritional.pdf>

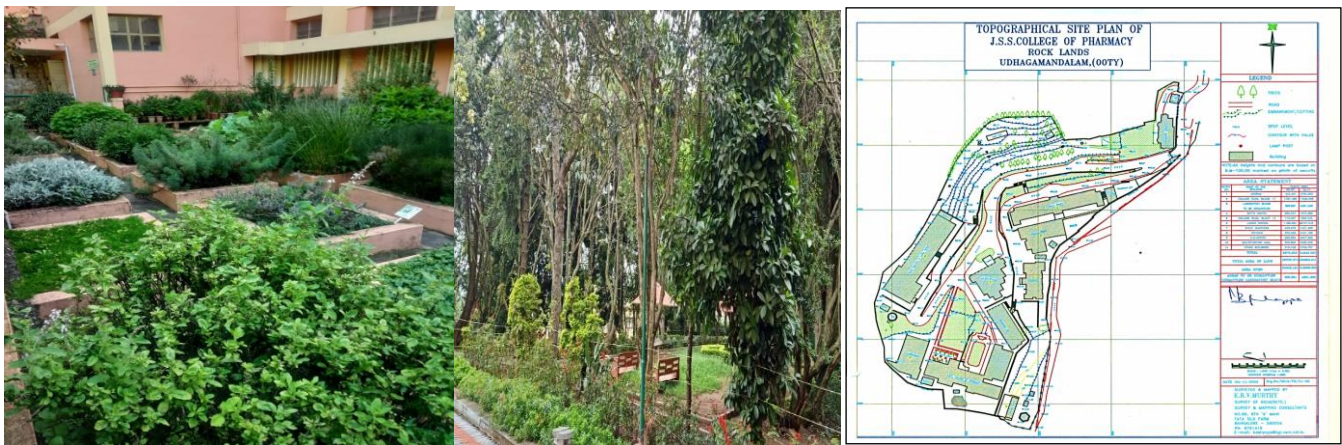
<https://jssuni.edu.in/JSSWeb/UDDData/Docs/Trbaloutreachprogrammes.pdf>

<https://jssuni.edu.in/JSSWeb/UDDData/Docs/medicinalplantexhibition2017.pdf>

<https://jssuni.edu.in/JSSWeb/UDDData/Docs/medicinalplantexhibition2016.pdf>

The College works directly to maintain and extend the existing ecosystems in the Nilgiris Biosphere. The biodiversity of medicinal plants is conserved within the college premises. The college campus possesses a lush green campus with seasonal trees and maintenance of the garden has been done from time to time to keep it neat and clean. A total of 86 species of trees and plants are on the campus. No Trees on the campus are cut down and green resilience is promoted by the College Smart Campus committee.

The college has herbal garden where many medicinal plants are displayed which provides the fresh air and relives from the ailments.



The Masters Programme offered by the college that is M.Pharm in Pharmacognosy has curriculum which elaborates on the conservation of biospheres of medicinal value and the importance of cultivation of such rare medicinal plants.

<https://jssuni.edu.in/JSSWeb/WebShowFromDB.aspx?MODE=SSMD&PID=10002&CID=6&DID=5&MID=0&SMID=10402>

The total land area of JSSCP, Ooty campus is 6.45 acres and out of this 36,032 sq.mt is occupied with constructed buildings. Whilst, the existing infrastructure endorse our institution as a conducive place for academic learning which provides a quality education in a clean, safe and comfortable environment, since the inception, JSSCP has been working very active in establishing the state of the art, SMART campus.



As per the Policy of Nilgiris District, expansion of Buildings is planned in accordance with Ministry of Forestry and HADP of Nilgiris and prior permission is taken for the same.

The government policy on this is as follows- <https://nilgiris.nic.in/plastic-free-nilgiris/#introduction>

Managing waste in a smarter way is the most important aspect of any organization. For this management for the waste we have Bio-waste management, initiative of plastic free campus with no plastic bottles, Rain Water harvesting management for the reduction of water waste to save more water. Mechanical Chimneys, Fume hoods for chemical reactions and Bio-safety cabinets (Class II type A/B3).



The College follows the Government Gazette on Plastic Free zone in the whole Nilgiris District. The Enlisted items are completely banned within the campus.

On, MAY 09, 2018 The Government Policy is abided by the College strictly and no single-use plastic items are used on the campus.

<https://nilgiris.nic.in/plastic-free-nilgiris/#banned>

<https://cdn.s3waas.gov.in/s339461a19e9eddfb385ea76b26521ea48/uploads/2022/03/2022032483.pdf>

The garbage waste disposal by the Municipality collects recycle plastic items from Separate bins placed around the campus.

The College has a Biomedical Waste Disposal certificate in accordance with the Nilgiris District Municipality Office. The sanitation team collects the biomedical waste from the campus for incineration process at the Centralized facility at the Government. The University also publishes the Waste Disposal in a detailed webpage given in the link.

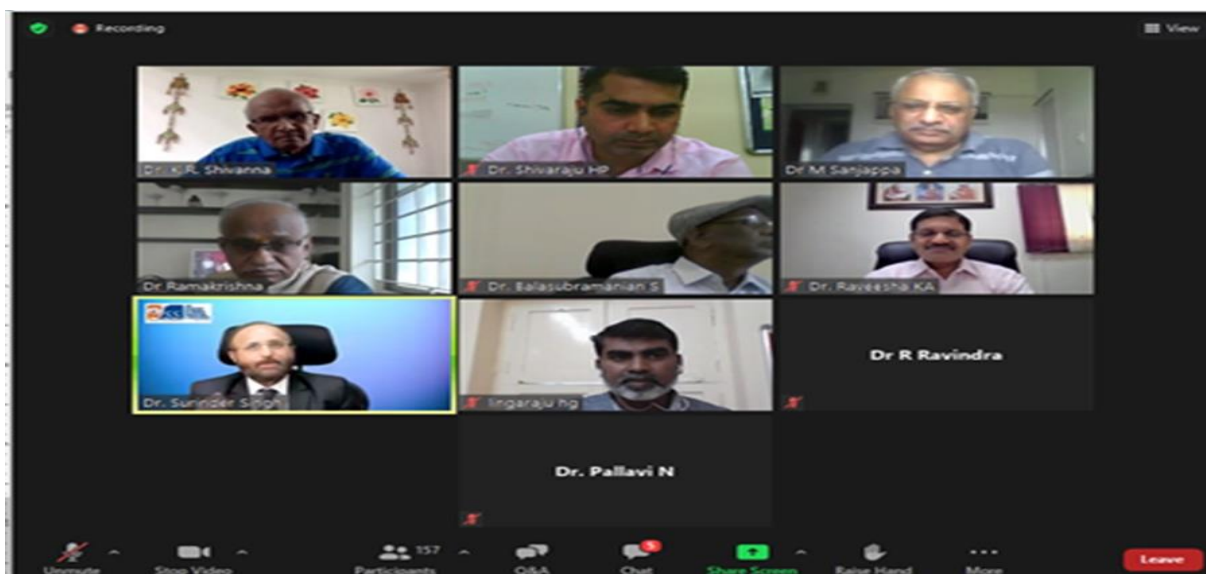
<https://jssuni.edu.in/jssaher/jssaher-infra/institutional-biosafety-committee/ibsc-home.html>

Students were encouraged to conserve the endemic plants of Nilgiris especially the plants with medicinal properties. Some trees in the campus are well preserved and maintained for clean and green energy.



PROGRAMMES ORGANIZED ALIGNING TO THE GOAL

Two days Science Academies Lecture Workshop on “Biodiversity Conservation: Issues & Challenges” was held at JSS Academy of Higher Education & Research (JSS AHER), Mysuru – 570015, Karnataka on 15th & 16th July 2021. The workshop was jointly sponsored by the three prestigious Science Academies. The workshop was organized by the **Department of Environmental Sciences, JSS AHER.**



Two days Science Academies Lecture Workshop on “Biodiversity Conservation: Issues & Challenges”

The workshop was inaugurated by Dr. Surinder Singh, Vice – Chancellor, JSS AHER. In his inaugural address he highlighted the importance of biodiversity conservation, and he thanked the Science Academies’ for conducting the workshop at JSS AHER.

A total of 8 lectures were delivered on 15th and 16th July 2021 by the resource persons after the inaugural function.

Two days Environmental awareness camps based on the campaign slogan 'only one earth' was organised in selected government schools around Mysore. The awareness campaigns were initiated under the leadership of Department of community medicine and Department of Environmental Science, JSSAHER sponsored by Walkmate and Forest Department of Karnataka. The schools covered in the area of Damghalli, Yelawala, Hootagalli, Manchegowdanakoppalu, Kanakagiri, Kuvempunagar, Metagalli, Bogadi, Hanchya, Mellahalli, Varakodu, Varuna, Beerihundi, Kadakola and Suttur.

The campaign was done on **6 & 7th June 2022**. Many completions were organised in all the schools under different age groups. The competitions include, drawing, poster making, quiz etc and for the winners, along with the prize plant saplings was given and told them to take care of the saplings. A documentary was made from all the winners. In each school 150-200 students were gathered and supported for the smooth functioning of the event. 150 participants representing students, research scholars and faculties attended the event.



Two days Environmental awareness camps based on the campaign slogan 'only one earth' was organised in selected government schools around Mysore.

Tree Plantation Event by NSS Unit FLS

SDG Goal: Direct Goal: Life on Earth, No Hunger, Climate Action, 50 plants are planted around Majjigeपुरa and Hulikere



Tree Plantation Event by NSS Unit FLS



RESEARCH RELATED TO SDG 15

Related Grants for this SDG

Geriatric chronic cerebral hypoperfusion: Role of short chain fatty acids supplementation on gut-brain axis function, protein misfolding, autophagy and cognition. Funded by Public Health and Nutrition Division (2020-2023), Dept of Biotechnology, Govt of India. On-going. Amount 50 Lakhs

Students Projects related to SDG 15

1.	A detailed study on mulberry stem discoloration
2.	Isolation, identification, and characterization of <i>Ficibacillus phosphorivorans</i> sp. Nov., from rhizosphere of <i>Cynodon</i> sp.
3.	Characterization of bacterial biocontrol agents associated with mulberry rhizosphere
4.	Studies on fungal biocontrol agents for management of root rot disease in mulberry
5.	Isolation purification & characterization of anticoagulant enzymes from soil microbe
6.	An overview of isolation of mycotoxin in cattle feeds
7.	Isolation, screening, optimization, production and characterization of tyrosinase produced from <i>Fusarium</i> species
8.	Production of red pigment from <i>Monascus purpureus</i> isolated from paddy soil and used as bio-colorant
9.	Identification of ribosomal protein S7e in silkworm <i>Bombyx mori</i>
10.	Identification of lepidopteran low molecular weight lipoproteins in silkworm <i>Bombyx mori</i>
11.	Isolation, purification & characterization of β -galactosidase enzyme from soil microbes
12.	Isolation and identification of fruit associated endophytic fungi from <i>Psidium guajava</i> L, and their bioprospection
13.	Bacterial diversity in cattle ticks
14.	Isolation and identification of leaf associated endophytic fungi from <i>Psidium guajava</i> L. And their bioprospection.
15.	Isolation Purification and Characterisation of Serine Protease from Soil Microbes
16.	Green synthesis of antimicrobial silver nanoparticles using leaf extract of <i>Sonchus oleraceus</i>
17.	Role of protease in degradation of gluten and Soyabean
18.	"Antioxidant Activity of Ascorbic acid and <i>Moringa olifera</i> Supplementation in the 5th instar larvae of Silkworm <i>Bombyx mori</i> "
19.	Prostate cancer ameliorative potential of <i>Annona muricata</i> (graviola) leaf extract: an in-vitro evaluation
20.	Chemical composition analysis and fatty acid profiling of <i>Lakshmitaru</i> (<i>Simarouba glauca</i>) leaf
21.	Enzymatic activity of pectinase for seed separation in tomato
22.	Toxicity studies of lemongrass oil in <i>Drosophila</i> model

Books (Authored and Edited)

1. Saravana Babu Chidambaram, Musthafa Mohamed Essa and M.Walid Qoronfleh. Introduction to Toxicological Screening Methods and Good Laboratory Practice. Springer Nature
2. M. Walid Qoronfleh, Musthafa Mohamed Essa, Chidambaram Saravana Babu. Proteins Associated with Neurodevelopmental Disorders. Springer Nature

PUBLICATIONS RELATED TO SDG 15

1. Dr Pushpa V.H, Dr Jayanthi M.K, Dr Ramith Ramu. Evaluation of anti-depressant activity of roflumilast in albino mice. International Journal of Pharmaceutical Sciences and Research. 2021; vol 12 (9): 5051-5056
2. Rudraswamy S, Godhi BS, Shankar HP, Kenganora M, Sumana MN. Detailed understanding of different extraction methods for the research on medicinal plants. Indian J Oral Health Res 2021;7:14-20
3. Soundarya Shree K R, Nagalambika Prasad, Prakruthi G, Siddalingeshwara K G, Sharangouda J Patil. Isolation, Biochemical characterization of Rhizobium sps SN01 strain from root nodules of Mimosa pudica and their impact on agriculture crops. Asian J. Biol. Sci. 2022, 11(1): 200-206. Sharma S, Vadiraj K, Ravi M, Shivamallu C, Achar RR. Detoxification of Sunset yellow and Brilliant blue dyes using Soybean peroxidases. Current Research in Green Sustainable Chemistry. 2021; 4:100215.
4. Mahajanakatti AB, Deepak TS, Achar RR, Pradeep S, Prasad SK, Narayanappa R, et al. Nanoconjugate Synthesis of Elaeocarpus ganitrus and the Assessment of Its Antimicrobial and Antiproliferative Properties. Molecules. 2022;27(8):2442.
5. Patil AR, Ravi M, KN RS, Archer AC, Sowmya S, Soans SH, et al. Lemongrass oil disrupts the biofilm of Candida albicans MTCC 1637T on soft denture reliners at lower concentrations compared to thyme and tea tree oils. Journal of Applied Biology Biotechnology. 2022;10(2):1
6. Divya Jagadish and Vaudha Ranjan. Evaluation of the impact of mining activity on soil environment and human health. European journal of biomedical and Pharmaceutical Science. (2022),9(5), 241-246.

POLICIES SUPPORTING SDG 15

Smart Campus policy

The 8th element of smart campus initiative provide for Food & Health and focusing on the flowing parameters and also defined in its objectives.

- Wellness Centre
- Health Centre
- Potable water facility
- Personal Hygiene
- Nutritional Values
- Dietary Components

<https://www.jssuni.edu.in/admin/BlobFileWorking.aspx?FILENAME=NEM000260.pdf&FORWHAT=3>

Plastic Free policy

- Plastics less than 50 microns is banned at JSSAHER
- Plastics are banned in our food court/ cafeteria.

<https://www.jssuni.edu.in/admin/BlobFileWorking.aspx?FILENAME=NEM003231.pdf&FORWHAT=3>

Waste management/disposal policy

<https://www.jssuni.edu.in/admin/BlobFileWorking.aspx?FILENAME=NEM003226.pdf&FORWHAT=3>

BIRD IN JSS AHER CAMPUS

JSS AHER is a green campus with nearly 2400 trees turning the campus into bird habitat. The campus has accommodated nearly 30 species of birds of which few are having biological importance. The common bird species found in the campus are Rock pigeon, common myna, crow, sparrows, Brahminy Kite and, red naped ibis spotted owlet. The other important species include Indian grey hornbill, black-necked ibis and Indian spotted eagle are of threatened /near threatened categories have footfall in the campus. Most spotted species in the campus are:

Indian spotted eagle:



This bird is the largest south Asian bird predator, with 60cm in length and 150cm wingspan. It is a vulnerable species found in the South Asian region. Prominent white spots in the brown feather are identification marks. This can usually fly high and can be found on

high raised buildings; sighted on the top of the Medical College building, on any time of the day.

Spotted owlet:





Small owl found in tropical Asia and mainland of India found in hollows or cavities of trees. These are often found near human settlements for the availability of prey base. Prominent white spots on the grey brown feather fetches the name spotted owlet. These are least concerned species according to IUCN. This bird was spotted at FLS parking lot.

Indian Gray hornbill:



Common hornbill found in Indian subcontinent, always sighted in pairs. Name of the bird come from the structure on the beak. The color of the bird is usually gray found on large trees in urban regions. At campus, these birds are sighted near FLS Parking Lot.

Brahminy Kite:



Bird found in Austrails and south Asia, Species found in India are *Haliastur indus indus*. It is a predatory organism, depends on fish, small animals like rat, snakes. They are usually flying around Medical college, preying on animals and insects during the daytime.

Scaly breasted munia:

Also called as Nutmeg mannikin, categorized as least concerned species under IUCN. Identification marks include prominent feather markings on breast and belly. These birds are usually sighted near JSS Dental College in the evenings.

Black headed Ibis:

Indian White Ibis or Black necked Ibis are found in the south and southeastern parts of Asia. Adults measure about 65-75 cm in length with distinct white body and neck and beak are black whereas juveniles are grey in color. They are usually sighted during monsoon season; at our campus Black necked Ibis were spotted near water hole in front of JSS Dental College in the early mornings.

Other Birds found in the in the campus are:

1. Red vented Bulbul
2. Purple sunbird
3. Red Whiskered bulbul
4. Purple ramped sunbird
5. Cattle egrat
6. Rose ringed parakeet
7. Laughing dove
8. Common Myna
9. White cheeked barbet
10. Common Kingfisher
11. Greater coucal
12. Asian koel
13. Oriental megpin robin
14. Pond heron
15. Red wattled lopwing
16. Indian golden oriole
17. Indian robin
18. Wagtail Sp.
19. Tailor Bird
20. White rumped munia
21. Little egrat
22. White throated kingfisher
23. Woodpecker sp
24. Coppersmith barbet

TREES IN CAMPUS

Sl.no	Particulars	Varieties of Trees	Total No of Trees
1	JSSMI Campus	52	2397
2	JSSCPM Campus	28	182
3	JSSCPO Campus	11	249
4	SLS Ooty	9	110
	Total	99	2938

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

ಕ್ರ.ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ಮಡ್ಡಿ ಮರ	10		10			
2	ರಾಯಲ ಪಾಮ್	67		67			
3	ಬೆಟ್ಟದ ಹುಣಸೆ	25			25		
4	ಅರ್ಜುನ್ ಮರ	05	05				
5	ಕಾಡು ಬಾದಾಮಿ	07	07				
6	ಕ್ರಿಸ್‌ಮಸ್ ಮರ	04		04			
7	ಹೊಂಗೆ ಮರ	64	13	51			
8	ಸಿಲ್ವರ್ ಮರ	56	21		35		
9	ಬೇವಿನ ಮರ	52	17	23	12		
10	ಬಾಗೆ ಮರ	28		09	19		
11	ಮಹಾಗನಿ ಮರ	14	09	05			
12	ತೆಂಗಿನ ಮರ	70			70		
13	ಅಡಿಕೆ ಮರ	20	08	12			
14	ಕತ್ತಿಕಾಯಿ ಮರ	17		10	07		
15	ಆಲದ ಮರ	02	01				01
16	ಅತ್ತಿ ಮರ	02	01	01			
17	ರೈಟ್ಟು ಮರ	10		02	05	03	
18	ಬೆಪ್ಪಲ ಮರ	02		02			
19	ಬಸವನ ಪಾದ ಮರ	03	01	02			
20	ನಂದಿ ಮರ	02		02			
	Total c/f	460	83	200	173	03	01

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ಕ್ರ. ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total b/f	460	83	200	173	03	01
21	ಸುಜಲ್ ಮರ	02			02		
22	ಅರಳಿ ಮರ	08			03	01	04
23	ಆಕಾಶ್ ಮಲ್ಲಿಗೆ	42		42			
24	ತಾರೆ ಮರ	01		01			
25	ದೇವಗಣಗಲೆ	32	32				
26	ಅಶೋಕ ಮರ	171	20	151			
27	ಜಾವ ಹತ್ತಿ ಮರ	01		01			
28	ಹಲಸಿನ ಮರ	07		03	04		
29	ಬಿಲ್ವಪತ್ರ ಮರ	03		03			
30	ಅಂಟವಾಳ ಮರ	01				01	
31	ಬುಗರಿ ಮರ	05		05			
32	ಬನ್ನಿ ಮರ	02			02		
33	ತಬ್ಬುಬಿಯ ಮರ	28	17	11			
34	ಹಳದಿ ಪಾದ್ರಿ	40	05	04	31		
35	ಹುಣಸೆ ಮರ	09			06	03	
36	ಯಾಮಿ ಮರ	02				02	
37	ಕ್ಯಾಸಿಯ ಮರ	06	05	01			
38	ಕಕ್ಕೆ ಮರ	09	09				
39	ನೀಲಿ ಪಾದ್ರಿ ಮರ	02		02			
40	ಹಾಲೆ ಮರ	01	01				
	Total c/f	832	172	424	221	10	05

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ಕ್ರ. ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total b/f	832	172	424	221	10	05
41	ಗಂಧದ ಮರ	08		08			
42	ಬಠಲ ಬ್ರಶ್	17	10	07			
43	ತಾವಸೆ ಮರ	04				04	
44	ರಬ್ಬರ್ ಮರ	04			04		
45	ಮಾಖಿನ ಮರ	06		06			
46	ಸಂಪಿಗೆ ಮರ	18	09	09			
47	ರುದ್ರಾಕ್ಷಿ ಮರ	02	02				
48	ಹೆಬ್ಬೆ ಬೇವು ಮರ	18		18			
49	ರಾಂಪಾಲ್ ಮರ	01		01			
50	ನೇರಳೆ ಮರ	02		02			
51	ಗೋಲ್ಡನ್ ಸ್ಟ್ರಿಪ್	35	35				
52	ಟೀಕ್	1450	100		1350		
	Grand Total	2397	328	475	1575	14	05

STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT JSS COLLEGE OF PHARMACY CAMPUS, MYSURU (As on 05.09.2020)

ಕ್ರ.ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ಹಲಸಿನ ಮರ	05	02	03			
2	ಮಾವಿನ ಮರ	04	02	02			
3	ಹುಣಸೆ ಮರ	03			03		
4	ನೇರಳೆ ಮರ	06		02	03	01	
5	ಟೀಕ್	18	15		03		
6	ಸೀಬೆ	02	02				
7	ನಾಗಲಿಂಗ ಪುಷ್ಪವರ	01		01			
8	ತೆಂಗಿನ ಮರ	40			28	12	
9	ಬೇವಿನ ಮರ	25	10	15			
10	ಅಶೋಕ ಮರ	05	05				
11	ಬಾಗೆ ಮರ	05	1	02	02		
12	ತುಜ್ಜುಮರ	02	02				
13	ಹೆಬ್ಬೆ ಬೇವು ಮರ	01	01				
14	ಛತ್ರ ಮರ	02		02			
15	ಕತ್ತಿಕಾಯಿ ಮರ	09	04	05			
16	ಬಿಲ್ವಪತ್ರ ಮರ	01		01			
17	ಮಡ್ಡಿ ಮರ	01	01				
18	ಬಿಳಿ ಮುತ್ತಿ ಮರ	03			03		
19	ಬಸವನ ಪಾದ ಮರ	01	01				
20	ರೆಡ್‌ಬರಲ ಬ್ರಶ್	16	08	08			
21	ಬೇಲದಕಾಯಿ ಮರ	03	01	02			
22	ನಾಗ ಸಂಪಿಗೆ	03	01	02			
23	ಮುತ್ತಿಗೆ ಮರ	03		03			

24	ಬೆಟ್ಟದ ನಲ್ಲಿಕಾಯಿ ಮರ	05	02	03			
25	ಬನ್ನಿ ಮರ	05	03	02			
26	ಅತ್ತಿ ಮರ	01		01			
27	ಹೆಲೋ ತುಜ್ಜು ಮರ	02		02			
28	ರಾಯಲ ಪಾಮ್	10		10			
	Total	182	61	66	42	13	

STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT JSS 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 lebeck	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		ರೈಟ್ಟು ಮರ	10	
18	Wrightia tinctoria	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 ಬಿಲ್ವಪತ್ರ ಮರ	03	Leaf juice is given to children suffering from stomach-ache. Leaf is eaten for diabetes.
30	Sapindus laurifolia	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		ಯಾಒ 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 scholaris	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 ಬರಲ ಬ್ರೂಶ್	17	Antibacterial and ornamental
43	Holoptelea integrifolia	Indian elm ತಾವನೆ 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 ಸ್ಟೆಪ್ಪಿನ್	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