SDG 15: Life on Land
(Report 2023-24)

15.1 Research on land ecosystems

K.R. Mangalam University exhibits a robust commitment to research in relation to SDG 15 – Life On Land, emphasizing the conservation and sustainable management of terrestrial ecosystems, biodiversity, and natural resources. From 2014 to 2024, the university has produced 1,042 publications indexed in Scopus, with 20 of these publications specifically aligned with SDG 15. These works have collectively garnered 289 views, achieved a citation index of 8.6, and a Field Citation Average (FCA) of 5.04, which underscores the scholarly impact and significance of the university's research in the field of terrestrial ecosystem studies.

15.1.1: Life On Land – CiteScore

In 2024, the Cumulative CiteScore of 35.4 highlights the exceptional quality and prominence of the university's research concerning terrestrial ecosystems. The publications focus on vital topics such as forest conservation, habitat restoration, sustainable land use practices, and the reduction of human-induced environmental impacts. This impressive CiteScore signifies the acknowledgment of these contributions in esteemed international journals, showcasing the university's proactive involvement in promoting knowledge for the sustainability of ecosystems.

15.1.2: Life On Land – FWCI

The Field-Weighted Citation Impact (FWCI) average of 3.04 signifies that publications related to SDG 15 from K.R. Mangalam University receive citations more than three times higher than the global average for comparable research. This underscores the global impact and academic importance of the university's contributions to terrestrial ecology and environmental management, emphasizing its role in developing evidence-based approaches for biodiversity conservation and ecosystem protection.

15.1.3: Life On Land – Publications

The 20 publications aligned with SDG 15 demonstrate the university's commitment to researching land ecosystems, sustainable agriculture, and conservation biology. Through the

integration of interdisciplinary research methods, K.R. Mangalam University plays a significant role in safeguarding biodiversity, encouraging sustainable land use, and backing global efforts for ecosystem preservation. These initiatives are in accordance with UN Sustainable Development Goal 15 and enhance the university's reputation in the Times Higher Education Impact Rankings.

15.2 Supporting Land Ecosystem Through Ecosystem

K.R. Mangalam University is committed to fostering a connection with mother nature through education, research, and community involvement. The university includes courses focused on soil conservation, biodiversity preservation, and sustainable agriculture in its curriculum to cultivate environmental awareness among students. Through the School of Agricultural Sciences, students gain practical experience in soil testing, reforestation, and organic farming, which supports the sustainable utilization of natural resources. To further knowledge in land management and ecosystem balance, seminars, workshops, and training camps are organized. Collaborative efforts with local villagers, NGOs, and government bodies are directed towards reforestation, watershed development, and land restoration initiatives. Students participate in tree planting ceremonies and engage in eco-clubs, promoting environmental social responsibility. By merging theoretical knowledge with practical experience, K.R. Mangalam University aims to develop future guardians dedicated to the conservation and restoration of the world's forests.

15.2.1 Events About Sustainable Use of Land

K.R. Mangalam University is dedicated to hosting a series of events, workshops, and awareness programs focused on sustainable land use and the conservation of terrestrial ecosystems. Initiatives such as tree plantation campaigns, the celebration of World Environment Day, and activities on Soil Health Day encourage active participation in maintaining ecological balance. Field demonstrations and practical training sessions on organic farming, composting, and integrated land-use planning are organized to empower learners and farmers to adopt environmentally friendly land management practices. The university has adopted five villages and has implemented integrated community-based programs in collaboration with NGOs and government departments, focusing on watershed management, crop rotation awareness, soil erosion control measures, and biodiversity conservation, among other initiatives. Expert lectures delivered by scientists also motivate participants to understand the interconnections

between land use, climate change, and sustainable lifestyles. These activities operate on the principle of learning by doing, fostering environmental ethics and establishing a framework for the future conservation of land resources through the development and support of youth leaders.

Students and faculty working at the Mushroom Cultivation Unit, promoting sustainable and innovative farming practices.

Students during the field visit to Sultanpur Lake, observing biodiversity and learning about wetland conservation and ecosystem management.

Students showcasing their creativity during the Poster Making Competition, raising awareness on environmental conservation and sustainable practices.

Students and faculty participating in the Plantation Drive, contributing to green campus initiatives and promoting environmental sustainability.

Students and faculty participating in the Kisan Mela, engaging with farmers to share innovative agricultural practices and promote sustainable farming solutions.

Students taking part in the Vriksha Ropan initiative, planting saplings to enhance green cover and encourage environmental responsibility

Students actively participating in the Cleanliness Drive, promoting hygiene, community awareness, and a cleaner environment.

Students observing and documenting various plant species during the Diversified Flora Visit, enhancing their understanding of local biodiversity and ecological conservation.

Physiotherpy students during a Sustainable Healthcare Visit at Gurugram, exploring the Shrub Section to understand the role of medicinal plants in promoting environmental and community health.

Students during an educational visit to the Sewage Treatment Plant at K.R. Mangalam University, gaining practical insights into wastewater management and sustainable environmental practices.

Students during an educational visit to an Organic Farm in Dharuhera, exploring sustainable agricultural practices and gaining insights into eco-friendly methods of organic production.

The details of the events are given below:

S. No.	Event Name	Date of Event	Web Link
1	Establishment of Commercial Cultivation of Mushroom Unit by School of Agricultural Sciences in collaboration with the KEIC Foundation	Dec-2023	Report
2	Field Visit Report on Sultanpur Lake at Sultanpur Lake Gurugram	14/09/2023	Report
3	Poster Making Competition on World Environment Day	05/06/2024	Report
4	Cleanliness Drive at Lakhuwash Village	01/10/2023	Report

5	Plantation Drive Under the Theme ‘‘Green Earth Clean Earth’’	29/06/2024	Report
6	Vriksha Ropan with NSS	29/09/2023	Report
7	Kisan Mela	29/11/2023	Report

15.2.2 Sustainably Farmed Food on Campus

K.R. Mangalam University has established a policy aimed at ensuring that the food available on campus is sourced from sustainable farming practices and is environmentally responsible. The university advocates for the utilization of locally grown, organic, and chemical-free produce, which is obtained from its own demonstration farms as well as from nearby sustainable farms. This policy promotes eco-friendly agricultural practices, such as composting, water-efficient irrigation, and integrated pest management, all of which contribute to the preservation of soil and ecosystem health. The food provided on campus prioritizes seasonal, fresh, and low-carbon ingredients, thereby supporting both health and sustainability objectives. Additionally, awareness programs and workshops are organized to educate students about sustainable food systems and the importance of responsible consumption.

Policy

Revised Policy

15.2.3 Maintain and Extend Current Ecosystems’ Biodiversity

K.R. Mangalam University is dedicated to preserving and enhancing the biodiversity of its ecosystems through sustainable initiatives on campus and active community involvement. The institution has enforced a stringent policy banning plastic to mitigate pollution and safeguard soil and plant life. Over 2,061 trees and decorative plants have been planted throughout the campus to improve green cover and bolster local biodiversity. An extensive solid waste management system has been put in place to facilitate waste segregation, compost biodegradable materials, and recycle non-biodegradable items. Furthermore, the university has implemented rainwater harvesting systems to conserve water and replenish groundwater levels, thereby fostering a self-sustaining ecosystem.

15.2.4 Educational Programmes on Ecosystems

K.R. Mangalam University provides a variety of courses centered on ecosystems, biodiversity, and sustainable land management aimed at enhancing environmental education. The School of Agricultural Sciences offers degree programs such as B.Sc. (Hons.) Agriculture, which encompass subjects like Organic Farming, Soil Conservation, Sustainable Agriculture, Natural Resource Management, Agroforestry, and Environmental Science. These courses furnish students with an understanding of ecosystem functions, the preservation of biodiversity, and practices for land restoration. Practical training through fieldwork, soil testing, biodiversity assessment, and organic farming promotes experiential learning. Interdisciplinary electives available from other schools further incorporate sustainability, climate studies, and environmental policy, equipping students to become responsible stewards of natural ecosystems and active participants in global sustainability initiatives.

List of Courses Offered during the AY 2023-24:

BP106RBT	REMEDIAL BIOLOGY - THEORY	B.Pharma	2023-2027	Semester-I
BP112RBP	REMEDIAL BIOLOGY PRACTICAL	B.Pharma	2023-2027	Semester-I
BP206T	ENVIRONMENTAL SCIENCES - THEORY	B.Pharma	2023-2027	Semester-II
BSFS105A	BIOLOGY I	B.Sc. (H) FS	2023-2026	Semester-I
BSFS106A	BIOLOGY II	B.Sc. (H) FS	2023-2026	Semester-II
BSFS205A	BIOLOGY III	B.Sc. (H) FS	2022-2025	Semester-III
BSFS206A	BIOLOGY IV	B.Sc. (H) FS	2022-2025	Semester-IV
ETCE417A	GROUND WATER DEVELOPMENT	B.Tech Civil	2020-2024	Semester-VII
OEC014	ENERGY HARVESTING, AND SUSTAINABILITY	B.A. (Fashion Design)	2023-2026	Semester-II
SAAG111A	INTRODUCTORY BIOLOGY	B.Sc. (H) Agriculture	2023-2027	Semester-I
SAAG112A	FUNDAMENTALS OF AGRICULTURAL MICROBIOLOGY	B.Sc. (H) Agriculture	2023-2027	Semester-II

SAAG114A	SOIL AND WATER CONSERVATION ENGINEERING	B.Sc. (H) Agriculture	2023-2027	Semester-II
SAAG202A	FARMING SYSTEM AND SUSTAINABLE AGRICULTURE	B.Sc. (H) Agriculture	2022-2026	Semester-IV
SAAG322A	PRINCIPLES OF FOOD SCIENCE AND NUTRITION	B.Sc. (H) Agriculture	2021-2025	Semester-VI
SEC007	GROUNDWATER MODELING	B.Sc. (H) Chem (Research)	2023-2027	Semester-I
SEED235A	BIOLOGY I	B.El.Ed.	2022-2026	Semester-III
SEED238A	BIOLOGY II	B.El.Ed.	2022-2026	Semester-IV
SEED350A	PEDAGOGY OF ENVIRONMENTAL STUDIES	B.El.Ed.	2021-2025	Semester-VI
SEED367A	BIOLOGY III	B.El.Ed.	2021-2025	Semester-V
SEED534A	ENVIRONMENTAL EDUCATION	B.Ed.	2022-2024	Semester-IV
SOLS409A	ENVIRONMENTAL LAW	B.A. LL.B (H)	2020-2025	Semester-VII
SOLS518A	INTERNATIONAL ENVIRONMENT LAW	B.A. LL.B (H)	2019-2024	Semester-IX
UCES125A	ENVIRONMENTAL STUDIES	B.A. LL.B (H)	2023-2028	Semester-I
VAC117	SUSTAINABILITY THROUGH ORGANIC KITCHEN GARDENING	B.A. LL.B (H)	2022-2027	Semester-III
VAC151	ENVIRONMENTAL STUDIES AND DISASTER MANAGEMENT	B Interior Design	2023-2027	Semester-I
VAC167	APPLICATION OF SUSTAINABLE DEVELOPMENT GOALS	B.A. (Fashion Design)	2023-2026	Semester-II
SAAG114A	Soil and Water conservation Engineering	B.Sc. (H) Agriculture	2023-2027	Semester-II
SAAG117 A	Introductory Agro-Meteorology and climate change	B.Sc. (H) Agriculture	2023-2027	Semester-II
SAAG311A	Rainfed Agriculture and Watershed Management	B.Sc. (H) Agriculture	2021-2025	Semester-V
SAAG203A	Fundamentals of Crop Physiology	B.Sc. (H) Agriculture	2023-2027	Semester-II

SAAG204A	Fundamentals of Plant Breeding	B.Sc. (H) Agriculture	2022-2026	Semester-III
SAAG205A	Fundamentals of Horticulture	B.Sc. (H) Agriculture	2023-2027	Semester-I
SAAG207A	Introduction to Forestry	B.Sc. (H) Agriculture	2023-2027	Semester-II

15.2.5 Sustainable Management of Land for Agriculture (Educational Outreach)

K.R. Mangalam University advocates for the sustainable management of agricultural land through comprehensive educational outreach initiatives designed to empower students, farmers, and local communities. The University Schools organize workshops, field demonstrations, and awareness campaigns focused on soil fertility management, organic farming, crop rotation, and water-efficient irrigation techniques, among others. These efforts highlight the significance of minimizing land degradation and preserving biodiversity to ensure long-term productivity. Students actively participate with rural communities to disseminate scientific knowledge regarding soil testing, composting, and integrated nutrient management, effectively bridging the divide between theoretical learning and practical implementation.

Awareness program on Rice Residue Management highlighting sustainable agricultural practices to prevent stubble burning and promote eco-friendly waste utilization for a cleaner and healthier environment.

Students participating in an Integrated Pest Management (IPM) Awareness Campaign at Berka village, promoting sustainable farming techniques and educating farmers on eco-friendly pest control methods.

Faculty members and students during an educational visit to Aravalli Biodiversity Park, exploring diverse ecosystems and understanding the importance of conservation and sustainable environmental practices.

Students of School of Agriculutural Sciences during an Awareness Campaign on "Zero Hunger, Farmers' Welfare Schemes, and Farmers' Rights" at Ghamroj village, promoting sustainable agriculture and food security for community well-being.

The details of the events are given below:

S. No.	Event Name	Date of Event	Web Link
1	Field Visit Report on Sultanpur Lake at Sultanpur Lake Gurugram	14/09/2023	Report
2	Cleanliness Drive at Lakhuwash Village	01/10/2023	Report
3	Vriksha Ropan with NSS	29/09/2023	Report
4	Field Visit for the Collection and Survey of the Wild Flora Diversity in Cultivated and Non-cultivated Lands of the Nearby Aren of Sohna	7/03/2024	Report
5	Awareness Campaign on Zero Hunger	28/11/2023	Report

15.2.6 Sustainable management of land for tourism (educational outreach)

K.R. Mangalam University is committed to advancing sustainable land management practices via educational outreach and hands-on learning initiatives. In line with the institution's dedication to SDG 15 – Life on Land, both students and faculty engage in eco-tourism-based educational trips that emphasize biodiversity conservation, soil management, and the protection of natural habitats. These hands-on learning experiences, conducted at ecologically significant sites such as Sultanpur Lake, Dharuhera Organic Agro Farm, and various local ecosystems, allow students to understand the importance of sustainable land use in the contexts of tourism and agriculture. This initiative not only enhances academic understanding but also fosters environmental stewardship, community engagement, and awareness about the conservation of terrestrial ecosystems for future generations. Through these outreach activities, the university plays a crucial role in the sustainable management of land resources, encourages responsible tourism practices, and instills the principles of ecological preservation among students and local communities.

Events

15.3 Supporting Land Ecosystems Through Action

K.R. Mangalam University is committed to supporting land ecosystems through tangible actions that foster sustainability and the conservation of biodiversity. The university has established policies and carries out initiatives such as tree planting campaigns, composting of organic waste, rainwater harvesting, and a comprehensive ban on plastic across the campus to uphold ecological balance. Students and faculty engage in soil health evaluations, watershed management, and afforestation initiatives that improve green cover and combat land degradation. Research endeavors and experiential learning promote the implementation of sustainable agricultural practices and land restoration methods in adjacent rural communities. Partnerships with local authorities, non-governmental organizations, and community groups amplify the environmental impact beyond the university grounds. These collective efforts enhance environmental consciousness, safeguard natural habitats, and encourage responsible utilization of resources.

15.3.1 Sustainable use, conservation and restoration of land (Policy)

K.R. Mangalam University implements a policy that advocates for the sustainable use, conservation, and restoration of land to uphold ecological balance and biodiversity. This policy

guarantees responsible land use through practices such as soil conservation, afforestation, organic farming, and regulated construction methods. Initiatives like rainwater harvesting, solid waste management, and maintaining a plastic-free campus promote resource sustainability. The university fosters research, training, and community outreach focused on land restoration and sustainable agriculture. This policy integrates academic endeavors with environmental stewardship, aiding in the long-term preservation of terrestrial ecosystems.

Policy

Revised Policy

15.3.2 Bring IUCN and other Conservation Species (Policies)

K.R. Mangalam University adheres to a policy aimed at safeguarding and preserving species identified by the IUCN and various conservation organizations. The institution fosters awareness regarding endangered and vulnerable species through its academic programs, research endeavors, and field activities. Initiatives on campus and within the community emphasize habitat preservation, the planting of native trees, and biodiversity mapping to enhance ecological balance. This policy promotes collaboration with wildlife departments, non-governmental organizations, and research institutions to facilitate conservation education and monitoring.

Policy

Revised Policy

15.3.3 Local biodiversity included in planning and development

K.R. Mangalam University is committed to integrating local biodiversity into all aspects of campus planning and development, which includes the construction of new buildings and infrastructure. The university adheres to eco-sensitive design principles that emphasize the conservation of native vegetation, natural drainage systems, and green spaces. Prior to commencing any development, biodiversity assessments are carried out to reduce ecological disruption. Landscaping strategies feature indigenous plant species, gardens that attract pollinators, and green buffers that enhance local flora and fauna. The university's policy actively discourages unnecessary tree removal and encourages replanting and habitat

restoration as needed. Collaboration with environmental specialists ensures that new initiatives are in harmony with sustainable land-use and conservation practices.

Policy

Revised Policy

15.3.4 Alien species impact reduction (policies)

K.R. Mangalam University has implemented a policy aimed at mitigating the effects of alien and invasive species on local ecosystems. This policy focuses on the identification, monitoring, and management of non-native species that pose a threat to native biodiversity. In the course of campus landscaping and research initiatives, priority is given to the use of indigenous and ecologically suitable plants to preserve ecological balance. Regular awareness programs and biodiversity assessments are carried out to inform students and staff about the dangers associated with invasive species. The university works in partnership with environmental specialists and government bodies to execute preventive strategies and habitat restoration, thereby safeguarding native flora and fauna.

Policy

Revised Policy

15.3.5 Collaboration for shared land ecosystems

K.R. Mangalam University is committed to working closely with the local community, panchayats, and environmental organizations to preserve and rehabilitate shared land ecosystems. The university has adopted five villages and, through collaborative efforts such as tree planting initiatives, soil conservation projects, watershed development, and demonstrations of organic farming, it advocates for sustainable land-use practices that extend beyond its campus. Both faculty and students participate in awareness campaigns, biodiversity mapping, and field training to equip farmers and villagers with environmentally friendly techniques. These partnerships help safeguard common resources, mitigate land degradation, and promote the conservation of indigenous species. By merging academic expertise with community involvement, K.R. Mangalam University enhances environmental stewardship and plays a vital role in the long-term sustainability of shared terrestrial ecosystems.

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15.4 Land Sensitive Waste Disposal

K.R. Mangalam University implements environmentally conscious waste disposal methods to avert soil contamination and safeguard local ecosystems. The institution adheres to rigorous protocols for waste segregation at the source, guaranteeing the distinct collection of biodegradable, recyclable, and hazardous materials. Organic waste is composted on-site and repurposed as natural fertilizer for gardens and research farms, thereby alleviating pressure on landfills. Non-biodegradable waste is directed to authorized recycling facilities via certified waste handlers. The campus enforces a policy banning single-use plastics and promotes reusable alternatives to reduce land pollution. Frequent awareness campaigns and training sessions inform students and staff about responsible waste management.

15.4.1 Water Discharge Guidelines and Standards

K.R. Mangalam University follows strict water discharge guidelines and standards to ensure that all wastewater released from the campus is treated, safe, and environmentally compliant. The university operates a Sewage Treatment Plant (STP) that treats grey and black water before reuse for horticulture, flushing, and landscaping purposes. The policy prohibits the direct discharge of untreated water into natural drains or soil to prevent contamination of land and groundwater. Regular monitoring of water quality parameters such as pH, BOD, and COD is conducted to meet CPCB and Haryana State Pollution Control Board norms. Through responsible water management and reuse practices, the university ensures sustainable use of resources and protects aquatic and terrestrial ecosystems.

Policy

Revised Policy

15.4.2 Policy on Plastic Waste Reduction

K.R. Mangalam University adheres to stringent guidelines and standards for water discharge to guarantee that all wastewater released from the campus is treated, safe, and compliant with environmental regulations. The university operates a Sewage Treatment Plant (STP) that processes both grey and black water prior to its reuse for horticultural, flushing, and landscaping applications. The policy explicitly forbids the direct discharge of untreated water into natural drains or soil to avert contamination of land and groundwater. Regular assessments of water quality parameters, including pH, BOD, and COD, are performed to align with the

norms set by the CPCB and the Haryana State Pollution Control Board. By implementing responsible water management and reuse strategies, the university promotes sustainable resource utilization and safeguards both aquatic and terrestrial ecosystems.

Policy

Revised Policy

15.4.3 Policy on Hazardous Waste Disposal

K.R. Mangalam University has implemented a stringent Policy on Hazardous Waste Disposal to guarantee environmental safety and adherence to pollution control regulations. This policy requires that all hazardous waste, which encompasses laboratory chemicals, electronic waste, biomedical waste, and used oils, be meticulously segregated, labeled, stored, and disposed of through authorized vendors sanctioned by the Haryana State Pollution Control Board (HSPCB). Special waste collection units have been established in laboratories and workshops to avert soil and water contamination. Regular training sessions and audits are carried out to ensure the proper handling of hazardous materials and to reduce risks to human health and ecosystems. Furthermore, the university advocates for waste minimization, recycling, and awareness of safe disposal practices among both students and staff. This policy guarantees the responsible management of hazardous substances.

Policy

Revised Policy