



Climate Change



CLIMATE CHANGE

Climate change, a critical global issue, refers to long-term alterations in the Earth's climate patterns, primarily caused by natural or human activities. It causes significant threats to ecosystems, communities, and economies worldwide. The primary drivers of climate change include the burning of fossil fuels, deforestation, industrial processes, and agricultural practices, which release greenhouse gases like carbon dioxide and methane into the atmosphere, leading to the warming of the Earth's surface.



The impacts of climate change are diverse and wide-ranging. Rising temperatures globally and regionally, alongside changes in precipitation patterns, result in an increased frequency and intensity of extreme weather events, such as hurricanes, floods, and droughts. This leads to the loss of life, damage to infrastructure, and disruptions to food and water supplies, particularly in vulnerable regions.

Climate change also disrupts ecosystems and biodiversity, endangering various species and impacting the delicate balance of nature. It further affects agricultural productivity, leading to reduced crop yields and compromised food security, particularly in regions dependent on agriculture for sustenance.



CLIMATE CHANGE & SUSTAINABLE AGRICULTURE

Climate change has significant implications on agriculture due to increase of heat and night temperature, erratic rainfall, prolonged droughts, flash floods, landslides and sea level rise. Agriculture is the main contributor to food security in a country.

Sustainability Farming

“Organic farming” was introduced to the main campus in Colombo as well as the regional centers all over the country. The program is not only aiming at growing plants on university lands with the contribution of university staff.



Green Wall

Green wall is a vertically built structure intentionally covered by vegetation. Green wall has been implemented at the main campus in Colombo which can have many positive effects on mitigating climate change. Some are Carbon sequestration, Air quality improvement and etc.



FORESTS & CLIMATE CHANGE

Forests are nature's giant air purifiers, absorbing of tons of carbon dioxide and keeping the environment cool. they play a crucial role as a carbon sink and immensely contribute to the climate change mitigation greenhouse gas emissions.

During the Photosynthesis process plants absorb Carbon dioxide from the environment and releases Oxygen. As a Carbon sink plants play major role in mitigating greenhouse effect by absorbing CO₂, a major greenhouse gas in the atmosphere.



Deforestation is one of the main causes for concentration of greenhouse gas emission in atmosphere. Planting trees and conserving forests are the main solutions for addressing the climate change.

Tree Planting

Since 2017, the Open University of Sri Lanka has been actively organizing tree planting programs, culminating in a highly successful large-scale initiative held on September 28, 2022, at the Colombo Regional Center.



CLIMATE CHANGE AND BIODIVERSITY

Climate change has far-reaching implications for all living beings on the planet and is predicted to be one of the main drivers for the patterns of animals' behavior and plant diversity change. OUSL is deeply committed to the preservation and enhancement of our natural environment within the campus, with a strong emphasis on fostering biodiversity and sustainability



Animal Crossings and Speed Limit signs

In a bid of safeguard of wildlife, OUSL has placed animal crossing and speed limit signs where the areas identified as high-traffic zones for animal crossings. In addition to these measures, OUSL is actively implementing water conservation strategies that ensure the health of aquatic ecosystems while mitigating chemical runoff into water effective wastewater treatment.

Flower Yards and Butterfly Gardens

OUSL boasts a thriving butterfly garden and flower yards that serves as heavens for various butterflies and bird species, each meticulously identified and acknowledged through prominent displays across the university premises.



Biodiversity Education

The Departments of Zoology and Botany currently provide a diverse array of academic programs and courses utilizing open and distance learning methodologies related to biodiversity. These offerings encompass undergraduate and postgraduate degree programs, Advanced Certificates, Diplomas, Certificates, stand-alone courses, as well as short courses in specialized applied fields.

CLIMATE CHANGE AND TRANSPORTATION

Zero Emission Vehicles

Most of University sites are cyclist and pedestrian friendly. There is a 20 km/h speed limit on all internal roads. Further, University has introduced bicycle lanes and three bicycle parks in front of the main gates. Therefore, the university community can access any place by using bicycles free of charge. The University has offered around 30 bicycles to the pool of bicycle parks for easily getting access to places.



Use Traditional Carts to Collect & Transport Waste

Adopting a sustainable approach to campus maintenance, the Open University of Sri Lanka (OUSL) has seamlessly integrated the utilization of traditional carts for the collecting of green waste and other waste within the campus premises. These carts, traditionally propelled by the manual efforts of the cleaning service staff, represent an environmentally responsible alternative to the use of mechanized vehicles. By opting for these time-honored methods, the university actively diminishes its carbon footprint, thereby advancing the cause of environmental conservation and nurturing a more eco-conscious environment.



CLIMATE CHANGE & WATER CONSERVATION

Rainwater Harvesting

Rainwater harvesting is a sustainable practice aimed at mitigating water scarcity by collecting and storing rainwater for various uses. The Open University of Sri Lanka has implemented a rainwater harvesting system at the CRC building contributing towards global sustainable goals. This system efficiently collects and stores rainwater, which is then thoughtfully utilized for daily gardening, car washing, and toilet flushing. Notably, this practice not only significantly reduces the university's operational costs but also aligns with broader sustainability goals, exemplifying an environmentally conscious approach to responsible water management.



Floating Wetland Treatments

Floating Treatment Wetlands (FTWs) have emerged as an innovative and sustainable solution to address water quality issues and enhance environmental health. The establishment of FTWs at the middle canal of the Colombo Regional Center at the Open University of Sri Lanka, courtesy of the Sri Lanka Land Development Corporation's generous donation, represents a significant step toward improving water quality and promoting ecological balance.



ENERGY & CLIMATE CHANGE

Solar Remote Lab

Solar remote lab refers to a virtual or remote laboratory that allows students/researchers to conduct experiments and maintain a full database of solar power generation and weather conditions.



The cutting-edge facility features three main solar panel units, including one indoor unit and two strategically positioned outdoors. Additionally, users possess the flexibility to customize the panels' orientation according to their specific requirements. This setup allows students to engage in a range of experiments under both controlled and uncontrolled conditions, facilitating the investigation of crucial factors such as fluctuating light intensities, diverse wavelengths, and a variety of load scenarios. This comprehensive approach empowers students to delve into the intricate dynamics of solar energy and gain a deeper understanding of its practical applications.



The Open University of Sri Lanka, a distinguished provider of open and distance learning, proudly introduced Sri Lanka's first solar remote laboratory. This visionary undertaking was initiated under the aegis of the EUSL energy program, generously funded by the European Union in 2020. The fruition of this ambitious project required nearly two years of dedicated effort and a financial commitment of approximately 6 million rupees.



Biogas Unit

Biogas offers several benefits in the context of mitigating climate change and prompting sustainable energy practices. Some of the benefits of biogas utilization are Greenhouse gas reduction, Renewable energy generation, sustainable agricultural practices, and waste management.



Open University of Sri Lanka, a thoughtful initiative has led to the establishment of two biogas production units at the canteens, aimed at harnessing biogas for cooking purposes. These units not only serve as an innovative solution for managing organic waste on the university premises but also exemplify a sustainable and eco-friendly approach to energy utilization. Moreover, the by-products generated from these units are ingeniously repurposed as natural fertilizers, nourishing the vibrant array of trees and plants across the campus, thus fostering a harmonious and self-sustaining environment.

At the Open University, an efficient and well-structured system is in place for the separate collection of food waste.

On a monthly average, approximately 45 kilograms of food waste is generated, with 20 kilograms channeled to livestock farms and the remaining 25 kilograms directed to a biogas unit. This sustainable approach harnesses the potential of the biogas unit to generate electricity, which is then utilized to boil water in the canteens. By repurposing food waste to meet the campus's energy requirements, this thoughtful practice not only reduces food waste but also underscores the institution's unwavering commitment to environmental sustainability. The energy generated per year is 2160 kWh.

Energy Saving

Firmly dedicated to environmental sustainability and upholding its pledge to foster an environmentally conscious institution, The Open University has launched a series of targeted measures to curtail energy consumption within its premises. These initiatives have been carefully crafted to curtail the university's carbon footprint and minimize its contribution to the intricate dilemma of climate change.



Enhancement of natural light ingress into the building thereby eliminating the use of artificial lights in daytime. Through its architectural blueprint, the university places emphasis on a systematic design that optimizes the advantages of natural lighting and ventilation. Central gardens strategically integrated into the layout amplify the inflow of natural light within the buildings, while the use of glass and strategic placement of windows further enhance the penetration of natural light. These intentional design decisions have resulted in a substantial reduction in reliance on artificial cooling and lighting systems, effectively lowering energy usage across the university campus.



Stickers have been strategically affixed to elevator doors as part of an initiative to encourage individuals to opt for staircases over elevators. This thoughtful endeavor is aimed at promoting energy conservation within the university, as increased stair usage significantly curtails energy consumption associated with elevator operations.



Wind Turbine

The wind turbine established in the agricultural department generates 3.8kWh per day. This electricity is used for the lighting in the department.



OUSL'S COMMITMENT FOR CLIMATE CHANGE

Centre for Environmental Studies Sustainable Development

The Centre for Environmental Studies and Sustainable Development (CESSD) at the Open University of Sri Lanka is established in 2015 with a mission of contributing academically to build a sustainable university, country, and a world.

The CESSD has organized many events to promote the sustainability and awareness programs to make the society understand the importance of sustainability measures in mitigating the effects of climate change.

International Virtual Conference on Mangroves for Economical & Ecological Sustainability

The International Virtual Conference on Mangroves for Ecological & Economic Sustainability is a significant event that aims to highlight the critical role of mangroves in achieving sustainable development goals. The 1st international virtual conference was held on 26th July 2023.



Mobile Laboratory Bus

The Open University of Sri Lanka has taken a pioneering step by instituting a mobile laboratory bus, equipped with a suite of high-quality instruments designed for rigorous testing purposes. The Open University of Sri Lanka has effectively eliminated the necessity of outsourcing instruments for practical experiments, as the mobile

laboratory bus now comprehensively fulfills this role.

