

Lingnan University SDG Report



Lingnan advocates liberal arts education to equip students with global competences and a sense of civic duty in the pursuit of career goals. In face of climate issues, Lingnan has aimed to enhance environmental awareness and strengthen education efforts in sustainability education. Major initiatives lie in hands-on experience through academic a practicum course, a variety of science events, and a joint-university collaboration that builds a comprehensive network for students' evolvement as future sustainability leaders.

On-campus Food Waste Initiative: Bugs War against Food Waste Project

In pursuance of a zero-waste campus, Lingnan has initiated Bugs War against Food Waste Project ("The Project") to reduce food waste through transformation into organic fertiliser and animal feed. The Project has introduced black soldier flies, a species that can consume almost any organic waste, to process with the agricultural waste and discarded food from hostels and canteens over the 4 feeding spots in campus. The ecological cycle incurred in the Project has demonstrated an innovative way of university-wide food waste management, in the sense that useful assets (such as sustainable fertilizers for Lingnan Gardener plants) are produced out of waste. The Project has engaged university members and the public as low-carbon ambassadors in daily operations and discussion to promote sustainable culture in campus. They can upload the feeding record online to consolidate data on processed food waste. Over 100kg of food waste have been processed locally on campus since May 2023, and over 50 university members (staff, elder and students) have been trained and involved as campaign ambassadors. Other organizations and schools have also approached Lingnan for knowledge transfer on the initiative and maintenance.

More detailed information available at: <https://www.ln.edu.hk/scienceunit/bsf.php>.

Sustainability Projects in collaboration with External Organizations

To establish a flourishing culture on sustainability, Lingnan has worked with external green organizations on setting up of several recycling points in campus. The projects include “*Get Redressed Month*” – a second-hand accessories and clothes recycling program in October 2022 with Redress, “*Eye Care Products Recycling Programme*” – a plastic recycling program mainly for contact lens and eye-care products since September 2022 with EcoDrive. Together with the promotion efforts, the recycling projects have gained support from faculty members and students in saving recyclables from habitual disposal.

Practicum Course on Environment and Sustainability

In hopes of putting sustainability vision into practice, a new practicum course (*SCI3008 Internship in Environment and Sustainability*) was developed by the Science Unit (SU) at Lingnan in Summer Term 2022. This course enabled students to apply knowledge and skills in the context of environment and sustainability through a formal internship with a group of local partners in related initiatives. To advocate passion of environmental protection and interdisciplinary approaches, all students were eligible for the course regardless of major and year of study.

The practicum course has aroused great interest among students, in which 40 were shortlisted for the positions offered by 14 dedicated industry partners accumulatively in the 3 offering terms. Under the supervision of both the SU and partner staff, students were prompted to apply their scientific literacy, problem solving, and communication skills in “real-world” working dynamics. Industry partners offered a wide variety of sustainability tasks for students such as field studies and research, green publicity and marketing, execution of education events, and consultancy report writing. We believe that these students will excel in future employment or post-graduate studies with the learning of sustainability concept imprinted in minds.

Term-based Integrated Learning Programme (ILP) Event Series in Science, Society and Sustainability

To arouse students’ awareness on society and sustainability, Lingnan developed a ILP event series on diversified environmental education. The ILP series was built on the strength of Lingnan teaching expertise, visiting scholars, and local industry connections of sustainability initiative. Students and the local community participated in various hands-on workshops, formal lectures, and informal seminars with the goal of strengthening climate and sustainability learning.

Since 2015, Lingnan has introduced the excitement of scientific discovery and green education through 70+ events, with hundreds of participating students each term. The ILP series was revitalized every term to introduce numerous key environmental issues including conservation of amphibians and reptiles, freshwater ecology, marine pollution, air pollution and urban transport infrastructure, municipal solid waste problem, food waste, material upcycling and plastic recycling.

Cross-institutional Collaboration on Sustainable Development under the Hong Kong Sustainable Campus Consortium (HKSCC)

The Hong Kong Sustainable Campus Consortium (HKSCC) was formed in 2010 as a joint effort of the eight UGC-funded universities to promote the development and implementation of sustainability solutions through research and teaching, campus policies and operations, local and international outreach, and knowledge exchange. The HKSCC facilitates cross-institutional communication in green events and encourage co-creation of a supporting network in design, execution, and evaluation of environmental campaigns and social media influence.

Campaign and events

As a core member of the HKSCC, Lingnan has co-organised environmental campaigns that involved all university members. Campaigns include “*ben don go!*” – a 3-week free meal-container lending booth in September 2022 that advocated the usage of reusable containers in takeaway orders, “*Lunchbox Lending Program*” – a year-round lunchbox lending machine with preparation started in late 2022 for official launch in September 2023 that provides a recyclable alternative in takeaways, and “*Clothing Swap Market*” – a bi-year second-hand clothing collection and distribution event that promotes sustainable fashion. In the first round of Clothing Swap in February – March 2023, 811kg of clothes were collected, and around 1,200 pieces of clothing items were swapped out among the member universities. The rest were donated to Friends of the Earth. The students’ awareness and zeal for green fashion was impressive and encouraging.

Smart Campus Technology on Responsible Consumption

Apart from campaigns, Lingnan has also collaborated with other universities on numerous installations and facilities to encourage responsible consumption of energy and resources. Data collected will be of immediate visualization for the university community through Internet of Things (IoT) platforms, such that a sense of behavioural change will be driven towards a greener lifestyle. Installations include “Smart Electricity Metre” in eight hostels on

Lingnan campus that measures real-time electricity data on campus and “Behaviour Activated Showerhead” (around 80 pieces installed in two hostels) that reminds users of the water usage during shower with the LED lighting system incorporated.

These institution-wide campaigns and innovative installations have gained support among Lingnan staff and students to incorporate sustainability into their lifestyle, which offered experience sharing with other members of the HKSCC in their run to generate greater impact in the campaigns and projects.

Joint-university project: Sustainability Education Inventory

Key elements that formulate Lingnan sustainability education are sustainability ideas, concepts, and skillset-building. Considering various environmental issues, Lingnan undertook sustainability course planning to emphasise environmental protection. To ensure there are a high number of courses addressing sustainability goals, the HKSCC conducted a consortium-wide inventory of sustainability coursework in 2021-22, with the motive of exposing all students to sustainability and emerging global topics. The SU, serving as the representative of Lingnan in the HKSCC, has reviewed around 700 Lingnan UG courses offered in the recent years on their association with the components under United Nations Sustainable Development Goals (SDGs).

To enhance the coverage of the inventory and maintain its effectiveness in identifying courses with SDG components, all offering departments work together analyse and update the inventory, which now covers 870 UG and TPG courses. The reviewed courses are categorised as “highly related” and “slightly related” under different SDGs, which students can see while registering for courses. The inventory works as a platform for Lingnan students to consider SDGs when choosing courses.

More detailed information available at: <https://www.ln.edu.hk/scienceunit/SEI.php>.

Research

Funded by Lingnan University, governmental (ITF), Lingnan (DG, FRG), and non-governmental departments (EcoPark tenants), Lingnan has conducted research and developed publications to inform the public and policy makers of the importance of climate actions.

Highlighted on-going projects in 2022–23:

1. ITF. A Smart Intelligent GeoAI Solution to Predict & Tackle Mosquito-borne Diseases in

Hong Kong

2. Contract Research (Ecopark tenants). Exploring the Challenges and Efforts of Recycling at EcoPark, Hong Kong
3. Lingnan University Faculty Research Grant. The impact of climatic and environmental factors on the spatial and temporal distribution of dengue risk in Hong Kong
4. FRG. Assessing Various Air Quality Measures and their Impact on Quality of Life in Hong Kong
5. DG. Effects of socio-environmental factors on student's behaviour
The Hong Kong Jockey Club Charities Trust. Smart and Responsible Consumption: Engaging Students for Disposable-Free Lifestyles

More information available at: <https://www.ln.edu.hk/scienceunit/researchgrants.php>.

Highlighted publications (Lingnan staff in bold):

1. Wang S, **Cai W**, Tao Y, Sun QC, **Wong PPY**, Thongking W, Huang X (2023) Nexus of heat-vulnerable chronic diseases and heatwave mediated through tri-environmental interactions : A nationwide fine-grained study in Australia., 325(Pt B), Article 116663
2. Wang S, **Cai W**, Tao Y, Sun QC, **Wong PPY**, Huang X, Liu Y (2023) Unpacking the inter- and intra-urban differences of the association between health and exposure to heat and air quality in Australia using global and local machine learning models.
3. **Cai WH**, **Wong PPY** (2021) Associations between Incense-Burning Temples and Respiratory Mortality in Hong Kong, Atmosphere, 12(6), 774.
4. Ho HC, **Wong PPY**, Guo C (2021) Impacts of social and environmental perceptions on preparedness and knowledge of air pollution risk: A study of adolescent males in an urbanized, high-density city, Sustainable Cities and Society, 66, 102678.
5. **Wong PPY** (2020) A Microclimate Study of Traffic and Pedestrianization Scenarios in a Densely Populated Urban City, Advances in Meteorology, 8741049, DOI

More information available at: <https://www.ln.edu.hk/scienceunit/publications.php>.