

15 LIFE
ON LAND



SDG 15 / TWSDG 15

保育及永續利用陸域生態系，
以確保生物多樣性，並防止土地劣化

落葉轉化有機肥，減少廢棄物產生

除每年定期向林務局及花蓮縣政府申請苗木，辦理植樹活動，綠化校園、美化環境及響應碳中和目標外，為將校園落葉廢棄物轉化為有用的產品，東華大學收集校園樹木落葉，添加些許有機原料，經微生物發酵酸化，熟化穩定後，形成有機肥料，作為植樹肥料使用。另外，美崙校區污水處理廠將六成放流水用作回收水，供校園澆灌使用，促使水資源的循環利用，並促進陸地生態永續。

舉辦戶外生態教育，讓永續萌芽於學生心中

觀光暨休閒遊憩學系 109-2 學期「戶外教育」課程，授課老師搭配花蓮在地的「青陽蝴蝶生態教育園區」的戶外場域，規劃一系列包含自然童玩（帶領學生製作自然界的玩具，如蒲公英降落傘、尋找幸運四葉草等）、水域清道夫（讓學生理解「臺灣水生植物外來種」生物環境危害議題）、原火的考驗（練習在環境中找尋適合的生火材料、技巧以及用火安全等）等戶外教育模組活動，學生透過五感學習（看、觸摸、嚐、聞、聽）自然環境，以及戶外教育的教學循環歷程：「走讀、操作、觀察、探索、互動、反思等」，探究環境永續議題，建立學生戶外環境與自然生態的永續發展意識。

東部地區太陽光電案場環境監測

生態與永續科學跨領域研究中心一直關注東部地面型太陽能光電的進展，2021 年中心與辰亞能源公司、力暘能源達成共識，於花蓮地區光電案場及可能成為光電廠用地進行環境監測，目標希望提供光電業者、權益關係人及政府專業學術資料與建議，以期達到環境、社區與再生能源發展三贏。團隊成員希望能提供目前已成立或將進行的光電案場所欠缺的生態系服務與社會經濟的基礎資料，藉此建立臺灣太陽能光電案場永續開發的模式，進而影響政府政策的制訂，達到生態與社會整合治理的目標。

▼ 東部地區太陽光電案場環境監測



▼ 觀光暨休閒遊憩學系學生於青陽蝴蝶生態教育園區進行戶外生態教育課程



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Protect, Restore, and Promote the Sustainable Use of Terrestrial Ecosystems, Sustainably Manage Forests, Combat Desertification, and Halt and Reverse land Degradation and Biodiversity Loss

Fallen Leaves-Based Organic Fertilizer to Reduce Waste

Every year, we plant a little more greenery on the campus with seedlings from the Forestry Bureau and Hualien County Government, which helps us achieve our carbon neutrality goal, and fallen leaves are good materials for multiple purposes. The leaves are collected and added with microorganisms for fermentation. When matured and stabilized, it can be used as organic nutrients for plants. Regarding sewage treatment, Meilun Campus recovered 60% of the discharge and used it for watering plants, improving water efficiency and sustainable land ecology.

Field Trip to Raise Sustainability Awareness among Students

The field trip of NDHU's Department of Tourism, Recreation, and Leisure Studies (TRLS)' spring semester of 2021 involved child games in nature at Chongyang Butterfly Eco-education Garden. Flora-based games, such as dandelion parachutes, finding four-leaf clovers, water cleaners (students learn exotic water-born species that bring biological hazards to the environment), and the test of making fire (verify materials suitable for making fire, technique, and fire safety) helped students understand nature through outdoor learning and use their five senses (watching, touching, tasting, smelling, and listening) to explore environmental sustainability topics by following the outdoor learning cycle of traveling, maneuvering, observing, exploring, interacting, and reflecting. The course supports students in establishing awareness of the outdoor environment and ecological sustainability.

East Taiwan PV Site Environment Monitoring

CIRES has been paying attention to the installation progress of East Taiwan ground-mounted PV system. In 2021, we reached mutual agreements with Chenya Energy Co., Ltd and Ysolar Co., Ltd on the PV site in Hualien area and the environmental tests to the potential PV plant sites, providing professional research data and suggestions to PV operators, stakeholders, and authorities to achieve the best development for the environment, communities, and renewable energy. The team members expect to provide basic data on ecosystem service and social economy that are still lacking at the existing PV project site and those in progress and provide positive contributions to authority decision making toward the whole management of ecology and society.

▼ Environmental tests to east Taiwan PV project sites



▼ Field trip of the Department. of TRLS in nature at Chongyang Butterfly Eco-Education Garden

