



**Promote Terrestrial Ecosystems
Through Sustainable Management**

OVERVIEW

NIDA focuses on managing terrestrial ecosystems both inside and outside the institute, by encouraging faculty members to conduct research and provide academic services related to the protection, restoration, and promotion of sustainable use of terrestrial ecosystems, and also continuously campaigns for increasing green spaces and conserving forest resources.

RESEARCH/ FUNDING

Research on the protection, restoration & promotion of sustainable use of terrestrial ecosystems

NIDA supports faculty members in conducting research and providing academic services related to the protection, restoration, and promotion of sustainable use of terrestrial ecosystems, by receiving funding from various public and private sectors. Examples include the project on assessing the suitability of indicators and measures for land degradation management based on the concept of Land Degradation Neutrality (LDN) using Space and Geo-informatics technology in the context of Thailand, which received project funding support from the Land Development Department with a project value of 1,800,000 Baht. Other work includes the analysis of soil sediments using Synchrotron-based Fourier Transform Infrared Microspectroscopy (SR-FTIR Microspectroscopy).

The analysis of soil sediments using Synchrotron-based Fourier Transform Infrared Microspectroscopy (SR-FTIR Microspectroscopy)

The Director of the Center for Research and Development of Disaster Prevention and Management, School of Social Development and Management Strategy, is interested in studying soil in Antarctica, which is an area that should have the least contamination from various substances due to human activities.



The data obtained will serve as background data indicating the levels of various substances in nature free from human activities, and will be used as a basis for setting standards for various toxic contaminant levels in the environment. Soil samples from the South Pole, collected from King George Island in Antarctica, were analyzed at the Synchrotron Light Research Institute in collaboration with a scientist from the Institute, to analyze the soil sediments using Synchrotron-based Fourier Transform Infrared Microspectroscopy (SR-FTIR Microspectroscopy).

It was found that the soil samples from the South Pole contain organic compounds originating from various human activities in Antarctica, such as the use of fossil fuels in generators at various research stations on King George Island, as well as exhaust from vehicles and the use of fuel for heating, among others, accounting for a high proportion of 44%. Furthermore, the closer the location to the airport or research stations at the South Pole, the greater the distribution of these organic compounds was observed compared to other areas. Penguin droppings, along with substances resulting from the decomposition of lichens, ferns, and mosses, accounted for 25% of the organic compounds.

The results of this research will lead to measures to control the use of fossil fuels on King George Island, as it directly impacts the contamination and accumulation of organic compounds in the Antarctic soil samples.

<https://nida.ac.th/synchrotron-contaminants-fossil-antarctica/>



COMMUNITY ENGAGEMENT

Increasing green space both inside & outside the institute

NIDA is committed to increasing green spaces by planting trees, both inside and outside the institute, through the following collaborative activities:

1) Participation in the "Governor's Mobile Mission, Bang Kapi District" activity on February 3, 2024: Trees were planted to develop a vacant lot into a public park, in line with the Bangkok Metropolitan Administration's 15-Minute Park policy, located at the vacant lot of the Housing Authority (Klong Chan Flats), which is opposite the institute.



2) Collaboration with the Bang Kapi District Office to organize the "Doing Good for Society and the Environment" activity on the occasion of the 59th Anniversary of NIDA's founding on April 1, 2024, at the 15-Minute Park, Klong Chan Housing (Flats 12 and Flat 1 opposite the institute): A pétanque court and playing equipment were handed over to the Director of the Bang Kapi District Office and representatives of Housing Flat 12, and nine Ratchaphruek (Golden Shower) trees, the institute's symbolic tree, were jointly planted.

<https://nida.ac.th/nida58csr/>



3) NIDA organized the 32nd Annual Executive Seminar 2024 on the topic "Up Level NIDA Rankings" on June 27-28, 2024, at the Sikhio Education Center, Nakhon Ratchasima Province. The Governor of Nakhon Ratchasima Province was honored to give a lecture on "Development Guidelines for Nakhon Ratchasima Province for Sustainability", and vetiver grass seedlings were jointly planted with the Institute's executives

<https://nida.ac.th/up-level-nida-rankings/>



Creating awareness for sustainable terrestrial ecosystem conservation

The institute created awareness for sustainable terrestrial ecosystem conservation by organizing a DIY easy-to-make plant pot activity from waste materials on August 7, 2024, at the rooftop garden on the 5th floor of the Ratchaphruek Building. This activity was held to create awareness and recognition of the importance of tree planting among the Institute's personnel through hands-on creation of plant pots and their subsequent use for planting trees received from the project.

