

13 CLIMATE ACTION



Mobilize Campus Resources to Promote Energy Conservation and Develop Energy Management Systems

Driving Sustainable Climate Change Initiatives Across All Sectors

The environment has emerged as a critical basis for sustaining life. Clean and high-quality air are universal necessities, especially in today's world where numerous regions are grappling with air quality crises that jeopardize the well-being of many individuals.

The National Institute of Development Administration, a higher education institution committed to the integration of sciences for sustainability, recognizes the significance of embarking on missions to address climate change-related disaster issues. These undertakings aim to create a positive impact and foster sustainable development, in alignment with NIDA's philosophy of "WISDOM for Sustainable Development".



In the realm of research, NIDA faculty members have harnessed their knowledge and experience to guide society and formulate policies to address the wide-ranging impacts of climate change both nationally and internationally.

Prof. Dr. Siwatt Pongpiachan, Director of the Research Center for Disaster Prevention and Management, is a top-rank academic and expert in carcinogens and mutagenic substances. He has authored a multitude of international research papers on the impact of climate change on human and environmental health. Among his notable works are "Characteristics of PM_{2.5} at a High-Altitude Remote Site in the Southeastern Margin of the Tibetan Plateau in Premonsoon Season" and "Impacts of Biomass Burning in Peninsular Southeast Asia on PM_{2.5} Concentration and Ozone Formation in Southern China During Springtime—A Case Study". He also plays a vital role in advancing the air quality agenda as the Head of the Prime Mover working group for the Active Citizens Project and a key figure in environmental management in collaboration with the Thai Health Promotion Foundation.



NIDA has collaborated with international organizations, including UNIDO, to assist the industrial sector in mitigating the emission of hazardous substances into the atmosphere. This collaboration involves implementing the concept known as BAT/BEP (Best Available Techniques and Best Environmental Practices) to minimize the release of toxic substances directly at the source. In a project led by Prof. Dr. Siwatt Pongpiachan, who oversees NIDA's projects related to industrial city environments, it was discovered that a substantial amount of waste was generated by the industrial sector. However, it had not been adequately managed in the past, leading to environmental issues. Consequently, a new concept emerged, leading to a partnership between UNIDO and the Department of Industrial Works, who organized a nationwide competition to transform industrial waste into eco-friendly products this year.



In addition, a study on "Greening the Scrap Metal Value Chain through Promotion of BAT/BEP to Reduce U-POPs Releases from Recycling Facilities" revealed a lack of awareness among recycling industry stakeholders regarding the Stockholm Convention, U-POPs, and BAT/BEP principles. To address this, government policies should offer immediate, mid-term, and long-term incentives to encourage entrepreneurs to prioritize practicality and sustainability, in line with the UN's Sustainable Development Goals and national strategies, including the Environmental Fund.

Prof. Dr. Siwatt Pongpiachan attended MINAMATA COPS (Minamata Convention on Mercury Fifth meeting) on 30 October to 3 November 2023. Matters for consideration or action by the Conference involve e.g. Mercury supply sources and trade, Mercury-added products and manufacturing processes, Emissions and releases of mercury and Financial resources and mechanism.



The Professional Development Project, undertaken by the Office of Natural Resources and Environment, is a significant endeavor conducted by NIDA's School of Environmental Development Administration. Its purpose is to assess greenhouse gas emissions across five sectors in Saraburi and Trat Provinces. This evaluation follows the guidebook, the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), aiming to provide a comprehensive analysis of viable measures for reducing greenhouse gas emissions, alongside recommendations for legal compliance. Furthermore, it includes a report on the risk assessment in light of climate change effects and outlines action plans for climate change adaptation in the area.

NIDA has spearheaded the Smart Energy and Environment Platform to enhance the urban environment and foster the Bang Kapi digital community (Phase 1). Supported by the Digital Development Fund for economic and societal social development, this project is led by Assistant Professor Dr. Napong Noppaket from the School of Environmental Development Administration. Its objective is to establish a comprehensive framework for collecting and analyzing data related to electrical energy and environmental quality. This involves the deployment of Environmental IOT equipment to monitor air quality, dust levels, PM_{2.5} concentrations, and wastewater quality in various buildings. The collected data is then made accessible through a website and dashboard. This pioneering project serves as an information hub for Smart Bangkok, paving the way for it to become a blueprint for sustainable digital development in all 50 districts of Bangkok.

Within the realm of education and knowledge dissemination, the School of Environmental Development Administration offers a Master of Science Program in Environmental Management and Sustainability. The Program encompasses diverse subjects designed to provide students with a comprehensive understanding of environmental and climate-related topics. These include climate change, atmospheric quality management, environmental ecology, science and technology management, sufficiency economy philosophy, and environmental management inspired by the King's initiatives, as well as pollution control management, clean technology and energy management, environmental and sustainable business, and solid waste and pollution management for urban and local communities. To complement the academic experience, various practical activities such as study trips and field training, like reforestation and beach cleanup, are integrated into the program. Moreover, NIDA mandates the inclusion of the "Sustainable Environment" topic in the ND 4000 course, a foundational requirement for all master's degree students.



The Eco-Talk Series serves as a platform for distributing knowledge through online seminars organized by doctoral students from the School of Environmental Development Administration. These seminars involve the theme of "Environmental Management for Sustainable Development," serving as a blueprint for knowledge creation and the exchange of ideas concerning environmental management's role in fostering future sustainability. Over the course of 6 months, students present and engage with interested participants on six critical topics. These topics include:

1. SDG = CSR?
2. The Viability of Electric Vehicles as Climate Change Solutions in the Transportation Sector
3. Apology to Mae Kongkha through Payment for Ecosystem Services (PES)
4. Promoting Environmental Policies for Fair Finance within the Banking Sector
5. SDGs and the Government's Role
6. The Sustainability and Measurability of SDGs

In the domain of academic services provided to communities and society at local, regional, and national levels, NIDA conducted a "Discussion Forum on Environmental Policy and Disaster Management for the 2023 Election Field" on April 20, 2023. This event was held in collaboration with Future Earth THAILAND, with the aim of educating a diverse audience, including government officials, academics, students, media representatives, individuals from various sectors (industrial, business, agricultural, and transportation), as well as the public. Its primary objective was to enhance understanding of community disaster management concepts and to raise awareness about the disaster-related policies of political parties. Additionally, it sought to foster a greater sense of responsibility among political institutions toward community disaster management.

The "Every Day Say No to Plastic Bags" study and evaluation project, led by Prof. Dr. Wisakha Phoochinda of the School of Environmental Development Administration, involves a multifaceted campaign. Its purpose is to raise awareness among the general public, department stores and shops, as well as instill discipline in curbing the use of plastic bags while promoting sustainable plastic waste management practices in Thailand. This project actively addresses the escalating plastic waste issue in various sectors, including government, private, and public. This aligns with the implementation of the Single-Use Plastics guidelines summarized in the Plastic Waste Management Roadmap 2018-2030. It therefore plays a crucial role in lessening climate change by potentially reducing greenhouse gas emissions by an impressive 84,058,461.00 kilograms of carbon dioxide.

Next is the Project for Monitoring and Evaluating the Single-Use Plastics campaign, spearheaded by Prof. Dr. Wisakha Phoochinda, School of Environmental Development Administration. This project's aim is to assess the execution of various initiatives geared towards reducing plastic consumption. This encompasses both reducing the single-use plastics and promoting the recycling/upcycling of plastics in line with the Circular Economy framework. The project also involves a comprehensive analysis of past projects and activities which drew valuable insights and lessons. These findings are then utilized to provide recommendations for future planning, aligning with the objectives outlined in the Plastic Waste Management Action Plan, Phase 2 (2023-2027). Notably, previous operations have successfully alleviated greenhouse gas emissions, with a reduction equivalent to 89,205,908.94 kilograms of carbon dioxide.

Under the guidance of Assistant Professor Dr. Watsida Boonyanmethaporn, the School of Tourism Management has collaborated on a development plan aimed at transforming Ban Sumalee Community in Nong Chok District into a self-reliance hub, aligning with the principles of the Sufficiency Economy philosophy. This transformation involves integrating agriculture practices that harness the local resources, promote a simpler way of life while elevating the area into an “agricultural-health tourism destination”, also referred to as “Agro Wellness Tourism”. This initiative also hopes to make this community a knowledge hub that imparts essential life skills pertaining to health, agriculture, and local wisdom. It adheres to holistic approach of economic development (BCG Model) with a focus on resource utilization, maintenance in the ecosystem, and the creation of innovative solutions, all of which are pivotal in minimizing any environmental impacts on the society.



Another project, under the guidance of Assistant Professor Dr. Taeng-on, has been initiated to raise awareness of BCG principles among the youth in a community and to promote career opportunities that align with these principles. The project involves such activities as meetings, training sessions, and campaigns on environmental conservation. These activities encompass the following:



1. Collaborative sessions with the Bang Toei Lang community in Bueng Kum, addressing the formation of career support groups to enhance community income and advance environmental protection (e.g., garbage sorting).
2. Engagements with the Duang Prateep Foundation to organize environmental activities around the Hua Lamphong Canal, as well as discussions and surveys in the Khlong Toei markets regarding water conditions in the vicinity.
3. Dialogues with the Department of Climate Change and Environment to address environmental management within the urban community and promote the use of biological extract-based water.
4. BCG training sessions and practical workshops on water treatment pond maintenance, ensuring the water is suitable for watering trees at Phra Manda Nitchanukroh School in Bueng Kum District.
5. Training sessions on environmental management for diverse target groups, including community leaders, senior citizens, and students, which involves making biological fermentation water and multipurpose eco-friendly cleaning products.



NIDA has also engaged in organizing a forum with various partners, including Pheu Muang Foundation and Sustainable Community, NIDA Alumni Association, Sangsuk Media Foundation, Ubon Ratchathani Province, Provincial Administrative Organization of Ubon Ratchathani Province, Ubon Ratchathani Provincial Chamber of Commerce, Ubon Ratchathani University, Ubon Ratchathani Rajapat University, Assumption University, Ubonratchathani Agricultural College and Technology, and Ratchaprachanukroh School, alongside the 32 Sri Mueang Mai community networks, the civil society and public sectors of Ubon Ratchathani Province. They all recognize the importance of establishing a central platform to collaboratively address disaster challenges, such as floods and droughts, by focusing on reforestation, expanding forested areas, enhancing underground water sources, and reusing wastewater. This forum is titled ‘Building Development Partnerships: Addressing Flood and Drought Challenges in the Northeast through Reforestation.