Students' Efforts and Alumni Achievements

― Meichari Project – Nagoya Bike Sharing Scheme ―

Students of the Graduate School of Environmental Studies took the initiative in recycling abandoned bicycles found in Nagoya city center and using them in the community cycle system, in which people borrow and return bicycles at specially designated cycle parking facilities. This is an attempt to rethink the current car-oriented society and students are now working on field experiments and questionnaires to users regarding the permanent implementation of this system.

Renting a bicycle in the field experiment

Part of the secret den made by children and parents

― Children's Workshop – Sen no Tane Akashitai ―

Sen no Tane Akashitai (Seeking 1000-Seeds Works) is a workshop for children coordinated by the Architecture Study Group for Children, organized by students in the laboratories of Associate Professors Kenichi Suzuki and Hisashi Komatsu, and the Chikusa-ku local authority in Nagoya city.

On November 10, 2007, the 11th workshop, called "Let's Build a Secret Den," was held in woods within Nagoya University's grounds. Children and their parents who participated in the project built a "secret den," which included a bamboo-thatched hut, a three-story watch tower, play equipment, and a bridge. Using only natural materials, such as hemp ropes, broken wood branches, and the bamboo growing naturally in the university premises, the den took about five hours to construct.

― Establishing a Practical Low Carbon Policy ―

After graduating from the School of Economics at Nagoya University, I joined the former Environment Agency in 1974 with the intention of helping to change Japan from the environmental viewpoint. Undergoing a variety of experiences, such as the institutionalization of Environmental Assessments, and the Agency's expansion into the Ministry of the Environment, I gradually developed a determination to raise Japan's environmental administration to a world-leading level.
As Director General of the Global Environment Bureau, my work in negotiating with different countries and industries to find ways of tackling climate change and global warming is endless. Now, I am hoping to establish a practical "Low-Carbon Policy" through collaboration with researchers at my old university.

(Hideki Minamikawa, Director General of the Global Environment Bureau, Ministry of the Environment)

― Searching for Clues to Help Solve Environmental Problems ―

I graduated from the School of Agricultural Sciences and joined the Environmental Policy Department at the Environmental Division of Toyota city. Although some of my work is aligned with my major at university, real-life environmental tasks are much more diverse than my former studies. I still ask my former tutors for advice about my work, and the exploratory attitude, personal networks, and multifaceted viewpoints I acquired in my university days are most important assets for me.

As there is such a variety of factors involved in the environmental field, cooperation with a range of people is indispensable to addressing such issues. I like to take the initiative in my work, utilizing the assets I have developed to establish a systematic approach that encourages people to take an interest in finding environmental solutions together.

(Michiko Gotoh, Environmental Policy Department, Toyota City Environmental Division)

Eriocaulon nudicuspe in Yanami Shicchi Wetland,Toyota city

Author installing a signboard for a protected tree

Environmental Policy

1. Basic Philosophy

・In recognizing the impact that our modern lives and activities have on the environment and future generations to come, Nagoya University intends to actively work towards and protect a sustainable environment.
・As the university continues to acknowledge the intellectual accomplishments of humankind, it also intends to reconsider academic priorities, as it broadens its perspective on the relationship between humans and the earth to adequately consider our long-term future together.
・Nagoya University fully commits itself, including the areas of education, research, university management, and social contribution, to realizing a better earth environment

2. Basic Policy

(1) In order to respond to environmental problems in the most appropriate manner, Nagoya University dedicates itself to the consideration of environmental problems from a comprehensive and systematic perspective, encompassing, human and natural sciences, and all other relevant fields.
(2) Students will be encouraged to develop the ability to understand and analyze environmental problems as Nagoya University nurtures future pioneers in the field.
(3) Through the cooperation of both students and staffs, Nagoya University will continue to create university policies that are best suited to addressing environmental issues.
(4) Nagoya University will pursue a comprehensive and systematic policy set in order to reduce the university's negative impact on the environment and to realize objectively its proper role and influence regarding the environment.
(5) Nagoya University is dedicated to addressing both regional and worldwide environmental issues in a proactive manner. As these policies take root from a local level, it is intended that they will also connect to larger international-level responses to environmental problems.

Editorial Postscript

Our Environmental Report has previously focused on raising awareness about environmental protection among university members. For this year's edition, we have aimed at informing members of the local community, including corporations, local governments, and residents, about the ways in which Nagoya University is contributing to realizing a sustainable society through our research and education in the fields of "environment, safety, health, and hygiene." In its complete edition, the report covers in greater detail: achievements in our environmentally-aware activities; achievements in environment-conscious R&D and in environmental education; and environment-related social contributions.

This digest edition provides limited extracts from the complete edition. If you are interested in obtaining further information about our environmental efforts, please refer to the compete edition, available from the Nagoya University Web site. We have also tried to emphasize Nagoya University's special features and we hope you can gain a sense of its unique character. We look forward to receiving your comments on the report, as we are always seeking to make improvements.

Takashi Yamane, Chair, Environmental Report Review Working Group

For the complete edition of the Nagoya University Environmental Report 2008, please visit:
URL: http://web-honbu.jimu.nagoya-u.ac.jp/fmd/rpt.html

Report Coverage Period: FY2007 (1 April 2007 to 31 March 2008)
Scope of Report: Higashiyama, Tsurumai, and Daiko Campus, Nagoya University

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Nagoya University participates in Team Minus 6%.

Stop Global Warming
Team Minus 6%

Eco-business establishment authorized by Nagoya City

NAGOYA UNIVERSITY

Nagoya University Environmental Report

(Digest Edition)

2008

「View of the Toyoda Auditorium and Lawns」

Message from the President – Publishing Our *Environmental Report 2008* –

Shinichi Hirano
President of Nagoya University

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Nagoya University exercises its responsibility as an educational and research institute not only by protecting the environment, but also—through our faculties and graduate schools—by producing researchers, students, and business leaders who can tackle environmental problems, under our educational policy of cultivating "Courageous Intellectuals."

The year 2008 produced some environmentally-important notes: the Hokkaido Toyako Summit held in July confirmed that countries with significant CO_2 emissions must make efforts in emission reduction. A long-term target agreement to halve the world's emissions by 2050 was also agreed upon. Nagoya University recognizes the significance and urgency of global warming issues and is contributing to resolving such problems through education and research.

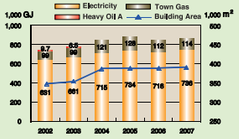
As a National University Corporation business site, we are seeking measures to reduce environmental impacts: lowering energy consumption in electricity, gas, and water; and retaining and increasing greenery. We have also engaged in a number of collaboration projects with local communities. Our *Environmental Report 2008* presents Nagoya University's practical environmental efforts as a National University Corporation, including up-to-date details of our environmental research and educational activities, human resource development, and other social contributions conducted throughout FY2007. Nagoya University acknowledges continuing improvements in environmental management technologies to realize harmonious living with nature, and has commenced its own environmental accounting activities. We hope that this report will demonstrate our keen interest in environmental issues.

Environmental Efforts

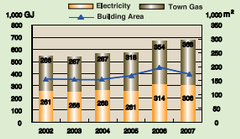
— Total Energy Consumption —

The energy consumption rate (oil conversion) in FY2007 increased by 1.8% in Higashiyama Campus, 12.1% in Tsurumai Campus, and decreased by 3.0% in Daiko Campus, compared with the previous year.

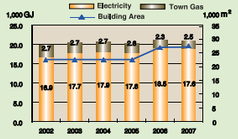
Higashiyama Campus



Tsurumai Campus



Daiko Campus



— Nagoya University's Energy Saving and Anti-Global Warming Measures —

Roof greening on Medical Science Research Building 2

Green parking in Tsurumai Campus

— Awards —

Nagoya University received the following awards for its energy saving and environmental efforts

◆FY2007 National Conference on Successful Cases of Energy Conservation: Minister of Economy Trade and Industry Prize

◆ Aichi Environmental Award 2008: Excellence Prize

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Providing Environmental Education

— Curriculum Utilizing the University's Environmental Report —

The Graduate School of Environmental Studies assigned students to improve Nagoya University's Environmental Report 2007 in its *Environmental Ethics* class. The topics raised by the students will be utilized to improve future issues of the Environmental Report.

This was a good opportunity for students to review environmental measures from the viewpoint of the Report writers, thereby deepening their understanding of environmental issues. This project also functioned as an implementation of the Nagoya University Environmental Policy, which states: *Through the cooperation of both students and staff, Nagoya University will continue to create university policies best suited to addressing environmental issues.*

— Environmental Management Systems in the Home —

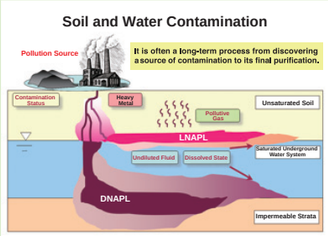
One of our classes, *Laboratory in Environmental Studies of Materials 1* in the School of Informatics and Sciences, teaches about environmental systems in society and ways of improving such systems. As a part of these studies, an assignment is given to students in which they develop an Environmental Management System applicable to their home or work environment, and later report on the system implementation results. One example was as follows. Environmental mission: Reduction in water, gas, and electricity costs at home; Scope of management: Four family members and a dog; Legal and other requirements: Compliance with the local authority's garbage collection rules; Improvement example topic: Reducing shampoo quantity for morning showers... This hands-on project provided students with a good understanding of such management systems and how to construct one.

Students building an Environmental Management System

Environmentally-Aware Research

— Soil and Water Purification Utilizing Anaerobic Microorganisms —

Soil is difficult to purify and could be a source of secondary long-term contamination of underground water. This is particularly serious issue in areas where people use underground water as their drinking water. Recently, the technology to utilize anaerobic microorganisms to decompose and purify pollutants in the airless underground environment has come to attention. Utilizing this technology will reduce excavation costs and energy, as well as the chance of pollutants being dispersed during excavation. Prof. Arata Katayama's Laboratory in the EcoTopia Science Institute has successfully developed a technique to enable different anaerobic microorganisms to cohabit in porous materials so that decomposition, which requires multiple microorganisms, is performed more effectively. This is still at the initial stage but our research will continue to support the further development of environmental purification technologies.



— Development of Balloon-Mountable CO_2 Sensor —

As current CO_2 measuring points are mostly surface-based, there is insufficient data to create an accurate global-scale CO_2 concentration map. In the Solar-Terrestrial Environment Laboratory, Prof. Yutaka Matsumi and his project team are working to develop a balloon-mountable sensor that can simply and accurately measure CO_2 concentrations at different heights, regardless of the weather conditions. The data obtained from this sensor can be used to verify satellite-collected data. The sensor will increase measurement opportunities and in turn help us to understand the mechanism of CO_2 concentration changes. It will also enable evaluations of the effectiveness of CO_2 emission reduction measures by determining CO_2 emission quantities per country, thereby contributing to anti-global warming activities.

Measurement experiment for the balloon-mounted CO_2 sensor utilizing a small aircraft. The item indicated by the arrow is the sensor under development

Environment-Related Social Contributions

— International Collaboration – the Co-existence of Nature and Human Beings —

It is important that we share an understanding and approaches on issues concerning nature, economics, and society in order to realize a sustainable society. This is why Education for Sustainable Development (ESD) is being promoted in different countries, including at Nagoya University. As a part of these activities, Nagoya University and other universities in Thailand and Germany are jointly creating an ESD curriculum for postgraduate students. We hope that this curriculum will be authorized by UNESCO in the future, and we plan to further develop it as an international initiative, making the curriculum available to other graduate schools in Nagoya Prefecture.

Discussions at an ESD Workshop

— As a Center of Local Climate Policy and an Anti-Warming City —

The Graduate School of Environmental Studies manages some political projects as a research and education center for local climate policy and an anti-warming city. In autumn 2007, the school suggested a roadmap plan to reduce CO_2 emissions by 60% compared to 1990 levels, by 2050. The plan was presented to local government, and to electricity and gas companies. It was also published in several environmental journals and presented as a supplementary event at COP13: United Nations Climate Change Conference in Bali. The school also conducted a comparative analysis of local climate policies among 63 authorities in the US, Germany, and Japan as the USA-Germany-Japan Local Governments Climate Partnership Project, contributing to effective local climate policy research. As the occasion to present the project's interim results, a Germany-Japan workshop was held in March 2008 at Nagoya University, inviting the vice-chancellor of the German Federal Environment Agency and other senior figures. In February 2008, the International Workshop & Symposium for Promoting ESD was held in collaboration with the Graduate School of International Development. One of the world's leading environmental policy researchers, Professor Ernst von Weizsäcker (University of California, Santa Barbara), was invited to deliver the keynote speech, and he was also appointed as visiting professor of the Graduate School of Environmental Studies.

— Special Assistance Project for Regional Contributions – Suburban Agricultural Education Park —

The University Farm of the Graduate School of Bioagricultural Sciences offers a variety of opportunities to the local community to encourage them to familiarize themselves with nature, agriculture, and food production through hands-on experience. The farm is also designed to be explored through paths and signboards. Events held at the Farm in 2007 include: Agricultural Experience for the Family, in which people can enjoy making butter, digging sweet potatoes, tomato cultivation observation and tasting, and the animal farm; lectures on "Learning about animal resources and considering their lives and our eating habits" ; and a nature study session working with local naturalist organizations.

Children studying how sweet potatoes grow (Hands-on Agricultural Lesson)

Searching for grasshoppers (Grasshopper's Sports Day)

— Releasing Underground Water to Yamazaki River —

Yamazaki River is known as one of the finest cherry blossom viewing areas in Nagoya city. However, the river has been suffering from water exhaustion as the area along it became more developed, and it often dries out on sunny days. Kagamigaike pond, located on the Nagoya University site, is one of the water sources for this river. In response to Nagoya city's request, since February 2006 the University has started releasing water pumped out from deep underground into the pond (up to 1,000 tons per day). We hope that this water release will help to improve Yamazaki River's water conditions.

Cherry trees along Yamazaki River – a popular spring picnic spot (Courtesy of Nagoya City Greenification and Public Works Bureau)