EXPO 2005 AICHI JAPAN

Environmental Report

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EXPO 2005 AICHI JAPAN

Contents

On Publishing the Environmental Report

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EXPO 2005 AICHI, JAPAN completed its scheduled 185-day period on September 25, 2005 without any major problems, recording 22,050 thousand visitors, a number that far exceeded the target.

This was the first exposition of the 21st century, held in accordance with the resolution in the General Assembly of the International Exhibitions Bureau (BIE) of June 1994, requiring "the international exposition to serve as a place for the solution of global issues," while looking ahead to the 21st century. In addition, in the same resolution it was decided that the future expositions should have "a commitment to the supreme importance for humanity of due respect for nature and the environment."

On the other hand, the candidate site for EXPO 2005 AICHI, JAPAN was changed in the planning stage due to criticism over the destruction of the natural environment, finally to the Nagakute Area (about 158 ha) making use of the Youth Park and the Seto Area (about 15 ha) with a total area of 173 ha, and the "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" was formulated in December 2001. In this master plan, the theme was finalized as "Nature's Wisdom" under which it was decided that "consideration is to be given to the environment before, during and after the period of the Expo, starting with the fields of site planning, followed by management of the site, transportation of visitors and so forth, and, at the same time, a message is to be transmitted on the direction of solutions to environmental problems that are being aggravated on a global scale, through various activities and projects."

The Japan Association for the 2005 World Exposition formulated the fundamental philosophy and basic policy on the environment at EXPO 2005 AICHI, JAPAN, in consideration of the master plan, publicizing them as the Ecological Declaration, while making efforts to independently construct an environment management system designed to suit the special character of the Exposition. This was done by establishing the "Action Plan for Environment-Conscious Efforts" for the projects undertaken by the EXPO 2005 Association and "Environmental Conservation Guidelines" on the matters requiring compliance from participants other than the EXPO 2005 Association at each of the times of site preparation, periods in session, as well as dismantlement and clearance. In this connection, efforts were made, making use of various kinds of explanatory meetings, to request those concerned to thoroughly endeavor giving consideration to the environment from the perspective of each participant.

This report places in order a summary of the results of the efforts to give consideration to the environment at EXPO 2005 AICHI, JAPAN, based on the plans for the environment, prepared and presented by participants in this environment management system and arrangement of the results made by the EXPO 2005 Association as well as the results of monitoring, focusing on each item of the basic policy presented in the Ecological Declaration.

It is our sincere expectation that this Environmental Report will be of help in indicating the direction of solutions for environmental problems and constructing technologies and for a society giving consideration to the environment in similar projects in the future and so forth as well as for society in general.

March 2006

Purpose and Contents of the Environmental Report

(1) Purpose of the publication

It was planned in EXPO 2005 AICHI, JAPAN that the EXPO 2005 Association and participants such as exhibitors and visitors give consideration to the environment from the perspective of each, from the time of constructing the site to the time during the session and up to the time of dismantlement and clearance. The "Action Plan for Environment-Conscious Efforts" was presented to all those involved with the EXPO 2005 Association to have them understand and respect it thoroughly, and, on the other hand, the "Environmental Conservation Guidelines" was indicated to participants to allow them to give the environment thorough consideration, and to assist them in expanding voluntary efforts. The EXPO 2005 Association also made public to the visitors its consideration of the environment and matters for which their consideration was sought, and requested them to make due efforts voluntarily.

This Environmental Report places in order the results of the consideration given to the environment studied and implemented at EXPO 2005 AICHI, JAPAN, in which the concept of the environment management system is incorporated, to inform society publicly, with the expectation of letting it serve as data to contribute to the efforts for the environment in similar projects such as expositions in the future.

(2) Composition of the report

This report is composed mainly of the following two parts.

In "I: Contents of EXPO 2005 AICHI, JAPAN," the purpose of holding this exposition, contents of the facilities on the site, contents of exhibitions in pavilions and so forth are mainly presented, giving consideration to how they relate to consideration of the environment.

In "II Environment-conscious Efforts in the Exposition Project," after the policy and contents of various efforts, established for consideration of the environment are outlined, the results of efforts for such consideration are placed in order, following the items of the "EXPO 2005 AICHI JAPAN Environmental Policy" of the EXPO 2005 Association.

(3) Period covered by and contents of the report

This report contains an outline of the efforts for environmental conservation and their results at each of the progressive stages from that of planning and devising EXPO 2005 AICHI, JAPAN through those of preparing the site and opening, based on information such as the result of efforts made by the EXPO 2005 Association and reports submitted on the efforts by participants.

For the detailed contents of the efforts stated, please refer to the individual reports published by each project entity and various kinds of reports scheduled to be published in the future.

(4) Scope covered by the report

While the report covers mainly the efforts for consideration of the environment made by the Japan Association for the 2005 World Exposition, it also covers the efforts of participants in the exposition and so forth as far as possible.

I Contents of EXPO 2005 AICHI, JAPAN

In EXPO 2005 AICHI, JAPAN, "Nature's Wisdom" and "Development for Eco-Communities" are presented as the theme and one of the sub-themes, respectively. Starting with the construction of the site giving consideration to the environment, various activities taking the environment into account were conducted in succession, such as introduction of a means of transportation with less burden on the environment from the point of operation and new energy systems, exhibitions / events for which various new technologies were adopted, provision of opportunities for visitors to learn about the environment, while enjoying the visit, and so forth.

In this part, the objectives of the exposition, contents of facilities on the site, contents of the exhibition in pavilions and so forth are mainly presented, taking into account their relation to consideration of the environment.

1. Purpose of Holding the 2005 World Exposition, Aichi Japan and the Theme

(Abbreviated/Popular Name: EXPO 2005 AICHI, JAPAN)

1-1 Purpose of Holding the Exposition

EXPO 2005 AICHI, JAPAN aims at the creation of new civilizations and culture under the theme of Nature's Wisdom, based on the concept of global interchange on a large scale with the participation of many countries and citizens ranging from children to the elderly for the purpose of transmitting the direction of the solution to issues facing mankind and how human beings should live.

In addition, the following is stated in the "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" formulated in December 2001.

"The aim of this exposition is that it will be one full of hopes for the future with the participation of citizens on a global scale throughout the period of the exposition in session including the time before and after the period, providing a decisive turning point for such perception with respect to the relation between mankind and nature. It also aims to prompt people of all countries ranging from children to the elderly to talk to each other about the joy of living and their dreams for the future, to have the philosophy of EXPO 2005 AICHI, JAPAN succeed in this area, and to serve as the starting point for forming a global core zone of the industrial technologies that will produce new added values. The exposition will be held in recognition of the main objectives of EXPO 2005 AICHI, JAPAN as follows, in consideration of the background of the era and the current status of Japan.

(1) Project for the creation of grand culture / civilization
(2) Place for the interchange of diverse cultures and values
(3) Transmission of messages from Japan to the world
(4) Transmission of messages from the present to the future"

1-2 Positioning of this Exposition

In the 115th session of the General Assembly of BIE held on June 8, 1994, the resolution was adopted, looking ahead to the 21st century, with the purport, "An international exposition should be a place for the solution of global issues!!" EXPO 2005 AICHI, JAPAN is the first international exposition of the 21st century, based on this resolution.

The holding of the 2005 World Exposition, Aichi Japan was decided upon in the 121st session of the General Assembly of BIE held in Monaco on June 12, 1997.

After repeated dialogues with citizens on northern goshawks and other environmental problems following such decision, the formal registration took place on December 15, 2000. Efforts have been made, aiming to hold an exposition appropriate for the resolution in respect of the efforts for the environment, based on the assessment of the effect on the environment, extensive participation of citizens from the preparatory stage and so forth.

Summary of the resolution adopted at the 115th session of the General Assembly of BIE (tentative translation, partial extraction)

■ Preamble
- The essential objectives of an international exposition should be improvement in the knowledge of mankind as well as contribution to mutual understanding and international cooperation.
- The target should be attained by deepening the understanding of the cultural identity of races and nations, and having the public as a whole know the progress already achieved and the outlook for the future ...

(The rest is omitted.)

■ Requirements for Future International Expositions

For the purpose of ensuring the above-mentioned basic principles, the following points shall be the absolute requirements for future international expositions.

(omitted)

- An exposition should be one reflecting the respect for nature and the environment which is an essentially important issue for mankind.

■ Resolution No. 1: Themes of an International Exposition
- Each exposition shall have contemporary themes that can respond to the requests of the present society. (The rest is omitted.)
- Themes shall be...those which highlight the presentation of issues, taking into consideration the present status of scientific, technological and economic progress, the wishes of mankind and society, as well as the necessity of protecting the natural environment. (The rest is omitted.)

(For reference) Objectives of the Japan Association for the 2005 World Exposition (extracted from Chapter 2, Article 3 of the endowment act)

The objective of this association is to promote the development of Japanese industry and culture by preparing, holding, operating and conducting other activities for the 2005 World Exposition, Aichi Japan (hereinafter referred to as "the Exposition," thereby contributing to the development of a global society in the 21st century.

1-3 Theme: NATURE'S WISDOM

To realize the ideal state of new culture / civilizations and a model for society to be created in the 21st century, learning from "Nature's Wisdom" (the wonderful mechanism of nature possessed by the characteristics and strength of life), through the diversified interchange with people all over the world.

In doing so, identify the direction of the solution to the issues facing mankind in the 21st century and the future image of the earth and mankind.

1-4 Sub-themes

NATURE'S MATRIX

In order to present the direction for humanity to advance in the 21st century, the ideal state of civilization in the space age is sought through state-of-the-art space technologies and the history of the Earth, as well as a guideline for the solution to difficult problems such as population explosion, environmental crises and so forth by conducting the most advanced experiments of life and information science.

<Examples of theme development>
The universe and earth as imagined by humankind
Future communications and technology
The existence of humankind and Life science

ART OF LIFE

The direction is presented for the people of the 21st century to live active lives, and how to deal with an aging society and develop the creative strength of children is contemplated. For this purpose, various measures are presented to develop various interactions between humanity and nature, and to allow the richness of nature and the vitality of human beings to grow further through fine art, performing art and lifestyle habits throughout the world.

<Examples of theme development>
Living cultures coexisting with nature
Arts that have been inherited throughout the ages
Technology and ethics: the past and the future

DEVELOPMENT FOR ECO-COMMUNITIES

To make use of new energies and recycling technologies, grasp the direction of life and the urban foundation to use resources efficiently, pursue the ideal balance between development and the environment, and, at the same time, try to restore the environment, all for the purpose of presenting eco-communities of the 21st century.

< Examples of theme development>
Development, preservation of nature, and environmental restoration in the 21st century
Proposals for building a global-scale social system based on recycling and energy conservation concepts
Proposals for lifestyles for a new "global citizen" based on recycling and energy conservation concepts

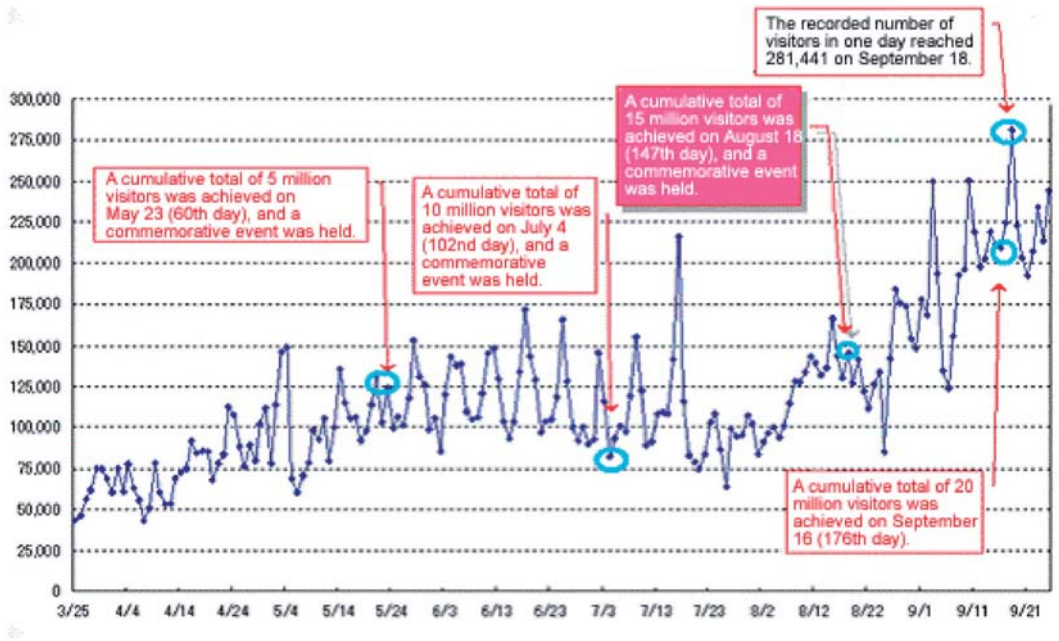
Source: "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)"; Brochure of the EXPO 2005 Association "EXPO2005 - Efforts for the Environment"

2. Outline of the Exposition

■ Period in session	:March 25 - September 25 (185 days)
■ Venue	:In the hills in the eastern part of Nagoya (Nagakute Town / Toyoda City; Seto City) Nagakute Area: Approx. 158 ha Seto Area: Approx. 15 ha
■ Number of visitors	:Number of visitors: 22,049,544 (Target number of visitors: 15,000,000)
■ Main participants*	:Official participants (countries and international organizations): 125 which are 121countries (including Japan) and 4 international organizations Government of Japan; Aichi Prefecture, Nagoya City, and 9 Prefectures in the Chubu Zone (joint participation in the exhibition) Private exhibitors (private enterprises / organizations): 9
■ Project cost	:Approx. 370 billion yen (Total of site construction cost, operation expenses, cost of exhibition by participants, etc.)

2-1 Outline of the Exposition and Assessment of its Achievements

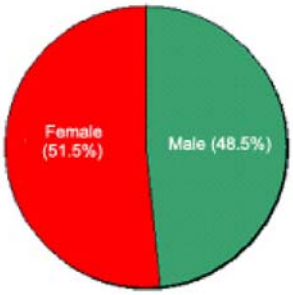
State of the number of visitors



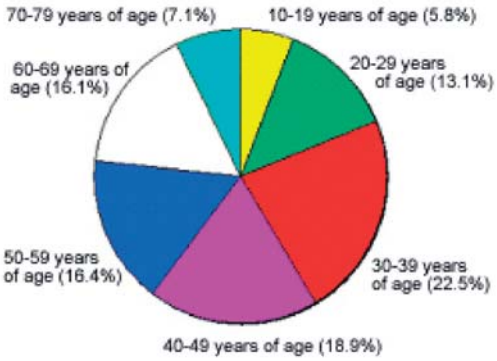
* Annex: For official participants, refer to "Reference Material 1: List of Concepts, Themes, etc. of Official Participating Countries / International Organizations"

■ Total number of visitors :22,049,544 (in 185 days: from March 25 to September 25)
■ Number of visitors in one day :Largest number: 281,441 (Sept. 18)
Smallest number: 43,023 (March 25)
■ Number of visits by visitors :Those who visited for the first time and repeaters accounted for more than 60% and slightly less than 40%, respectively.
■ Regional distribution of domestic visitors
:Those from Aichi Pref. accounted for approx. 44%; Zones on the list with a high number of visitors: Chubu Zone; Kanto Zone; Kansai Zone)
■ Percentage of foreign visitors : 4.6% Countries on the list with a high number of visitors: Taiwan; South Korea; the U. S.; China

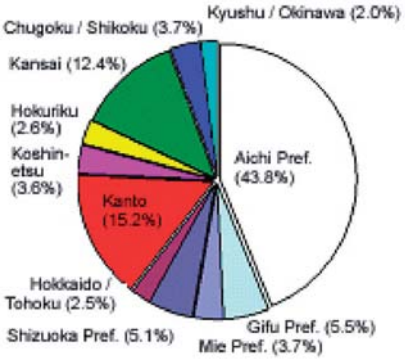
[By sex]



[By age]



[Regions of residence of visitors]



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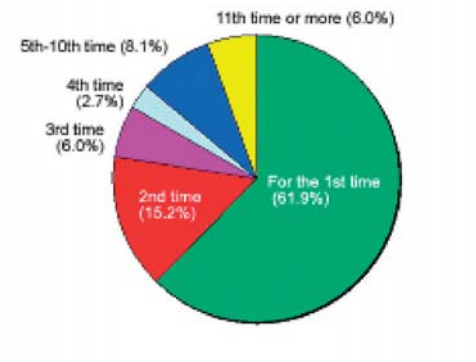

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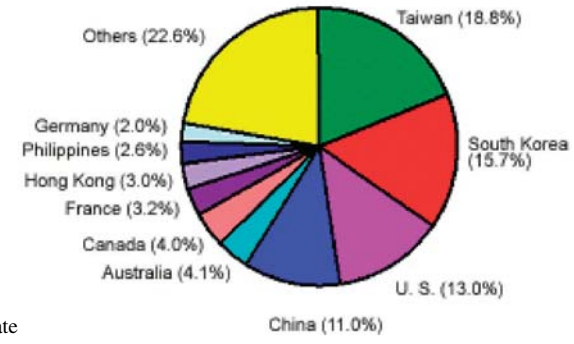


* Result of on-the-spot survey at the gate

Assessment as an International Exposition

- It is understood that "Nature's Wisdom" presented as the theme by EXPO 2005 AICHI, JAPAN calls for creating a sustainable society, and learning humbly from natural law. It is considered to be a significant achievement that this was concretely expressed as follows.

- Firstly, it has been demonstrated that state-of-the-art technology contributes to the solution of issues of global importance. Visitors saw at many places in the site the new electric energy generation system making use of fuel cell power generation using trash generated by themselves within the site and photovoltaic power generation. They had meals at eating and drinking venues using tableware made of biodegradable plastics (biomass) created by new environmental technologies. These most advanced technologies will be put to practical use in the near future to play a very important role in solving issues of global importance.

- Secondly, new social actions and social systems, giving consideration to nature and the environment were adopted / practiced within the site, with the aim of reforming the awareness and lifestyle of people. Visitors experienced the separation of trash into 9 categories at the site as well as exchange with eco-goods for EXPO Eco Money, a kind of pseudo-money with points accumulated as they took actions that gave consideration to the environment, for example, not using a plastic shopping bag, and donating to the activities for forest protection such as tree plantation.

- Thirdly, a sense of solidarity was fostered for solving issues of global importance. Visitors to EXPO 2005 AICHI, JAPAN should have experienced the sense that they were living together with many people of the world with diverse cultures, nature and histories through not only the appreciation of exhibited articles, but also direct interaction with people from different countries, sensing a strong unity and bond in cooperating and bringing together the wisdom required for solving issues of global significance.

- Lastly, the participation of volunteers, NGOs and community-based organizations engendered in each one of the visitors a feeling that there are things that they can do to solve such issues of global importance. Another achievement of EXPO 2005 AICHI, JAPAN is that many visitors were able to learn that there are people around them who are already engaged in voluntary and nature-protecting activities, and to realize that they can take part in similar activities, by observing volunteers put in a lot of effort to help in the separation of trash and attend to the disabled and others for moving around and viewing the exhibition of NGOs / NPOs under the theme of such nature-protecting activities.

2-2 Main Process to the Holding of the Exposition

Year / Month		Particulars
1988	October	Promotion of the idea of holding an international exposition at the beginning of the 21st century was agreed upon at the local level.
⋮		
1990	February	Aichi Prefectural Government selected the southeastern part of Seto City as the appropriate site for an international exposition.
⋮		
1994	June	The 21st Century World Exposition Promotion Committee (Aichi Prefecture, Nagoya City, Local Business Community and so forth) announced the idea of designating the southeastern part of Seto City (approx. 650 ha) as the site area.
1995	December	In filing the application for holding the exposition with the International Exhibitions Bureau (BIE), a change was made to the originally planned site to conserve this area that is home to a rare collection of species from the perspective of giving consideration to the environment (approx. 540 ha site area), and the application for holding the exposition was approved by a cabinet meeting of the government. The policy was confirmed on various points including "Consideration shall be fully paid to the conservation of the natural environment at the candidate site in establishing the site area, organizing the site and materializing the use plan, and, at the same time, efforts shall be made to reach further agreement on such points including how to deal with the environmental issues at the candidate site, through continuous dialogues, exchange of opinions and so forth at the local level. In addition, environmental impact assessment shall be properly conducted in holding this exposition."
1996	April	The government filed an application for holding an international exposition in 2005 with BIE.
1997	June	It was decided at the General Assembly of BIE to hold an exposition in Japan.
	October	Japan Association for the 2005 World Exposition was established.
⋮		
1999	February	"EXPO 2005 AICHI, JAPAN - Environmental Impact Assessment Preparatory Note" was published.
	July	Among other things, confirmation of northern goshawks' nest building within the candidate site led to the commencement of the study to utilize the Aichi Youth Park as a measure for environmental conservation.
	September	The proposed site plan study with the project area including the Aichi Youth Park was published. (Kaisho Area - approx. 540 ha; Aichi Youth Park - approx. 200 ha; Science and Technology Center Area - approx. 20 ha)
	November	"EXPO 2005 AICHI, JAPAN - Environmental Impact Assessment Report" was published.
	November	Consultation with Chairman Phillipson and Secretary-General Loscertales of BIE on operational affairs: Consultation was conducted, aiming at the formulation of a site plan that can realize "Nature's Wisdom," based on the BIE's opinion that "It is desirable that the content of the exposition suits its theme, including the use of the land after the exposition."
2000	February	The Minister of Economy, Trade and Industry and the Governor of Aichi Prefecture met and agreed "to forego the registration at the General Assembly of BIE in May and aim for the approval in the next session of the BIE General Assembly."
	April 4	In the tripartite meeting among the Minister of Economy, Trade and Industry, the Governor of Aichi Prefecture and the Chairman of the Japan Association for the 2005 World Exposition, agreement was reached on the basic direction for the modification of the plan of the long-term area organization project including the reduction of the Kaisho Area and abandonment of a new residential project.
	May	The Council for the Examination of EXPO 2005 Aichi (focused on the Kaisho Area) was established.
	July	Agreement was reached on the proposed new Kaisho Area organization plan at the meeting of the Council for the Examination of EXPO 2005 Aichi.
	September	A decision was made at the cabinet meeting regarding the registration to BIE, the government filed an application for the registration with BIE, and the registration was approved (for the site area - approx. 173 ha; area for exhibition / events - approx. 10 ha) in December.
2001	February	The basic principles for the project of EXPO 2005 AICHI, JAPAN were published.

Year / Month		Particulars
2001	July	The basic framework of EXPO 2005 AICHI, JAPAN was put in order, based on the basic principles in relation to the project of EXPO 2005 AICHI, JAPAN, and, at the same time, a group of producers (3 executive producers; 3 chief producers) was organized to commence materialization of the site plan.
	December	The "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" was published.
2002	June	"EXPO 2005 AICHI, JAPAN- Environmental Impact Assessment Report (Revised Report)" was published.
	October 17	Ground-breaking ceremony Civil engineering work: October 2002 - September 2003 Construction work: September 2003 - March 2004
2003	September	Commencement of the advance admission ticket sales of the first period
2004	January 15/16	Delivery of the lots to enterprises and other exhibitors in the pavilions
	September 14	Delivery of the pavilions to official participants
2005	March 25	Opening of EXPO 2005 AICHI, JAPAN - September 25
	September 26	Commencement of the work for dismantlement and removal - End of September 2006 (scheduled)

Opening Ceremony (March 25, 2005)

Closing Ceremony (September 25, 2005)

3. Outline of the Exposition Site

The site of EXPO 2005 AICHI, JAPAN is located in a typical hilly area in the eastern part of Aichi / Nagoya. The site is broadly divided into the Nagakute Area, which had previously been used as the Aichi Youth Park (opened in 1970), and the Seto Area located in the Kaisho Forest, where the natural environment is now being restored after the many years of devastation incurred by the felling of trees and so forth, followed by subsequent forestry conservation and tree plantation.

It has been conducted in accordance with the Master Plan of the 2005 International Exposition in Japan (Aichi Expo), put together in December 2001, how to make use of the two areas as the exposition sites and the kinds of facilities that need to be constructed.

3-1 Consideration Given to the Environment in Organizing the Site

In EXPO 2005 AICHI, JAPAN that presents "Nature's Wisdom" as its theme, the concept of "environmental conservation" is incorporated in the site design itself.

Firstly, the construction of the site was advanced, conserving the natural environment and making effective use of the land features.

For this purpose, it was designed such that the district's richness of nature and the forests were maintained in both the Nagakute and Seto Areas.

In the Nagakute Area, construction was conducted, making use of the land features and facilities of the Aichi Youth Park, and the site was designed with a view to restoring the park once the exposition had ended. In the Nagakute Area, the scattering around of developed land lots such as existing playgrounds, the differences in elevation reaching 40 meters, areas where rare animal species live, and so forth were viewed as problems. To deal with such problems, the original land features were made use of, leaving forests and ponds as they were and constructing the "Global Commons" on the baseball grounds, tennis courts, etc. In addition, the existing facilities such as the indoor pool and children's house were kept as they were for use as facilities on the site.

Upper photo:Before the site was organized.
Lower photo:After the site was organized.

Pavilions composed of modules

In addition, importance was attached to the environment, allowing the command of a panoramic view of the site, barrier-free agreeableness and safe enjoyment, while the "Global Loop" was constructed as the main route connecting various facilities on the site.

In the Seto Area, facilities were placed so that streams were kept intact to conserve the natural environment. In addition, much thought and effort were put into the structure and construction method of the Japan Pavilion Seto and Aichi Pavilion Seto so as to avoid altering the original land features as much as possible.

Secondly, the 3Rs or "Reduce," "Reuse" and "Recycle" were promoted.

In the first place, with respect to "Reduce," adjustment was sought in negotiation with landowners to use existing buildings or to keep as many facilities as possible after the end of the exposition. With regard to "Reuse," structures and materials easily dismantled / reused were adopted, starting in the designing stage. In addition, various devices were introduced at pavilions, including the adoption of the "module formula" for the facilities for official participants. With respect to "Recycle," recycled materials were used positively, and improvement in the recycling ratio was sought, by fixing the target value for such recycling ratio for the waste from buildings at the time of dismantlement and removal.

3-2 Particulars of Main Facilities

Nagakute Area

This was the site where visitors could experience the past and future of the Earth, traditional arts and the most advanced technologies, cultures and festivals of the world and rich global interaction. The site was composed of the "Global Commons (pavilions of foreign countries)" and the "Global Loop (aerial corridor)" providing a basic framework to realize "Grand Intercultural Symphony."

Schematic diagram of the Nagakute Area

◇ Global Loop

This was an aerial corridor, about 2.6 km long and about 21 m wide, on which one could circumnavigate the Nagakute Area on almost the same level. This was the main visitor route for visiting facilities successively, set up to fit in with the natural land features, eliminating steps and so forth to create a corridor with a barrier-free structure. For the confort of visitors, recycled organic wood (a combination of wood chips and plastic waste) was placed in the center of the Global Loop over a width of 6 meters, while eucalyptus material for afforestation from Brazil and thinned wood from Aichi Prefecture were used at both ends.

Global Loop

A Global Tram with an advanced intra-site traveling system, and bicycle taxis ran on the Global Loop.

◇ Global Commons

This was an integrated space composed of the pavilions of official participating countries (120) and international organizations (4) as well as the plaza, serving as the stage for realizing "Grand Intercultural Symphony", transcending the differences among countries and cultures. It was composed of 6 Global Commons, one for each region based on a continent, each connected to the others by the Global Loop.

Global Commons	Region	Number of participating countries and international organizations
Common 1	Asian countries except those in Southeast Asia	17 countries
Common 2	South / Central / North American countries and international organizations	17 countries 4 organizations
Common 3	South European / Mediterranean coastal countries	13 countries
Common 4	North / East and other European countries	21 countries
Common 5	African continental countries except Mediterranean coastal countries	30 countries
Common 6	Southeast Asian / Oceanic countries	22 countries

* Refer to the "List of Concepts, Themes, etc. of Official Participating Countries / International Organizations" at the end of this paper for the concept / theme of each pavilion.

Incidentally, in addition to the pavilions of foreign countries, the "EXPO Eco-Money Center" set up a booth in Common 3, and in the "NEDO Pavilion" in Common 5.

◇ Central Zone

This was the zone, located at the center of the site, where the theme of the exposition and large-scale interaction among spectators were produced.

■ EXPO Plaza

This was the communication plaza where visitors had direct contact with people and cultures from the different countries of the world through global-scale interaction with such people, using information and communication technologies and digital image technologies as well as events held in the plaza, and actually experienced the concept of "Grand Intercultural Symphony" presented by EXPO 2005 AICHI, JAPAN.

Within the plaza, interaction among people of the world took place, and various events were held on the stage, using the most advanced information / communication / broadcast infrastructures such as large-sized image devices.

EXPO Plaza

[Examples of events]

The Forest Fairy's Ball

A new integrated art drama to express inaudible voices and invisible entities of the forests, and to convey messages from nature, through parades and dances staged by fairies and spirits, using computer graphics.

"Merry EXPO"

Under the password, "A smile is the best form of communication across borders," "smile messages" from people all over the world were collected and transmitted to the world.

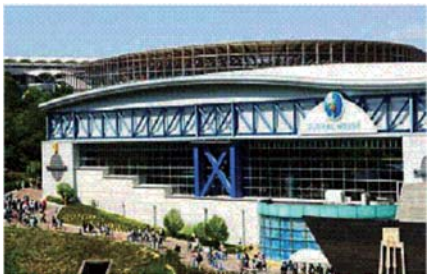
■ Global House

Global House is a thematic pavilion of EXPO 2005 AICHI, JAPAN.

Under the majestic theme of an ideal Earth and humanity in the past, present and future, the history and future of the Earth was presented through beautiful images conveyed by cutting-edge technology and precious exhibits of the world.

The numerous valuable objects exhibited were collected from every corner of the world, including the mammoth that was allegedly wiped out of existence because it was unable to endure the radical changes of the environment. In particular, the emergence of a frozen mammoth may be interpreted as a critical message to warn us of the dangers of global warming that is advancing rapidly at present.

• The world's first super-fine image system
This advanced clarity next-generation image / audio system far surpassing film presented a wide image of the Universe and the Earth as well as the beauty of life on a 600-inch screen with live coverage.
• The world's largest super-wide seamless screen
Brilliantly-colored images with tremendous impact were presented on the world's largest super-wide and super-fine screen at a scale of 2005 inches (10 x 50 meters).
• Exhibition pavilions with collections of the treasures of the world
Treasures were collected from all corners of the world, and exhibited as the gifts from us, mankind, to the Earth under the theme of universe / life / civilization / future / technology as well as dreams etc., making use of IT technologies, such as the cutting-edge communication system and center light system.



Global House

Frozen mammoth

■ Bio Lung

Global House is a thematic pavilion of EXPO 2005 AICHI, JAPAN.

Under the majestic theme of an ideal Earth and humanity in the past, present and future, the history and future of the Earth was presented through beautiful images conveyed by cutting-edge technology and precious exhibits of the world.

The numerous valuable objects exhibited were collected from every corner of the world,

Bio Lung

■ The Koi Pond

This small reservoir was located roughly at the center of the Nagakute Area, and was left as it was without changing the original land feature. "In the Evening at Koi Pond" events were held, presenting enjoyment and excitement to people of all ages.

◇ Japan Zone

As the site for strongly promoting Japan's contribution to the global age and, at the same time, transmitting integral information on Japan's attractions, it was constituted of the facilities of the Japanese Government (Ministry of Economy, Trade and Industry), Aichi Prefecture, 9 prefectures of the Chubu Region (Toyama, Ishikawa, Fukui, Nagano, Gifu, Shizuoka, Aichi, Mie and Shiga Prefectures) and Nagoya City as well as the Japan Plaza where various events were held.

■ Japan Pavilion Nagakute

This was a pavilion totally covered by a bamboo cage in which the crisis confronting the Earth and, at the same time, the splendor and potentiality of the Earth were experienced with reality, while searching for the "Ties with Nature," and making use of wisdom and technology.

■ Aichi Pavilion Nagakute

The mechanism of new industries with the main emphasis on the environment was transmitted through the traditional art of the home province and state-of-the-art technology.

■ Chubu Community for Millennial Symbiosis

Under the theme, "To make goods sustainable for 1,000 years," an exhibition was provided for passing on a prosperous society.

■ Earth Tower Nagoya City Pavilion

The theme, "Heart of Japan, Life of the Earth" was expressed through the largest kaleidoscope in the world, musical instruments located outside the building, hanging lanterns covered by paper cutouts and so forth.

◇ Corporate Pavilion Zone

This was composed of Corporate Pavilion Zone A and B (4 and 5 organizations) on the western and eastern side of the North Gate, respectively.

Exhibiting Enterprises / Organizations

Installation Zone	Category	Name of Enterprise / Organization
Corporate Pavilion Zone A	Individual Pavilion	The Federation of Electric Power Companies of Japan
		Central Japan Railway Company
		Japan Automobile Manufacturers Association, Inc.
		Joint EXPO 2005 / Mitsubishi Committee
Corporate Pavilion Zone B	Individual Pavilion	Toyota Group
		Hitachi Group
		EXPO 2005 Mitsui Group Exhibitors Committee
		The Japan Gas Association
	Joint Pavilion	Committee for the Joint Pavilion Produced by the Chunichi Shimbun

◇ Forest Experience Zone

In this zone, the intimate relationship between humanity and nature was rediscovered, making use of a district occupying about almost half of the exposition site, where nature was left in its original state. In addition to the "Forest Nature School" and "Satsuki and Mei's House," the Japanese Garden provided a place for peaceful strolling, and various exhibitions (ECO LINK, etc.) were presented.

■ ECO LINK (Presentation by Ministry of the Environment)

The Ministry of the Environment presented an exhibition to provide a cue for each one of us to start doing whatever possible on an individual basis to protect this beautiful earth.

■ Environmental Assessment Showroom

The outline of the environmental impact assessment conducted for EXPO 2005 AICHI, JAPAN and measures for environmental conservation as well as a video showing how "honey buzzards" built nests and then left them around the site during the session and so forth were presented.

■ Satsuki and Mei's House

Satsuki and Mei's house that appeared in "My Neighbor Totoro" was reproduced in the forest. Programs allowing visitors to experience a slow lifestyle were presented.

ECO LINK

Satsuki and Mei's House (c) Nibariki

◇ Interactive Fun Zone

This was established in the northwestern part of the Nagakute Area as the zone in which visitors could enjoy learning about various problems in relation to the environment, peace and so forth facing the earth through interaction and playing with various people.

■ Morizo & Kiccoro Exhibition Center

This center was built as a time-share pavilion where a series of limited-time programs were presented in succession.

Various events from "Craftsmanship Land Symphonia" to "EXPO 2005 AICHI, JAPAN - Morizo & Kiccoro Exhibition Center Final Event" were held throughout the session.

■ Global Citizens' Village

This pavilion was operated by NPOs / NGOs who gathered together under the concept, "First NPOs / NGOs for you," for the first time in the history of Expo. Every month, 5 units of NPOs / NGOs working actively within / outside Japan, or 30 units of about 100 organizations in total during the entire session made presentations. The organic garden adopting an environmental recycling system and the natural food caf_ were also built.

■ Wanpaku Treasure Island

This was a pavilion specially designed for grade school children and family visitors, where they were able to enjoy learning from the exhibition, while experiencing the mechanism of food digestion, making paper from banana stalks stems etc.

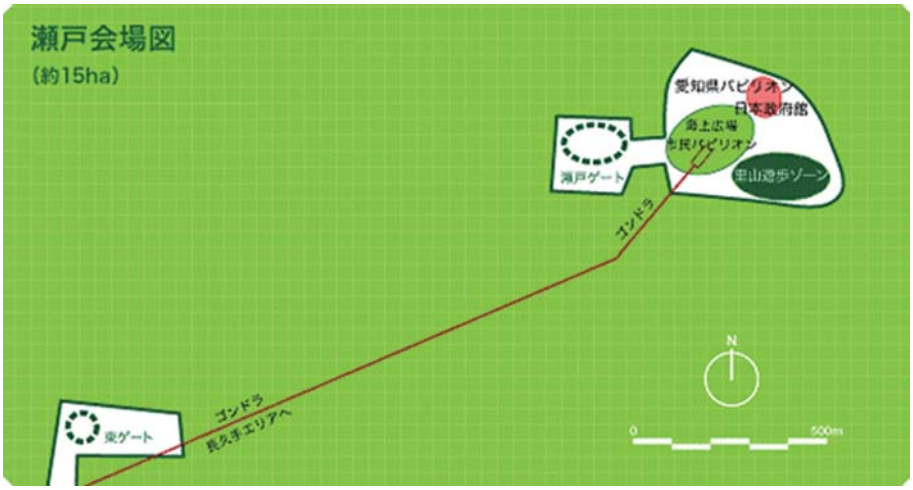
■ Growing Village

The precious experience of the wonder of life, peace of nature and so forth were provided through contacts with nature. Tree climbing and so forth were conducted.

Seto Area

The Seto Area was the basis for conceiving EXPO 2005 AICHI, JAPAN. It was also a new place for new interaction between nature and humanity with the participation of citizens, while also coming into contact with the rich culture of satoyama (a woodland area close to the human habitat that has served to provide for the local community).

In constructing the Seto Area, much consideration and thought were put into the design and construction to prevent destruction of the natural beauty of satoyama as far as possible. In addition, quercus serrata trees found at the construction site were replanted in the Aichi Pavilion Seto for exhibition as the symbol of satoyama.



■ Japan Pavilion Seto

As the facility of presentation by the Japanese Government, the "Wisdom, Art and Heart" of Japanese people living together with nature, passed on from our forefathers was presented through group recitation, epic drama, etc.

■ Aichi Pavilion Seto

A place was created here to reconsider the interaction between humanity and nature with excitement through the characters of various creatures.

■ Civic Pavilion

This was a round building about 42 m in diameter, consisting of the "Dialogue Theater" with capacity for 400 people (on the 1st floor), the 330 m_ "Dialogue Gallery" (on the 2nd floor) as well as commercial facilities and rooftop garden (on the 3rd floor).

The practical efforts of citizens engaged in activities and dialogues on the stage with invited guests were presented.

■ Kaisho Plaza

This was a circular plaza, about 80 m in diameter, composed of the outdoor stage with capacity for about 300 people and the workshop space.

Workshops in which citizens can take part on the spot, and landscaping produced by such participating citizens were held.

Kaisho Plaza

■ Welcome House

In grounds with an area of 400 m_ in front of the Seto Gate, an artificial hill (mountain) and pond (water) as well as a bungalow (150 m_) built entirely from wood were constructed to produce the flavor of Seto's satoyama while promoting the importance of nature at Kaisho.

A "Civic Broadcasting Station" operated by citizens to present civic projects and so forth as well as a cable television studio were also established.

■ Satoyama Trail Zone

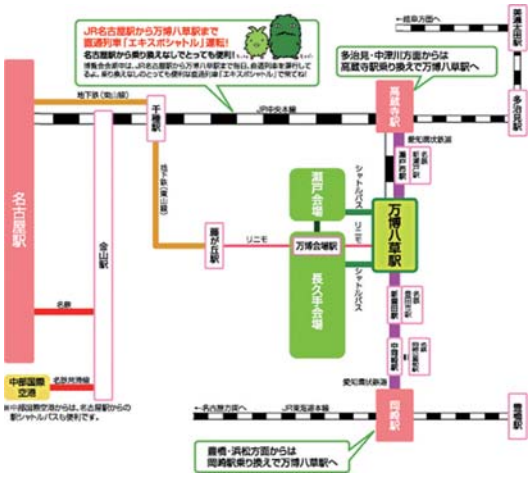
Making use of an area occupying about half of the site, programs of hands-on experience were implemented, to promote contact with soil and trees in the midst of the natural scenery of satoyama unique to Japan with old kilns, copses, etc. Many people took part in programs in this place to learn the mechanism of excellent environmental symbiosis possessed by satoyama, the wisdom and techniques of our forefathers, etc. through the experience of the natural environment of satoyama.

4. Transit of Visitors

4-1 Access by Visitors

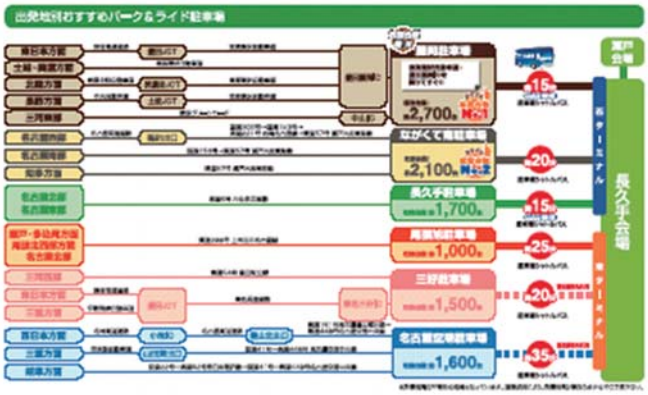
In order to reduce the burden on the environment around the site and the impact on the surrounding areas created by the exhaust gas from private cars and traffic congestion, a transportation system with little burden on the environment, consisting mainly of public transportation was planned by combining the railway and shuttle bus or otherwise. The Park and Ride system was implemented, in which parking areas located at 6 places at distances ranging from several to 30 km from the EXPO site were organized for private cars whose passengers used the shuttle buses from each parking area. In addition, a shuttle bus service from major railway stations to the EXPO site was operated.

Access to EXPO Site



Access to EXPO Site by Railway

Railway Map



Park and Ride Parking Areas

Aichi Loop Line

Linimo

Park and Ride Parking Areas

4-2 Transit within the Site

For transit within the Nagakute Area, a futuristic traffic system friendly to the environment was introduced, which reduces the transit burden and makes the transit itself a pleasant experience, in addition to the walking environment based mainly on the Global Loop.

IMTS, trams and so forth were introduced for moving around within the Nagakute Area, as well as a shuttle bus using fuel cells and a gondola for the traffic between the Nagakute and Seto Areas, as the means of transit full of productive effect and comfort.

◇ IMTS: Intelligent Multimode Transit System

A low pollution-type transit system with an unmanned bus using cutting-edge technology, which ran between the area near the North Gate and the EXPO Dome, was introduced as one of the means of transit within the Nagakute Area

IMTS

◇ Fuel-Cell Bus for Transit between the Two Areas

As the means of transit between Nagakute / Seto Areas, a shuttle bus powered by fuel cells using hydrogen as fuel was operated. This was a vehicle friendly to the environment with low noise / vibration, discharging water only.

Fuel-cell bus

◇ Tram and Bicycle Taxi

The electrically-driven tram played an active role as a safe and comfortable supplementary means of transit. In addition, a bicycle taxi assisted by electric power and electrically-driven carts were introduced as the means of transit within the site.

Global tram

Bicycle taxi

Electrically-driven cart

◇ Gondola

The gondola was operated on 2 routes, to facilitate transit within the Nagakute Area (Kiccoro Gondola) and between the Nagakute and Seto Areas (Morizo Gondola). The gondola was white, avoiding the use of primary colors, to prevent any adverse impact on northern goshawks.

Gondola

5. Exhibition Pavilions

Examples of themes / concepts and exhibitions as well as events in pavilions are introduced below. The results of planning and implementation of activities unique to each pavilion in accordance with the "Environmental Conservation Guidelines" of II-3-4 are also presented.

5-1 Pavilions of Official Participating Countries / International Organizations

In the pavilions of foreign countries, each of the official participating countries adopted themes / concepts aiming at emphasizing the importance of global environmental problems etc., from the viewpoint of the spirit of the "Development for Eco-Communities," one of the sub-themes of EXPO 2005 AICHI, JAPAN. In addition, efforts for conserving the environment were made within the pavilion in various aspects including 1) exhibition techniques to express the interface between the environment and cutting-edge technologies etc., 2) reuse of exhibits and 3) environmentally-friendly design / operation including barrier-free measures.

Here, the contents of statements of the following official participants who sent in reports, wishing to have them included in this report, were extracted from among the examples of pavilions of foreign countries in which consideration was given to the environment.

- ○ Common 1: Republic of Uzbekistan (Central Asia Pavilion), Bhutan Pavilion
- ○ Common 2: Canada Pavilion, Mexico Pavilion
- ○ Common 3: German Pavilion, Morocco Pavilion, Jordan Pavilion
- ○ Common 4: Austoria Pavilion, U. K. Pavilion, Switzertand Pavilion, Polish Pavilion, Russian Pavilion
- ○ Common 5: (Africa Pavilion) Republic of Kenya, Democratic Republic of Sao Tome and Principe, Republic of Zimbabwe, Republic of Senegal, Republic of Benin, Republic of Madagascar
- ○ Common 6: Indonesia Pavilion, Singapore Pavilion, Thai Pavilion, New Zealand Pavilion

◇ Republic of Uzbekistan, Central Asia Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

According to official theme of exhibition _Wisdom of Nature_, the exposition of the Republic of Uzbekistan highlighted following issues for discussion of many millions visitors of the EXPO 2005:

- Preservation of biological diversity in region and country's steady development planning.
- Harmonious use of nature and first of all reasonable use of water - a major factor of life for droughty region.
- Artificial irrigation of the grounds.
- Environmental issues of region related with drying of Aral Sea.
- Realization of programs regarding saving the Aral Sea and reducing the negative consequences of this ecological disaster.
- Appeal to world community for environmental issues of region on basis of that ecological disasters have not the borders. Issue of Aral Sea became general planetary and affected on biological balance and geno-fund of population in extensive territories.
- Wealth of mineral raw resources of region and their reasonable use.
- Construction of traditional lodging with usage of earthquake-proof natural materials.
- Preservation of ancient and high traditions of artistic wares' manufacture from natural materials (metals, trees, ceramics, alabaster, natural fabrics, natural dyes) in the country.
- Revival of the Great Silk Road on crossroads of which ancient civilizations settled down. There is a harmonic combination of thematic contents with forms and methods of display in exposition.

2. Display in the pavilion to promote environmental awareness

The most important issue of environment not only region, but all the world - issue of drying Aral Sea was highlighted in part of exposition _Water resources_. The geographical information (tragedy in figures) in English and Japanese languages, and as well photos made from space during different periods of time were the eloquent proof of largest ecological disaster caused by results of human activity.

The Aral crisis - one of the largest ecological and humanitarian disasters in history of mankind, under its influence appeared nearby 35 millions of people, living in pool of the sea.

Scales and complexity of the problems connected to drying the sea and desertification of region demand the complex and diversified approach and development of cooperation of the states of region with the international community.

The Republic of Uzbekistan strains all efforts in coordination with the international organizations, the states of the Central Asia and other countries in realization of the program regarding saving Aral Sea reducing the negative consequences of this ecological disaster.

For last years Japan also shows itself as an active and interested participant in solution of ecological problems of our region.

Considering thematics of EXPO, besides the Aral problem, issues of harmonious use of nature as well ran through all exposition.

So the feature of country's exposition showing appearance of ancient city on the Great Silk Road was that all its components made of natural materials and architectural facilities erected in a real size. Such natural materials as various kinds of tree, clay, gypsum were used.

One of exposition's parts displayed fragments of constructing traditional lodging with usage of earthquake-proof natural materials.

Uzbekistan like as Japan is situated in earthquake-proof zone and so that traditional methods of lodging construction were worked out. The light natural materials i.e. wood carcass made of local fast-growing varieties of trees - poplar and materials for walls - dried bricks made of clay and covered with clay, thatch and reed roof were used for this construction.

Walls framing the exposition were sample of fortifications of medieval city on the Great Silk Road. In their finishing it was used construction material traditional in region called as saman consisting of clay and thatch.

As well there was an ancient water-elevating facility in part "Water resources". Water-elevating facility - "Charkhpalak" reduced consumption of water on 40-60%, than in self-flowing. Besides danger in salting the grounds decreased, crops raised, more compact and rational organization of harvesting became possible.

Ceramic landscape map of the Republic of Uzbekistan (size 18 m x 3 m) with light was mounted at entrance of national exposition. Relief of area (mountainous, plain, sandy and gypsous deserts, saline soil), surface waters (lakes, rivers, channels, glaciers), irrigation facilities, motorways, animals and plants typical for region, big cities (with samples of ancient architectural masterpieces and modern symbols), minerals (conventional signes) were marked by volume on the map. Its location at entrance of exposition enabled both to examine map in detail on site (entrance of exposition) and to have a panoramic view from upper level of hall.

There were mineral raw resources, natural construction materials, agricultural crops, medical grasses, spices on the background of country's map. Thus, all gifts of the generous fertile Uzbek.

Moreover the exposition showed:

- National clothes of regions for republic made of natural hand-worked fabrics with use of natural dyes. The fabrics and cut of clothes ideally conform to climate of country, customs and ways of people's life.
- National stove (tandyr) for baking national bread - flat cakes (Uzbek bread) is used up to present in the home of inhabitants of country. The stove is made of clay. Dry twigs, cut off rods of vineyards and other wastes of vegetable origin could be used as fuel for stove.
- Wide spectrum of silk fabrics including fabrics of hand made with use of natural dyes.
- Folk and applied art's wares made by national masters from natural materials according to traditional ancient technologies and wares of crystal (24% Pb), color glass, porcelain, carpets silk hand made with use of natural dyes, wide spectrum of cotton and woolen fabrics as well.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

All elements of national exposition and each exhibit as well were accessible to studying by visitors of exposition. Everything was possible to touch, to approve operations and qualities. Foodstuff, drinks, dried fruits, national sweets could be tasted on a site. Besides samples of products, souvenirs and CDs, booklets, brochures, books as well telling about country and covering issues of EXPO's thematics.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Feature of exposition is that all its components were made of the natural materials (various kinds of tree, clay, gypsum) brought from the Republic of Uzbekistan. Some parts of wooden constructions for exposition of the Republic of Uzbekistan reexported to country for further processing or reusing.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Some parts of wooden constructions for exposition of the Republic of Uzbekistan reexported to country for further processing or reusing.

The remained elements of exposition underwent utilization without detriment to environment of country as they made of ecological friendly natural materials: gypsum (chalk), tree, cotton fabric, clay. Technical means involved in the course of work of exposition (elevator, air-conditioners) were transferred for reusing.

◇ Bhutan Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

Theme: Art of Life

Environmental Initiatives: To showcase living in harmony with nature, culture, history, philosophy, development paradigms, art, architecture etc of Bhutan to the rest of the world.

2. Display in the pavilion to promote environmental awareness

Exhibition: Exhibited are a traditional wooden cantilever bridge symbolizing Bhutan's friendship and linkage with rest of the world, a silk appliqu_ work, a Buddha seated on a lotus throne made of clay, measuring 6 feet, a victorious sacred abode, a wall of smiles reflecting Gross National Happiness (GNH), photographs and paintings, introducing Bhutan's nature, living culture and philosophy.

Some unique rural products made from wood and bamboo, traditional hand woven textiles and handicrafts produced and delivered by the local artisans and artists were on display along with some selected stamps and postcards on Bhutan.

The above display and exhibit item promotes to convey, the Nature's Wisdom. In the environment front, Bhutan stands as an example-a Nation which continues to live in harmony with nature. The daily lifestyles of the people evolve around strong cultural and Buddhist values deeply associated with nature. According to Buddhist philosophies, the mountains, rivers, streams, rocks and soils are believed to be the domains of spirits thereby inculcating respect and interdependence among all life forms.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

The following were the initiatives taken by the Bhutan Pavilion to enrich visitor experiences at the pavilion:

- Written explanations in both English and Japanese languages were developed for each exhibit displayed in the pavilion to communicate the importance and the messages associated with the exhibits.
- The lighting and music system in the pavilion were improved to enrich the exhibits for visitors.
- The exhibits inside the pavilion were displayed in such a manner so as to allow the visitors to move freely and observe the exhibits from a close distance.
- Japanese volunteers who have worked in Bhutan before and have experience and knowledge of Bhutanese culture helped to guide and interpret the exhibits to the Japanese visitors in the pavilion in addition to the Bhutanese staff.
- A visitor management system was followed in order to avoid over crowding in the pavilion especially during weekends and holidays when there was a large number of visitors.
- Pavilion brochures and information booklets on Bhutan were distributed to the visitors to help them know more about Bhutan.
- A security team was in place to oversee the security of the visitors and the pavilion.
- The visitors were given easy access to the pavilion

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

The Bhutan Pavilion did not have any food stall or restaurant; as such there was no problem of waste disposal such as edible items and plastic packages generated.

Items for sale were handicrafts and rural products made of biodegradable products such as bamboo products and wooden items.

5. Reused interior materials / exhibits and the organization which was donated or transferred

There was no waste of exhibit items as all the items were resold to interested purchasers after the Exposition. As such there was no wastage or any environmental impacts seen in the case of Bhutan pavilion.

The Main wooden structures viz Rabsel, Nangyel Khangzang and the image of Buddha in clay was sold to Mr. Ryouzo Higuchi a dentist who's address is Shiratsuka-cho, Tsu City, Mie prefecture, Japan. He is reconstructing and conserving them in properly built enclosure.

The wooden cantilever traditional bridge was presented to Dr. Hirayama Ryoji from the Tsukuba Botanical garden, national Science Museum which will be a kept as part of their exhibition on Bhutan to be held in 2006.

◇ Canada Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

Policies:

1) Pavilion theme was "Wisdom of Diversity" - which included the message of how Canadians respect and protect diversity in culture and in nature (ecology)- this was to be reflected in the Pavilion presentation and programming.
2) Pavilion construction respected Japan's and Canada's environmental regulations
3) Efforts were to be taken to recycle Pavilion components.
   The Canada Pavilion submitted five nominations to the Global Eco-tech 100 awards, two of whom were awarded prizes by the Expo Association.

2. Display in the pavilion to promote environmental awareness

The Pavilion presentation showed six Canadians at home and at work - five of these culturally diverse Canadians were worked in jobs related to environmental protection (e.g., educator, scientist). The stairwell to the VIP area was made of a recycled wooden bridge. Of course, recycling bins were used throughout the Pavilion.

Pavilion events in the VIP lounge included:

A - a government-sponsored three-day seminar on Super Efficient Housing (June 14- 16, 2005).
B - a Canada Forestry Industry-sponsored one-day conference to discuss the forestry industry and sustainable forestry practices (June 17, 2005).
C - All Pavilion Directors and senior managers from the Expo Association were invited to an information session by Maynards, an action firm specializing in recycling building materials. As a result, several other Pavilions recycled their Pavilion materials.
D - Video-conferences were held between Japanese and Canadian students, who discussed ideas about the environment.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

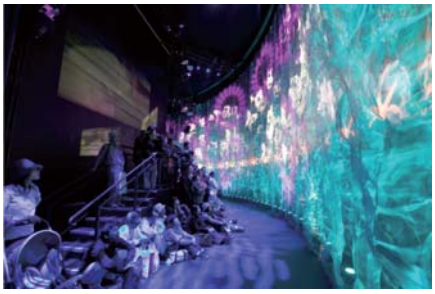
The ground floor was accessible by wheel-chair - with both special line-up and viewing area reserved for those with mobility impairment (To provide access to the 2nd floor VIP area, an elevator was installed).

There were no spoken words in the presentation, to accommodate those with hearing impairments. For those with visual impairments, hosting staff were available to explain the presentation.

4. Reused interior materials / exhibits and the organization which was donated or transferred

CANADA'S EXPO 2005 - RE-USE STRATEGY

1) Maple Leaf Structure: During the six months of Expo 2005, the Canada Pavilion 15-metre maple leaf structure, which could be seen from many points on the Global Loop, was a powerful beacon for Expo visitors due to its prominent position and striking appearance. It served as the background for millions of photographs taken by visitors and as a perfect backdrop for official photos of dignitaries and VIPs from around the world. Following the close of Expo 2005, the maple leaf was installed on a permanent basis in Mississauga Park in Kariya City, Japan, providing a visible and impressive legacy of the Canada Pavilion partnership with Kariya City during the Exposition, as well as supporting a commitment to



respect environmental principles. The relocation was funded completely by Kariya.

2) CyberExplorer Modules: An important component of Canada=s participation in Expo 2005 was the Canada Interactive Network (I-Net), a leading-edge broadband communications platform that enabled virtual exchange between groups of people, allowing them to explore and participate in the themes and experiences of Canada at Expo 2005. This project included the participation of seven institutions across Canada. The foundation of the I-Net was a series of interactive modules called CyberExplorers. In addition to four units set up in the Canada Pavilion, one was installed in each of the partner institutions and was operational throughout the Exposition. All seven partners agreed to retain and operate the CyberExplorer units in their facilities following the close of Expo 2005. As well, all four units from the Canada Pavilion have been placed - one at the Canadian War Museum in Ottawa, one in the Department of Canadian Heritage=s Knowledge Centre in Gatineau and one each at the Kamloops/Thompson School District in Kamloops and its sister school in Gifu, Japan. This educational tool will facilitate cultural exchange through real time capabilities, will enable Canada=s presence at Expo 2005 to continue in a concrete way and will contribute to meeting re-use objective.

3) Furniture to Embassy: At the close of Expo 2005, numerous furniture items, furnishings, kitchen appliances and office supplies from the Canada Pavilion were provided to the Canadian Embassy in Tokyo for use at the Embassy or consulates throughout Japan. This transfer of goods will allow savings on the part of these offices and supports re-use objective.

◇ Mexico Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

Under the motto "weaving diversity", the Mexico pavilion showed the essential link binding nature with man and his culture; allowed the visitor to discover the mesh of life in which natural and human diversity are interwoven, and also to observe and understand the wisdom of nature and the manner in which it is reflected in human beliefs, traditions and interactions.

In each area of the pavilion, successful efforts of conservation and protection of the natural environment were presented on slides, videos and presentation cards.

By means of its architectural design, museum layout and visual and sound atmosphere, the Mexico pavilion aroused amazement and admiration in the face of the wisdom of nature, had a deep impact on the public, stimulated their senses and created awareness of the imperative need to respect biodiversity, cultural diversity and human traditions and interactions.

2. Display in the pavilion to promote environmental awareness

The Mexico pavilion offered visitors a tour through four major ecosystems in which they were able to discover Mexico's vast natural and cultural diversity. The pavilion has been designed in such a way as to enable visitors to become immersed in the ecosystems presented and make a sensory tour that will leave them amazed by the magnificence of nature. The lighting and sound setting have been specially designed to reinforce this impact. The museum layout, made up of images, contemporary works of art, poetry, pre-Hispanic pieces and crafts, shows the impressive natural and cultural mega-diversity of Mexico, a country that is modern but at the same time deeply rooted in its ancestral traditions.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

The pavilion's interior design was based on the barrier-free concept and divided into ramps and mezzanines, allowing each visitor to make the tour at his own pace.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

The fa_ade of the Mexico pavilion was very attractive, transforming itself at sundown with a complex lighting system. But in addition to being decorative, the mesh of the facade prevented the direct impact of the sun's rays, thus providing a cooler atmosphere favorable to a pleasant tour and also protecting the museum exhibits inside the pavilion.

For the two gardens of cactuses and agaves (exterior and interior), species were sought in Japan, so as to avoid damaging the plants on transporting them and be able to return them to the nurseries after the end of the Expo.

In the desert and sea area, the contemporary art work "Origin", from the Mexican artist Antonio Nava represented a water source and river, showing the water running from the desert to the sea. A complex hydraulic system and a water pump allowed the instantly recycling of the water used in the installation as to avoid the waste of water.

Furthermore, some initiatives were taken outside the exhibition, to promote the environmental awareness of the staff. In the office area, the staff members were asked to exclusively use eco-friendly material and supplies. It was also decided to rent a strictly limited number of vehicles to encourage the use of common and public transport.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Some of the slides were donated to the National Institute of Anthropology and History and to the National Commission for the Development of the Indigenous People.

One of the contemporary art works was donated to the Aichi Prefecture.

Others contemporary art works, the textile pieces and the basketwork were given back to their owner so as to allow their exhibition in museums or further events.

◇ German Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

The highest commandment for every German EXPO-participation is to develop a concept that focuses on sustainability.

2. Display in the pavilion to promote environmental awareness

The German pavilion was dedicated to the theme "bionics" = technical application of natural principles. It displayed the high-tech developments of the German research and industry by following nature's archetypes, for example: less noisy rotor blades of helicopters, winglets and flaps for less fuel consuming flights and quicker starts and landings of aircrafts.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

The exhibition of the German pavilion was designed for barrier-free visits.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

All the exhibits of the German pavilion will be re-used, mainly in Germany. For the period of the EXPO 2005 Aichi, they have either been borrowed by institutes, universities, museums etc. or produced for the German pavilion on purpose to re-use them afterwards.

5. Reused interior materials / exhibits and the organization which was donated or transferred

The main attraction of the German pavilion, the "Experience Ride", will be re-used in B_sum/Germany and opened to the public in spring 2006.

◇ Morocco pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

We used a red soil and palms to have the same elements as the Kasbah and the oasis on the border of the desert, where the work of men and Harmonization in their surrounding have permitted to create a rich civilization.

Traveling through ages, Morocco was able to win the challenge of modernity equilibrium and the balance of ecology and religion.

2. Display in the pavilion to promote environmental awareness

We had a water circulation system for the fountain and the Waterfall in the pavilion. The water is a very important element for Moroccan hospitality, but we saved this natural resource in using a pump for the water circulation

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

We had a barrier-free entrance, but it was not so wide.

Therefore we stopped normal visitors in order to get through persons in wheel chairs. Also we allowed to enter physically handicapped people on a priority basis.

4. Reused interior materials / exhibits and the organization which was donated or transferred

We didn't reuse any interior materials, but we contributed interior goods to some public organization.

◇ Jordan Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

We brought to Japanese People and other Expo visitors a complete Natural phenomenon which is endangered to educate them and interact with visitors to help save this unique place on earth known to be the largest open therapeutic spa on earth, saltiest filled with 35 minerals 12 of which cannot be found in any other sea in the world.

This was a unique message from the Dead Sea location to be the lowest point on earth being located in Jordan, as a strong environmental message from earth at minus 400 meters below sea level (@ - 400) was the logo.

2. Display in the pavilion to promote environmental awareness

Dead Sea pool (with real Dead Sea water) & therapeutic Spa with Dead Sea Natural products.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

Unlike most pavilions Jordan Pavilion was unique in engaging the visitorsÅEall senses by experiencing a float in a Pool filled with water brought from Dead Sea /Jordan.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

We only exhibited Natural products such as Dead Sea water pool (the main exhibit) , Dead Sea Natural Rock formations with different colors due to different layers of minerals inside, Dead Sea Mushroom like salt formations, Sand art where the sand is brought from Jordanian desert and colorful stones.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Dead Sea water was given to a Japanese high school in Okazaki for their students to learn more about Dead Sea and itís environment, the water would be rotated among other schools as well, the Rocks and Stones were presented to Kasugai city, the main memorial exhibition at Expo site, Okazaki school, a mini replica of Jordan pavilion in one creative restaurant in Tokyo owned by the famous French cuisine chef Ishinabe san he took half of Dead Sea water .

◇ Austria Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

We used especially recyclable materials such as wood. Our concept was based on the importance of the protection of the nature.

2. Display in the pavilion to promote environmental awareness

・Energy Global Award
・EArchitecture Symposium
・EWood industry Conference

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

We had a lift to get to the second floor.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Wood was sold; Furniture and other interiors were sold or give away to the Austrian Embassy or Japanese companies/organizations.

◇ UK Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

(1) We tried to have the UK pavilion reflect the very theme of Expo - Nature's Wisdom - all our exhibits reflected benefits the environment can offer to mankind.
(2) We had the only living exhibit (our garden) shown by any participating country. All visitors to

the UK pavilion could take away a souvenir of our garden (leaf).

(3) Through the British Council and British Royal Institution, we also staged 4 public lectures at Aichi on the theme of climate change and its effect on the environment.

2. Display in the pavilion to promote environmental awareness

(1) benefits of wave power, conservation of endangered species, education about different natural environments, products inspired from the natural world.

(2) the natural beauty of our living garden.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

(1) our pavilion (all one level) was spefically designed to conform to barrier-free conventions.

(2) all materials used in the pavilion were made from sustainable sources wherever possible.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

(1)We tried to ensure that as much as possible of the pavilion was capable of being reused or was constructed from renewable resources. See below.

5. Reused interior materials / exhibits and the organization which was donated or transferred

(1)Pavilion garden replanted in Toyota City municipal park for future enjoyment by public.

(2) Interior furnitures recycled to UK embassy Tokyo.

(3) Interior exhibitions, electrical installations, lighting fixtures, computers returned to UK and reused in other exhibition(s).

◇ Switzerland Pavilion (The name of theme : Yama)

1. Environmental initiatives taken in relation to exhibition themes and concepts

No specific initiatives were taken, however

・SODIS water treatment, i.e. allowing to provide drinkable water at extremely low cost, using pet bottles and solar light, presented in the Swiss pavilion, was awarded the special award during the Energy Globe Award 2004 awarding ceremony in the Expo Dome

・The present project of Dr. Bertrand Piccard: "Solar Impulse" of creating an airplane able to circumvent non stop planet Earth from launch till landing using solely solar energy (as an alternative to non-renewable energy sources) was presented.

2. Display in the pavilion to promote environmental awareness

Solar Impulse, snow canon, SODIS water treatment

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

No such specific initiatives were taken; the whole exhibition was barrier-free. Handicapped people were taken special care of.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Recycling concept: all exhibits have come from existing exhibitions and collections in Switzerland and were returned there after the Expo. The wood structures was shredded and disposed off in Japan. The restaurant and kitchen equipment were sold directly or through Maynards. Hardly any leftovers remained from the Swiss Pavilion.

"Tobu tori ga, ato nigosazu"

◇ POLISH PAVILION

1. Environmental initiatives taken in relation to exhibition themes and concepts

Arranging of art competition for children in four age groups titled "Nature's wisdom". Tvelve best works were exhibited in the Ministry of Environment and Polish Chamber of Commerce and than in the Polish Pavilion at EXPO 2005.

Adoption of the Polish presentation/Polish Pavilion to the main theme of EXPO "Natore's Wisdom".

2. Display in the pavilion to promote environmental awareness

- Children art exhibition titled "Nature's wisdom",
- Salt stones, crystals and sculpture from Wieliczka Salt Mine,
- Willow front parts of the Polish Pavilion,
- Aurochs as a symbol of protected animals in Poland and mascot of the Polish participation in EXPO,
- Stone painting titled "Creation of the world",
- Multimedia and printing materials promoting environmental awareness,
- Multimedia presentation in the main chamber of the Polish Pavilion promoting environmental awareness.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

- Ramp at the main entrance and in the main hall of the Polish Pavilion for disabled visitors,
- Elevator for disabled visitors.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Some elements of the Polish exhibition were chosen to make Polish Pavilion environmental

friendly (willow front parts, wooden floor and furniture, salt and stone exhibits). Most of the exhibits and part of construction were donated after EXPO 2005 to few Japanese organization and institution to promote our country in Japan.

◇ Russian Pavilion

Display in the pavilion to promote environmental awareness

In order to promote environmental awareness the following exhibits were displayed in the Russian pavilion:

- Lake Baikal (model)
- The single-stage nonexpendable space plane TU-2000 (model). A multitask plane utilizing hydrogen fuel.
- The Noosphere House and the Noosphere residential areas (model). The Noosphere House is the major and fundemental project of the system. Its construction along with formation of a self-contained electrical, transport and other systems reflects the process of noospheric conversion and the future of the whole mankind. In this house every person stops being just a consumer and a resident and becomes an active participant in the process of noospheric conversion. In general the Noospheric technologies will for the first time in history turn the audience along with their families into economically independent people and eliminate the contradictions between Man and Society.
- Prototype of the Future Thermonuclear Reactor (model). It is a unique and successful example of the effective international cooperation in the field of nuclear fusion power generation. One of the project goals is to demonstrate potential capabilities of fusion power generation in terms of safety and environmental protection.
- Reactor VVER 1000 (model). The design of a new generation nuclear power plant NPP-92 with VVER-1000 reactor has been developed in frames of the State Program _Ecologically Clean Power Generation_. It meets the international safety standards.

◇ Republic of Kenya (Africa Pavilion)

1. Environmental initiatives taken in relation to exhibition themes and concepts

1) Kenya's theme statement during EXPO 2005 was Coexistence of Humans and Nature: Creating Partnerships for the Future.

Kenya is an important part of the cradle of mankind and home to the United Nations Environmental Programme (UNEP), and 20 other UN agencies. It is a multiracial, multiethnic society pursuing policies encouraging sustainable development, ensuring harmonious coexistence and consensus building. The nation's pursuit for harmonious coexistence for all Kenyans is best manifested in its involvement in East

and Central Africa regional peace initiatives and conflict resolution. Kenya is focused on the global markets and initiatives to sustain growth of the economy sustain good diplomatic relations. However great emphasis is placed on preservation of culture, national heritage and environmental conservation. Kenya designed an open pavilion that took into account traditional African architecture

2) Exhibition Configuration
The exhibition captured the origins of mankind and harmonious coexistence between humans, wildlife and nature. Efforts to protect wildlife and the environment by the local communities was reflect in the Kenya pavilion with a view to demonstrating efforts towards the achievement of sustainable development.

3) Reaching out to the world through nature's wisdom
Some of the concepts embraced in Kenya's theme statement include:

・Resolutions on conflict between wildlife and humans in order to achieve harmony
・Globalisation of the Kenyan economy and the impact on indigenous cultures
・Popularising eco-tourism
・Performing arts through music and dance
・Creation of awareness among ordinary Kenyans on environmental conservation for sustainable development

4) Establishing partnerships for the future

・Identifying Non Governmental Organisations, civil society organisations etc. that can build capacity within local communities for environmental conservation and appreciation of nature's wisdom.
・Building models based on successful eco-tourism programmes, which can be replicated by other agencies and communities throughout the country after appropriate objective assessment of their impact on sustainable development issues.
・Promotion of Kenyan artistic and cultural achievements through a broad cultural programme.
・Establishing friendship pacts to promote mutually beneficial co-operation. In this respect, Kenya organised a workshop on investment, trade and showcasing of Kenyan tourism at the Nagoya Chamber of Commerce offices
・Provision for sampling of Kenyan tea and coffee as a way of promoting these world famous beverages, while at the same time establishing friendships.
・Entertainment of visitors by use of short videos depicting Kenya's famous flora and fauna
・Establishment of peace initiatives in the region in order to quell conflict, thereby minimising human suffering.

2. Display in the pavilion to promote environmental awareness

・Kenya's theme statement, as already indicated, focused on environmental conservation by promoting harmonious co-existence between humans wildlife and the environment. The pavilion also boldly and prominently displayed "Mottainai," a Japanese word that urges for better utilisation of resources including the environment. Mottainai is fast becoming a global terminology. It is promoted by Prime Minister Koizumi of Japan and Prof. Wangari Maathai of Kenya, who is also the 2004 Nobel peace Laureate. All staff in the Kenya pavilion were under instruction to talk about the environment and specifically Mottainai to visitors. Pictures of Kenyan women planting trees were also prominently displayed within the pavilion.
・Environmental conservation was also reflected in the Kipepeo Butterfly project: The project, which was displayed in the pavilion, focused on environmental conservation efforts by rural farmers living around Arabuko Sokoke forest near the Coastal town of Malindi in Kenya. The farmers rare butterflies and export pupae abroad. By doing so they help to conserve forests in which the butterflies reside. The fact that the farmers undertake this task on their own, without being forced by the Government, is good for the future of environmental conservation.
・Some 170 samples of beautiful Kenyan butterflies were on display on the wall of the Kenya pavilion. The display of the butterflies, facilitated by Japanese friends of Kenya, was unique in that it was the first time butterflies were exhibited in a glass case where the butterflies could be seen from both the front and the rear.
・A stuffed lion (real lion) in a glass case at the entrance of the Kenya pavilion was intended to draw visitor's attention to the plight of endangered wildlife species and also to enable Japanese children to familiarise themselves with, and develop a liking for wildlife.

・The pavilion also displayed beautiful tourist attractions for which Kenya is well known globally, with an emphasis on eco-tourism . There was also a mural done by a Kenyan university professor, showing a cross section of te country, with an emphasis on the beautiful vegetation and other natural objects of interest such as mount Kenya and the Indian Ocean.
・Masaai and the Lion: A Maasai and a lion made from fibreglass were also displayed in the pavilion. This captured the reality of the harmonious co-existence in the Savannah plains of the Tsavo and Mara regions of Kenya. The Maasai are a semi-nomadic group of pastoralists who have retained their culture and traditions over the years. They symbolise strength uprightness and agility. The Maasai is a friend of nature who endures natural conditions and therefore not adulterated or easily influenced by contemporary lifestyle. The lion King of the jungle is a symbol of strength and prowess like the Maasai.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

Initially Kenya was to ship live butterflies to Japan to be displayed during the Kenya week However Kenya's EXPO 2005 Steering committee decided that it was not going to be easy to contain the butterflies within the Kenya pavilion without any of them escaping and thus probably interfering with butterflies in Japan. It was therefore decided that dead species should be used instead in enclosed glass displays. After the closure of the exposition, Kenya donated the butterflies to places where they would be treated professionally without any dangers to the environment. The stuffed Lion was fumigated accordingly and subjected to all Japanese rules and regulations and after the event, shipped back to Kenya.

4. Reused interior materials / exhibits and the organization which was donated or transferred

The bulk of butterflies displays were transferred through Kenya Embassy in Tokyo to the Japanese experts who helped Kenya put them up. The rest were re-exported to Kenya and will be donated to the National Museums of Kenya, while the stuffed lion was also brought back to Kenya and will be given back to the Ministry of Tourism who had donated it in the first place. The Fibre glass lion and Maasai were donated to Higashiura town for the Museum there.

◇ Sao-Tome and Principe (Africa Pavilion)

1. Environmental initiatives taken in relation to exhibition themes and concepts

We did:
・production of bio-cocoa;
・Sustainable fishing without using chemical products and unconventional meshed fabric of cord;
・Good relation between rural community and forest

2. Display in the pavilion to promote environmental awareness

Pictures and hand craft.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

We did not use any kind of barrier.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

No. All the materials were removed up to the end of activities.

5. Reused interior materials / exhibits and the organization which was donated or transferred

All of the interior material was offered to the Japanese people as a souvenir

◇ Republic of Zimbabue (Africa Pavilion)

1. Display in the pavilion to promote environmental awareness

Display of endangered animal species such as the black rhino and the pangolin. highlighted the public awareness on the need to prtect the animals that help to generate income through tourism.

2. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

We were in a global common. the expo association supplied the materials used for the pavilion. the association did the removal also.

3. Reused interior materials / exhibits and the organization which was donated or transferred

The exhibits were transferred to the embassy of zimbabwe in tokyo.

◇ Republic of SENEGAL (Africa Pavilion)

1. Environmental initiatives taken in relation to exhibition themes and concepts

According to the theme nature wisdom we tried to focus on the main problem we have in our country which is the fight against the desert. Every year the desert is coming to Senegal and at the mean time in some part of Senegal the people need to cut the trees in the forest to make charcoal the people are using for home work.

So from the Expo we are trying to make people understood that there's no other way to stop the moving of the desert rather than saving first of all the existing trees and secondly planting others trees. That why the Ministry of environnement with the help of some Japanese companies are focusing on those matters

2. Display in the pavilion to promote environmental awareness

The most attractive thing we displayed was the crawl of the Elephant who died naturally. We wanted to show by that exhibition that here in Senegal we were protecting that animal that was or is still be killed for his ivory. And for us protecting the life of that animal was protecting the nature.

We also show according to our sub theme two show case: one to make people understood how we were replanting trees in the border and the second how because we couldn't hide people to cut the trees how we wanted them to use the wood of those trees to make better charcoal.

And also some agricultural products and textiles and graft.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

NO IN OUR PAVILION WE WANTED VISITORS TO BE AT HOME AND FEEL HOME;

So the purpose was no limitation for anything the visitor could do what ever he wanted not only in Senegal pavilion but in the entire Africa pavilion. This is one of the REASON OF THE SUCCESS OF THE Africa pavilion

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Our Exhibits were not difficult to remove we simply asked the clear ant agent to send them back to Senegal.

5. Reused interior materials / exhibits and the organization which was donated or transferred

We will probably use those exhibits for future exhibitions depending on the theme of exhibitions that have to come.

◇ République du BENIN (Africa Pavilion)

1. Environmental initiatives taken in relation to exhibition themes and concepts

En fonction des thèmes de l'exposition Aïchi 2005, le Bénin a pris comme initiative la protection de la flore et de la faune à travers le concept de « la forêt sacrée » et par l'exposition de s produits de recyclage des sachets plastiques.

2. Display in the pavilion to promote environmental awareness

dans le cadre de l'exposition exposition Aïchi 2005 le bénin a choisi de partager avec les communautés internationales, les pratiques ancestrales de protection de la nature : « la forêt sacrée ».

La programmation scénique de notre exposition se subdivise en trois zone :

- la première zone fonctionne comme une introduction et permet la présentation générale du Bénin, sa population, son économie, sa culture et ses attraits touristiques
- la deuxième zone est consacrée au thème principal de du bénin : « la forêt sacré » : le visiteur entre dans une clairière où il découvre une variété d'espèces d'arbres et au fond un rand arbre creux qui représente l'espace sacrée de la forêt réservé aux seuls initiés.
- Des vitrines accrochées à des arbres ont permit de présenter la troisième partie consacrée aux œuvres artistiques et artisanales du Bénin.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

Le Bénin a pris comme initiative environnemental au niveau de son stand, la sensibilisation du public au respect de la nature à travers des affiches illustrées qui montre des scènes de protection de l' environnement.

Le stand du Bénin n' est pas un espace clos ; il n' y a donc pas de barrière , ce qui a faciliter la circulation des visiteurs.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Pour la préparation de l' exposition, le Bénin a travaillé avec une équipe japonaise ; le matériel utilisé pour construire le stand est localement acquis au Japon. Donc à la fin de l' exposition aucun matériel n' a été repris par le Bénin.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Le matériel utilisé pour la construction du stand étant du matériel japonais, son recyclage ou sa destruction s' est fait sur place au Japon ;

◇ Republic of Madagascar (Africa Pavilion)

1. Environmental initiatives taken in relation to exhibition themes and concepts

concepts

・Nowadays, in front of the ecology system degradation due to the exploitation to the bitter and, some traditions which have helped for preserving the harmony exchange between the nature and the mankind have been forgotten.

Madagascar, "promised land " (by the nature) can suggest the ways to account the best advantage from this abundance by its daily customs, arts, lifestyle, folklore, fauna and flora, climate, sea products, agricultural products.

Madagascar, an insular country, will get knowledge from experiences of another countries which will help to manage its richness

- Madagascar watch by its unique nature with endemic plants and animals, and it was suitable with the theme of this exposition "Wisdom of Nature".
- Madagascar Booth took exhibition, under the concept of introduction of the nature and our life and products of consideration for the task to succeed them to the future.
- Madagascar's National Parks work with a technology which integrates both development of ecotourism and sustainable conservation of rich Malagasy biodiversity in protected areas : On the one hand, with a systematic investment in ecological capital ; On the other hand, while encouraging some positive effects on local communities with a system of equitable sharing of revenue.This technology is adopted now here else in the world. This concept by PNM ANGAP was given to GLOBAL ECO TECH, which chose Madagascar among the winners (Award + 1 M de Yens)

2. Display in the pavilion to promote environmental awareness

According to the theme "Nature 's Wisdom" and the sub-theme "Quality of Life", Madagascar introduces to visitors The Past, the Present and the Future of its Nature :

- Elephant Bird (Aepyornis), the Biggest Bird ever known : extinct.
- Panels showing the Nature's sanctuary
- Madagascar's Nature today : Baobab trees strongly standing in the wasteland; endemics plants
- Panels showing the network of Nature's conservation: extension of parks and reserves, the national network of protected areas, the investment in conservation ecological capital through ecotourism. The message which is transmitted and attracted the awareness to the visitors is "Protect the nature for the heritage of the humanity"

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

Our Pavilion is the only one which is an open area : no wall, no barrier : that is to show our "Quality of Life"

Madagascar displayed the perfume of Za Baobab tree flowers and the scent of vanilla from natural vanilla dry fruits as additive attractions for visitors. Those items show that nature provides us all we need either to make our senses of ease or joy.

Madagascar offered barrier free services to visitors

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

in preparing exhibits, endemics plants were only natural, baobab tree and the elephant bird are replica

After closure of the Exposition, Madagascar removed back exhibits to RIEB for its Institute which is our partnership for the Expo (the Baobab replica tree, the Elephant Bird, endemic plants)

◇ Indonesia Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

As we are fully aware of the needs to resolve the growing global environment problems that will worsen living condition, under the expo sub-theme of "Development of Eco-Communities", Indonesia Pavilion undertakes a special theme of "People and Nature in Harmony".

Through this pavilion theme, we promote a harmonious life between people and their nature, a harmonious relationship that will certainly contribute to a sustainable nature. We call people to preserve their environment so as a harmonious life with their nature could be maintained.

2. Display in the pavilion to promote environmental awareness

To promote environmental awareness, Indonesia pavilion exhibited among others:

- Various ornaments in the exterior and interior decoration originating from different part of Indonesia. Those kinds of ornaments usually have special meanings relating to local wisdom that takes environment into consideration.
- Biodiversity that included corridor of jungle canopy, aquarium with various unique sea water and fresh water fishes and coral, diorama of endangered animals such as komodo from the island of Komodo, tapir from the island of Sulawesi, orang hutan from Kalimantan, and tiger from Sumatera, as well as remarkable flower of Raflesia Arnoldae. The biodiversity needs to be preserved.
- Video clips on Indonesia invaluable resources that need to be preserved including Indonesian rainforest, and marine resources.
- Kiosk presenting environmentally friendly Indonesian products
- Pavilion stamp figuring an endangered Komodo.

  All of the exhibits were presented to show the need to maintain a harmonious relationship between people and nature through the struggle to create a fine balance between among others socio-culture, health, economy and technology.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

Indonesia Pavilion proposes that all living things play an important part of life as the functions of the environment as well as to utilize natural resources. Better living environment initiatives should aim for high environmental quality as a statement in response to environmental sustainability in achieving environmental-friendly designs the pavilion, and promoting development of eco-communities by harmonizing the people and nature by showing daily activities and performances of environmental awareness of the people.

The barrier-free designs have been placed along Indonesia Pavilion from Entrance to Exit gate to ensure the safety and comfort of all visitors, including the elderly and disabled, using and enjoying all facilities of the pavilion.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

Indonesia Pavilion was designed in such a way that it can showcase the eco-friendly structure in a self-sustaining eco-community to build better capacity and understanding communities among countries and regions.

The materials used to build the pavilion were reusable, recyclable, and reducible mostly from wood. This showcase of the Pavilion including exhibits has been delivered to several institutions in Japan after Exposition to continue environmental messages of Indonesia Pavilion.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Exhibits of Indonesia Pavilion have been transferred to Museum of Aichi Expo, Togo Town as Friendship City of Indonesia, Higashiyama Zoo and Botanical Garden, World Kite Museum, and Indonesian Embassy in Tokyo as a part of promotion of Indonesian awareness on environment.

◇ Singapore Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

"World without Walls - A Uniquely Singapore Experience" suggests the seamlessness of how we "Work, Live and Play" in Singapore.

Our Pavilion showcased how Singapore as a country was A "World without Walls" featuring the various aspects of "balance" or "harmony" in Singapore - between the past and present, tradition and technology, the east and west, different cultures in Singapore and between urban environment and nature.

The Singapore Pavilion though multiple layers of symbolism, aimed to exemplify Nature's Wisdom by sharing it's model for culture and civilization. We gave free reign to our young architects and designers to interpret the Art of Life with a focus on our theme of balance and harmony. They captured through it the idea of World Without Walls - a world with not borders, inhibitions, barriers to cultural expression and communication.

The model that always emphasized balance and harmony was Singapore's way of offering a sustainable environment for future generations. The entire Singapore Pavilion celebrated the overall theme of harmony an underlying inspiration in our daily lives.

'nature's wisdom'

Responding to the World Expo's theme of Nature's Wisdom, the Singapore Pavilion was an exemplary showcase of how an ultra-modern and technologically advanced city like Singapore creates an ideal integration of technology, architecture with the richness and diversity of its natural tropical environment. The vision of city-planning and growth of Singapore was inspired by the profound wisdom of Nature's mechanics and built-in capacity to replenish itself, to sustain life in the most optimal fashion and to create new forms of life and living. This philosophy emphasizes sustainability and awareness of the inter-relation of all forms in the eco-system whether natural or artificial.

The Singapore Pavilion offereda glimpse of some of this kind of Nature's wisdom in all its facets, encapsulated in special niches that provided a unique and meaningful experience of life in Singapore - that would hopefully inspire even more inventive ways of living for others. These niches furnished a remarkable sensory experience for all visitors - through the simulation of a tropical rainstorm with rain torrents and the scent of fresh grass to the creative ways in which art, design and Nature was woven into and absorbed into the very fabric of life in the city.

As life on earth was also more than experiential, spectacular or sensational encounters, the Singapore Pavilion also offered another aspect of Nature's Wisdom - one that is unique to Humankind - the ability to share experiences and stories and to learn and grow from such sharing. Our Pavilion was proud to present the stories, memories and experiences of our people, in the most imaginative and unexpected ways.

Exhibits

・exhibits to showcase environmental initiative like the water story exhibit- beginning with the water cycle rain which is the source of life in Urban Nature, going on to how water is stored thro the water wall in the tunnel with the water pipelines activated by pressing the palm in the waterwall finding its way to the reservoir at the end of the tunnel where there was also a screen showing a video on how Singapore achieved self sufficiency in water within 3 years. Recycling was also showcased thro a Chandelier made recycled newater (water recycle from waste water-every drop of water in Singapore is recycled 5 times) bottles displayed in Recycling memories and finally the 4 types of water(rainwater, imported water, newater & desalinated water) showcased as 4 types of water fountains(at the water pool in the front of our pavilion

・Orchids in the pavilion were recycled every 2 weeks the orchids through the support of the Chubu Singapore councils used it Ikebana arm to go primary schools to teach suddents how to repot orchids and revitalize them so in efficient recycling the orchids

・all the pavilion exhibits have been recycled and adopted by various cities in Japam- Mihama, Nagoya, Hakodate etc

Fa_ade was made of a clear gel bag. These were symbolically removed during Design Month and recycled into designer bags. The new fa_ade was symbol of harvest. The new green-layered fa_ade was made up of materials that reflected Singapore's "City in a Garden" environment. In addition, brightly coloured birdcages representing the encapsulation of memories and ideas were suspended amidst the green backdrop. They symbolically contained the memory of Singapore's vibrant participation in the World Expo 2005 as the event drew near its end.

* Exhibits on Living Culture

Our forefathers from all over Asia and from parts of Europe made Singapore their home. That has made Singapore a multi-cultural society, comprising a rich and diverse background of distinct and subtle differences. Yet, a precious equilibrium and harmony has been attained - we have managed to appreciate and enjoy each other's cultures - this is one of unique features of Singapore.

'recycling memories'

Harmony between the Past and Present:

Recycling Memories showcases how memories of the past have a new role to play in the present - literally at the Singapore Pavilion at Expo 2005.

The artefacts in this section represent a microcosm of the lives of Singaporeans and how they attach meaning to different things. Each artefact is accompanied by a memory to share with visitors to the Singapore Pavilion as a cultural exchange crossing borders. It also provides a creative interpretation of the idea of "recycling".

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

We had barrier free access

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

All of our exhibits were recycled.

5. Reused interior materials / exhibits and the organization which was donated or transferred

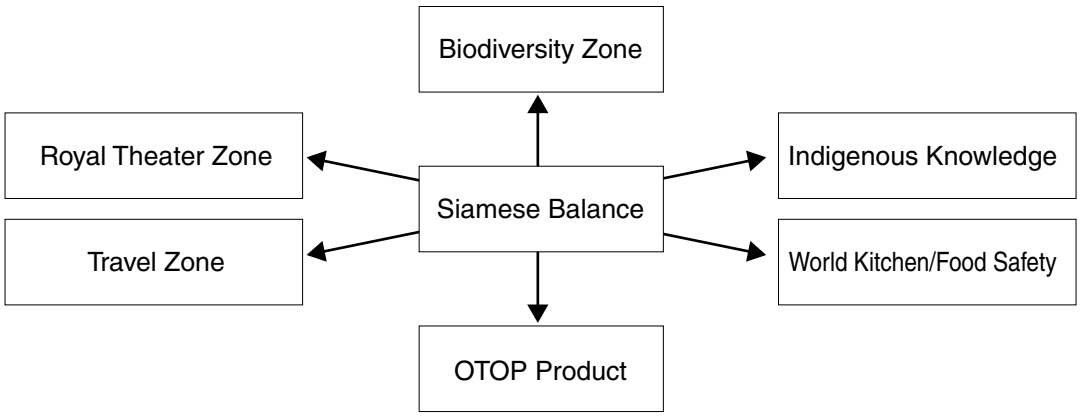
Below is a list of entities to whom we donated our exhbits

Long Bar	Singapore Embassy in Tokyo
Chinese MedicineWall	Kinjo University in Nagoya
· Ethnic costumes worn by guides · Merlion · Newater chandelier	Governor of Nagoya to be showcased in museum which will be set up in the Guest house
Merlion Parousels Bells Uniquely Singapore Parousels, Office & VIP room furniture Spotlights Surf Board Robot artifacts Wafer Roses artifacts half of Standing Signs Mannequins with Ethnic costumes worn by guides in the pavilion	Mihama Singapore host city

◇ Thai Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

Art of life-Before Thai pavilion was renovated, Siamese balance was the sub theme that presenting the way of life, folk wisdom, tradition and Thai art that related to natural balancing along the way of sustainable human life in the 21st century.



However, after it had been renovated, we had changed to the new highlight landmark of Royal Barge depicted through the sub theme of The River of Wisdom, a representation of the uniqueness and simplicity of Thai ways of life along the riverside based upon our firm belief that nature and human can harmoniously nurture each other even in the 21st century.

2. Display in the pavilion to promote environmental awareness

River of Wealth that portrayed through displays, like a Thai house and fishing gear and the daily lives of the people that live along the river. Also, the successful implementation of the Royal Development Projects, initiated by His Majesty King Bhumibol Adulyadej such as the artificial rain engineered

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

The sensational depictions of the colors of the Chao Phaya River at dusk and the scenery of a temple of Dawn on the pavilion exterior. As well as, Various Thai performances daily show provided an attractiveness of the country and kitchen of the world that presented Thai food to the world by Thai Airways.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

The balancing of between nature and people daily's life as well as to take advantages from natural resources without environmentally harmful and can be reused in the future. For instance, Thai traditional house that is renewable resources which come from nature. After the closure, the material has been reused to be decoration part.

5. Reused interior materials / exhibits and the organization which was donated or transferred

Two giants were contributed to Thai temple in Japan and first theme was relocated on the 3rd floor at Department of Environmental Quality Promotion. Anyway, Thai houses were destroyed in Japan according to Expo rules.

◇ New Zealand Pavilion

1. Environmental initiatives taken in relation to exhibition themes and concepts

The working title for the Pavilion was "New Sea Land People" and its objective was to show visitors how New Zealand people interact with their natural environment.

2. Display in the pavilion to promote environmental awareness

Water falling from one end of a long white cloud overhead, onto a pounamu boulder beneath, symbolized the water cycle which sustains the country's flora and fauna. Pounamu has great spiritual value to the Maori people, so this stone, lifted from a New Zealand river shortly before the Expo, was representative of the 'heart' of New Zealand.

3. Environmental initiatives taken for visitors to pavilions, including barrier-free designs and barrier-free services

The Pavilion was designed as a walk-through experience, with the intention of minimizing the time spent waiting in the entry queue, and allowing visitors to spend as much or as little time inside

as they wished. Information was able to be accessed through multiple user touch screens and mobile phone technology.

4. Environmental initiatives taken in preparing exhibits, use of interior materials, and their removal after closure of the Exposition

The interior was mostly constructed of wood, sourced where ever possible from New Zealand's planted forests.

5. Reused interior materials / exhibits and the organization which was donated or transferred

The carpet tiles used in the Pavilion have been donated to a small New Zealand museum for re-use.

The Pounamu will be displayed at Rainbow Springs Nature Park in Rotorua, and the 'Windgrass' kinetic sculpture will be installed in a new location by the artist who created it.

5-2 Pavilions of the Government / Municipalities

Japan Pavilion Nagakute | Japan Pavilion Seto

Japan Pavilion Nagakute

Japan Pavilion Seto

◇ Japan Pavilion Nagakute

■ Key Message: "Let's reunite humanity and nature."

■ Theme: "Japan's experience - From the affluence of the 20th century to the affluence of the 21st century - Let's reunite humanity and nature once again."
To reunite humanity and nature once again to regain the ties that are being lost and search for the affluence of the 21st century for symbiosis with nature, while looking back on the issues including environmental problems occurring on the earth as well as Japan's past experiences and actual strolling in a large forest.

■ Consideration for the environment
To promote reduction of the burden on the environment and acquisition of visibility of information on the environment by making full use of the most advanced technologies and new materials mindful of the environment including electric power generated 100% by new energy.

・ Supply of electric power generated 100% by new energy: To meet the demand for electric power inside the pavilion 100% with the electricity generated by new energy from various kinds of fuel cells and photovoltaic power generation.

・Promotion of energy saving: To reduce heat load by the bamboo cage covering the building like a cocoon, the sprinkling of treated sewage water (water that is not sewage water but is unfit for drinking) on the photocatalytic steel roof with super hydrophilic properties, the wall surface greened with Kokuma-bamboo leaves and so forth. Air conditioning for the living areas within a large space and natural ventilation, photovoltaic solar cell + LED exterior lighting and use of a cascade of cooled discharged air from the interior of the pavilion in the waiting space.
・Use of biomass materials and so forth: To use biomass plastics originating from plants as the material for the outer wall. To make use of bamboo and thinned wood that have not been utilized satisfactorily as the structural building materials such as cages and pillars / beams.
・Promotion of reuse: To promote the design of buildings that are easily dismantled, giving consideration to reuse, make positive use of leased / rented articles, and create the website, "Reuse Japan Pavilion" after the Expo is closed, to conduct public bidding, for the purpose of promoting the wide reuse of building materials / equipment.
・Acquisition of visibility of the information on the environment using IT: To install sensors at various places inside the building for real-time display of information on the environment such as temperature, solar radiation, electricity generated by new energy and so forth, on the display monitors inside the pavilion and the "Cyber Japan Pavilion." To attach IC tags to the materials / equipment to be reused to control / release to the general public various kinds of information on how materials / equipment are being used and so forth.

◇ Japan Pavilion Seto

■Key Message: "Let's reunite humanity and nature."

■Theme: "Wisdom, skills and spirit of Japanese people living in harmony with nature - Let's regain sensitivity that unites us with nature."
To introduce the "wisdom, skills and spirit" of Japanese people through expressions full of artistic quality, to present the richness of living in harmony with nature.

■Consideration for the environment
To introduce wisdom and skills such as ventilation and sun shade developed by traditional crafting techniques, without changing the natural landscape and land features as far as possible, under the theme of integration and harmonization with satoyama.

・Minimum alteration of land features: To keep to the minimum the area of ground surface to be excavated by supporting the building with 4 pillars and, at the same time, minimizing the floor area on the first floor as well as the number of pillars.
・Promotion of energy saving: To reduce the heat load by use of solar chimney and natural ventilation, geothermal heat utilization system, roof greening, as well as autonomous response-type light control glass.
・Utilization of biomass raw materials: To use domestic larch high in strength and heat insulating properties with quasi-fire resistance as face panels.
・Promotion of reuse: To promote the design of buildings that are easily dismantled, giving consideration to reuse, make positive use of leased / rented articles, and create the website, "Reuse Japan Pavilion" after the Expo is closed, to conduct public bidding, for the purpose of promoting wide reuse of building materials / equipment.
・Acquisition of visibility of the information on the environment using IT: To install sensors at various places inside the building for the real-time display of information on the environment such as temperature, solar radiation and so forth, in the "Cyber Japan Pavilion." To attach IC tags to the materials / equipment to be reused to control / release to the general public various kinds of information on how materials / equipment are being used and so forth.

Cyber Japan Pavilion

■ Theme: "In order to be led to the sustainable new age - Let's form bonds on the net with people, nature, wisdom and the future."

This is another Japan Pavilion on the Internet, running parallel with "Japan Pavilion Nagakute" and "Japan Pavilion Seto." It was opened in March 2004, one year before the opening of the Expo, and continued until March 2006, about 6 months after the Expo closed. It introduced various activities for realizing new richness, provided information for understanding the content of exhibitions more deeply as well as devices for enjoying the exhibition in different ways before / after visiting the pavilion. It was full of various contents with respect to the acquisition of visibility of information on the environment as well.

- Establish the Japan Pavilion !: To introduce the various efforts made behind the scenes for giving consideration to the environment in the Japan Pavilion Nagakute / Seto, mainly through interviews with learned intellectuals and persons involved in the construction work.
- Measure the Japan Pavilion!: To provide the real-time display of various data on the Japan Pavilion Nagakute / Seto and new energy plant with descriptions easy to understand.
- Map of highlights of the Japan Pavilion: To introduce the outline of the points to which the "Green Icon" marks are applied to inform the public of points of environmental consideration in the Japan Pavilion Nagakute / Seto.
- Shape-up C02: To post information and so forth for considering the method of achieving both a good balance between pleasant living and the C02 diet without having to, "give up the things we like completely."

Aichi Pavilion Nagakute　Aichi Pavilion Seto

Aichi Prefecture presented pavilions in both Nagakute and Seto Areas under the theme of "Challenge - Realization of an Eco-Community friendly to people and nature."

Aichi Pavilion Nagakute

Aichi Pavilion Seto

◇ Aichi Pavilion Nagakute

■ Theme: "Force for Eco-Industrial Revolution" - Blueprint of new industries for solving environmental problems

Focusing on the traditional culture and skills of Aichi, Aichi Prefecture promotes the fact that it provides the driving power for the "eco-industrial revolution through construction of a new industrial structure on the basis of a sound environment," and presents a new blueprint for industry appropriate for the age of the environment in the 21st century.

■Consideration for the environment

Consideration is given to the environment also on the aspect of operation such as construction of the pavilion and energy.

- To positively use materials produced within the prefecture such as wood building materials / roof tiles (timber produced in the Mikawa District: 540 m2; roof tiles produced in Sanshu: 617 m2).
- Promotion of 'Reduce': To reduce the volume of concrete used, soil excavated and dismantling work by adopting steel skeletons for the steel building as the materials for the beams used underground.
- Promotion of 'Reuse': To adopt a construction method to minimize the use of nails, bolts and adhesive agents as far as possible, and reuse cedar timbers used for the exterior finish (About 110 m3 of cedar timber was reused in the projects of Aichi Prefecture and Inuyama City, Aichi Prefecture).
- Utilization of wind power energy: Electric energy generated by the wind power generation facility installed in the cities of Tawara and Chita of Aichi Prefecture is used to support the total electric power consumed in the pavilion (also in the Aichi Pavilion Seto) during the session, making use of the scheme, "Green Electric Power Certificate System" and so forth.
- Adoption of uniforms using bamboo fiber as the raw material

- Large-scale lecture meeting, "Major Problem for the Earth" (Live performance held under the theme of global warming for 448 times during the session)
- Events in the Aichi Festival Plaza (events held with a different program for each day over the 185 days) and so forth
- xcitement was produced with floats, lanterns, corridors and so forth.

◇ **Aichi Pavilion Seto**

■Theme: Heartbeat and breath of the forest-The place to find nature, that has never existed before.

Visitors learn about the various forms of nature and the mysterious force of biotopes that are hidden even in a small forest, to experience the bond with nature.

The part of this pavilion to be used as the permanent facility (1,500 m2 of the total of 3,000 m2) will be used as the base facility for conserving the Kaisho Forest in the future, for learning about the forest and satoyama, and for interaction.

■Consideration for the environment

- To replant in the pavilion interfering trees (quercus serrata) in the land preparation areas, to conserve the natural environment.
- Reduce: To construct the parts of permanent and temporary facilities integrally, for efficient utilization after the closing of the Expo, and for the reduction of waste timber originating from part of the dismantled temporary facility.
- Reuse: To reuse timber (about 100 m3 of cedar and cypress timber) used for the outer wall and floor of part of the temporary facility in the newly-opened grade school in Shimoyama Village, Aichi Prefecture (present Toyota City).
- To stabilize the land along the natural slope by aligning mesh baskets with piled up stones on the step, and, at the same time, giving consideration to the local wildlife.

Collaboration space / home land of excitement: Efforts made by prefectural inhabitants playing the main role

- Aichi Green Map 2005: To exhibit the regional green map and so forth
- Aichi environmental picture book: To exhibit work from picture books solicited from the public / works created with cooperation from the Japan Children's Book Artists Society and so forth
- Calendar of nature and living in Aichi: To exhibit CD art works solicited from the public and so forth
- Introduction of the activities of the Aichi Eco-Community: To present the content of activities of the organizations publicly solicited
- Pearls of wisdom for Eco-activities: To put into operation the ideas solicited from the public for the administrative work in the pavilion for introduction.

・To conduct designing for integration of the land / building by use of mesh baskets in the semi-subterranean parts or otherwise, giving consideration to the landscape as well.
・To adopt uniforms using bamboo fiber as the raw material.

Chubu Community for Millennial Symbiosis

Chubu Community for Millennial Symbiosis

* Chubu Community for Millennial Symbiosis is the pavilion of the Chubu Region Exhibiting Committee (Toyama / Ishikawa / Fukui / Nagano / Gifu / Shizuoka / Aichi / Mie / Shiga Prefectures)

■ Theme: A 1,000-year adventure involving the discoveries and creations of the Central Japan region - Thinking about a society that can be sustained for 1,000 years.

Renewable "biological resources" available around us.
In order to pass on this prosperous society to the children of 1,000 years in the future, who will not be able to depend on oil and other subterranean resources, in the Chubu Community for Millennial Symbiosis, "sustainable craftsmanship," making use of these renewable biological resources was proposed, while re-contemplating the excellent operation of nature.

- To aim for the realization of a "Society that will be Sustainable over a period of 1,000 Years in the Future," utilizing the "Biological Resources."-

・Message of the 1,000-year promise: Image with the message introducing the concept of the Chubu Community for Millennial Symbiosis.
・Water Place: Water dome, 3 m high and 6 m in diameter. Images with creatures as the motif are projected on a water screen, inside which one can enter and experience "water," which is the source of life, in this display.
・Cyclops: One-eyed robot that directs its "gaze" on passers-by. Featuring "soft action" similar to that of a human, it casts its "gaze" in response to anything that moves.
・Millenary Academy Arena - Presentation of 9 prefectures comprising the Central Japan region: The proposals of 9 prefectures comprising the Central Japan region full of individuality, composed of traditional skills, new techniques and so forth, making use of the excellent operation of nature and biological resources, aiming for the realization of a "Society Sustainable for 1,000 Years" are presented with the exhibition of actual goods and images.
・Workshop: This participation-experience type event was held with different programs for each week during the session under the themes of traditional handicrafts, diet culture, cutting-edge technologies and so forth of the Central Japan region.
・Millennium graphism: A device that allows visitors to leave a photo of their face and a message to be read 1,000 years from now in commemoration of their visit to this pavilion. It can be viewed on the homepage of the Chubu Community for Millennial Symbiosis.

■Consideration for the environment

<Building / exhibits of the pavilion>

・Utilization of biological resources: "Japanese paper" and "golden cocoons" made by Indonesian silk moths were used as the materials for covering the exterior of the pavilion.
・Reduce: The design was adopted so as to reduce the volume of concrete used and soil excavated and to prevent the generation of waste by using steel skeletons for the building as the materials for the beams used underground.

・Reuse: Rented / leased articles were used as far as possible for use as the equipment for inner exhibitions including lighting / air-conditioning equipment and audio / image-projection equipment.
・Recycle: The work of dismantlement and removal was implemented in compliance with the Construction Material Recycling Act.

<Experience-type event, "Workshop">

・In the "Workshop" held in the pavilion, the thorough separation of trash was implemented, and, at the same time, tableware made of recycled china clay was used.
・In the content of the program for the events held, new technologies for the reuse of resources and the utilization of biological resources were introduced together with traditional culture / techniques.

<Uniform>

・An environmentally-friendly material containing bamboo fiber was used for the uniforms.

Pavilion of Nagoya City, "Earth Tower"

■ Concept: Spirit of Japan - Life of the Earth

The pavilion in which unintended performance art created by light / wind / water is "felt."
A kaleidoscope tower, about 47 m high, is placed in the center of the pavilion grounds.

・3 musical instruments, "Ongu," are placed against the walls in 3 directions of the tower
・Aqua Wall using the wall surface of the tower
・118 lanterns covered by paper cutouts on the outer wall of the tower

Earth Tower

■ Consideration for the environment

・To control the elevation of ambient temperature and reduce the cooling load by the Aqua Wall.
・Effect of decomposing and detoxifying NOx in the air by coating the exterior wall of the tower with photocatalyst
・To reuse cement boards of the outer wall after mixing into ash from incinerated sewage sludge after treatment, generated within the city of Nagoya.
・To utilize prefabricated and temporary materials in the control building, that can be reused after the Expo is closed.
・To reduce the cooling load by direct sunlight shielding, aligning thinned wood around the building, using the scaffold for construction work.
・To adopt a construction method using screw-in steel pipe piles, pavement that reverts back to soil when crushed and so forth so as not to generate waste.
・To utilize natural force as the driving power for the musical instrument, "Ongu."
・Wind force power generation: 840 W (wind velocity: 12 m/s) x 3 (to be stored for use as the driving power for the motor of Ongu)
・Photovoltaic power generation: 1 kW

・"SHINE": Largest kaleidoscope in the world
・"WIND": Magical music instrument, "Ongu," driven by wind power
・"WATER": "Aqua Wall" with water flowing down the wall surface of the tower
・"PEOPLE": Lanterns covered by paper cutouts

NEDO Pavilion

NEDO Pavilion

■Theme: "Outstanding Japan's Technology"

<For children to play a central role in the next generation>
They are keenly expected to experience "amazement and excitement" brought about by science and technology.

<For adults>
They are expected to know the splendor of Japan's technology and the efforts made by NEDO for the future.

<For visitors from around the world>
They are expected to see the contribution of Japan / NEDO to the solutions for the problems of the environment / energy on the global scale.

■ Consideration for the environment

・Building of the pavilion

<Reduce>
To introduce eco-design from the designing stage, giving consideration to the control of preventing the generation of waste and reduction in trash

<Reuse>
To make maximum use of rented / leased articles, such as lighting / air-conditioning equipment, audio / image equipment, screens for projection and so forth.

<Recycle>
To separate waste into 15 categories, which is more than the number of items prescribed in the Construction Material Recycling Act, to realize a recycling ratio of about 96% of the volume discharged.

Example) To adopt a construction method whereby ceiling / wall PBs are cemented without using bond, assuming that they will eventually be dismantled. To recycle as many items as possible including the tile carpet on the floor in the theater as well as steel, cable scrap and even cardboard.

・Energy
To meet the needs of energy for various kinds of electric equipment and cooling with the electric power generated at the new energy plant built also in the Global Common 5.

・Uniform of attendants
To adopt the materials certified with an Eco Mark using recycled fiber from PET bottles (Eco Rate - 65%)

5-3 Corporate Pavilion Zone A

Wonder Circus - Electric Power Pavilion

Wonder Circus - Electric Power Pavilion

■ Theme: Powerful Imagination - Imagination is the energy needed to create a rich future -

An electric-car ride loaded with dreams takes visitors through 8 scenes that express "Earth, Humanity, and Dreams - What a Wonderful World," based on "science and technology," "coexistence with nature," and the "human heart." center of the pavilion grounds.

■ Consideration for the environment

Waste from the electric power operation equipment was utilized as the materials used in the space in front of the pavilion.

- Chips of floodwood in the dam; road bed materials using piled up sand in the dam (pavement with wood chips / pavement with hardened soil)
- Unfired bricks utilizing coal ash from thermal electric power generation, used for the stone-edging of flowerbeds and so forth
- Soil on which jellyfish, shellfish and so forth drifted to the water intake of a thermal electric power plant were used as fertilizer

- Pavilion with Children's Drawings: The outer wall of the pavilion was decorated with "pictures" drawn and submitted by children, based on the theme of the Future of the Earth.
- To experience in the electric-car ride 8 scenes that express "Earth, Humanity, and Dreams - What a Wonderful World."
- To present performances featuring beautiful flowers and enjoyable water, based on the theme of "Flowers, Water, Wind, and the Sun," in the "Water Circus Plaza" (approx. 1,500 m2)

Utilization of reusable / recyclable materials

- To recycle 100% of the concrete blocks and timber generated from construction
- To utilize temporarily constructed aluminum sound-proof panels (leased materials for temporary construction) (Reuse)
- Recycling building material such as iron frames of the building body and foamed lightweight concrete panels
- To reduce the volume of on-site construction work by using prefabricated pieces
- To adopt a construction method without the use of concrete

Reduction in cooling load

- To intensify heat insulation on the outer wall and roof
- To introduce local cooling to the exhibition space
- To utilize subterranean cold energy by the use of pipes laid underground
- To install dry mist in the outdoor waiting space

Effective utilization of rain water (to store rain water from the roof of the Electric Power Pavilion in a tank within the subterranean pit for sprinkling on the grass)

Introduction of new energy

- Solar photovoltaic power generation: Solar photovoltaic power generation system using the latest type of film substrate amorphous solar cells.
- Fuel cell: To adopt the first cogeneration system in the world for commercial use as a solid plane slab oxide fuel cell (SOFC).
- Wind force power generation: Wind force power generation system by which power can be generated even with a light breeze of 3 meters per second.

JR Central - Superconducting Linear Motor Car Pavilion

JR Central - Superconducting Linear Motor Car Pavilion

■Theme: Start! Superconducting Linear Motor Car -Invitation to the Ultimate Surface Transit System-

The superconducting linear motor car that attained the world's highest speed of 581 km per hour in the manned run has reached technological perfection. It is the most advanced / cutting-edge technology developed only by Japan. The superconducting linear motor car that transcended the previous traffic system was introduced as intellectual entertainment, in accordance with the purposes of holding this exposition, "Transmission of Messages from Japan to the Future" and "Transmission of Messages from the Present to the Future."

■Consideration for the Environment

Cooling effect by adopting the titanium oxide photocatalytic tent and sprinkling water on the tent

To adopt double-glazed glass, higher in heat insulation performance than single-glazed glass and excellent in noise barrier performance, as the glass for the rear part of the superconducting linear motor car.

To implement the 3Rs / adopt eco-materials

- To conduct designing, avoiding excessive finish and decoration.
- To adopt rented / leased electric equipment and so forth installed in the pavilion as far as possible.
- To use the cloth from the recycling of used PET bottles for the seat covers in the theater.
- To adopt for the outer structure permeable paving blocks of which sewage-incinerated ash is the main raw material.

- To express the dominating presence, dynamism and innovative quality of the real "superconducting linear motor" car.
- To allow visitors to experience with enjoyment the innovative quality, feasibility and potentiality for the future of the technologies and principles constituting the superconducting linear motor car, by using realistic displays and so forth.

Display of the real superconducting linear motor car Image theater, making full use of the latest image technology

Display technologies / principles constituting the superconducting linear motor car

Wonder Wheel Pavilion

■Concept: People, Vehicles, and Planet Earth ▸ Heading into the Future

With the goal of a rich future for humankind, vehicles and the Earth, the "Wonder Wheel Pavilion" presented the relationship between cars and society, lifestyle and culture; coexistence between nature and cars; and the possibilities / dreams / appeal of cars, which continue to evolve alongside mankind.

Wonder Wheel Pavilion

■Consideration for the environment

- To construct a pavilion of steel materials that are easily reused and so forth.
- To use an existing Ferris wheel for reuse after the exposition.

"Ferris wheel" in Japanese is a word combining "exhibition," "Ferris wheel" and "vehicle."

The "Wonder Wheel Pavilion" is the first of its kind in the history of international expositions, in which passengers on this giant, 50-meter Ferris wheel can enjoy an experience on the past, present and future of the relationships between people, vehicles and the Earth.

Mitsubishi Pavilion
@Earth - What if the Moon Didn't Exist?

Mitsubishi Pavilion
@Earth - What if the Moon Didn't Exist?

■Theme: "The Wonder of Our Lives on Earth - A Glimpse of the Miracle" - Preserving the Earth's environment as seen from space -

Visitors to the pavilion were greeted by the robot, "Wakamaru," who stirred their curiosity toward the mysteries of nature through the simulation of "What if the moon didn't exist?" and realized the importance of conserving the global environment existing here now, in the "IFX Theater," the first space for unexperienced image in the world. from the Present to the

■Consideration for the environment

To construct the pavilion, aiming for the 3Rs.

- To adopt an easy technique, reducing each part to a unit, with simple method of assembly.
- To adopt light-weight direct foundation without using foundation piles.
- To use temporary construction materials, such as single tubes, that can be reused.
- To use natural materials such as rocks, PET bottles (on the wall surface) and wood chips (on the floor).

Efforts for energy saving

- To green the rooftop, produce the heat insulation effect by greening the wall surface, and reduce cooling energy.
- To install a mist generation device at the exit for cooling by the evaporative latent heat of water droplets.

Purchase of rights to emit greenhouse effect gases

- To estimate the volume of greenhouse effect gases to be emitted by the construction of the pavilion, energy consumption during the session of the exposition and so forth, and acquire "rights to emit greenhouse effect gases such as CO2" large enough to offset such volume.

To allow visitors to experience the appearance of the earth "if the moon did not exist" in the IFX Theater, and to realize the importance of conserving the global environment.

- Main show: To allow visitors to start with a simple question, "If the moon did not exist, what would have become of the earth?"
- Gigantic! Limitless! - Strange IFX Theater with the first space for unexperienced image in the world.
- To allow visitors to be guided through the pavilion by the robot attendant, "Wakamaru" (a robot developed for use at home with the aim of it living together with humans.)

◇ Objet of Roof Tiles, "Flowers as well as Storms"

A 70 m long objet, using 10,000 Sanshu roof tiles, first produced in the middle of the Muromachi period was placed on a lawn 400 square meters in width on the northern side of a row of cherry blossom trees in front of the Corporate Pavilion Zone A. Waste roof tiles were used as the raw materials for some of these roof tiles.

5-4 Corporate Pavilion Zone B

Toyota Group Pavilion

Toyota Group Pavilion

■ Concept: "The Dream, Joy and Inspiration of Mobility in the 21st Century"

To introduce the direction of the specific efforts for future society, namely "Utilization of Optimal Mobility," "Harmony with Society" and "Satisfying the Desire of Individuals," through "Ideal Mobility that Co-exists with the Earth," "Joy of Moving Around on the Global Scale, Dreams and Attraction of Mobility" and so forth, as well as various future technologies and the potentiality of future vehicles.

■ Consideration for the environment

To construct and operate the pavilion under the basic concept of the "Eco-Earth-Style Pavilion" based on a cycle that follows the regenerating mechanism of the earth.

Main body of the building of the pavilion:

- To adopt a steel-frame structure on the assumption that it will be dismantled / reused.
- To positively utilize renewable materials.
- To adopt wall materials of recycled paper for the outerwall, and utilize kenaf materials and so forth for some parts of the interior decoration.
- To generate zero construction waste by conducting thorough dismantlement, separation and recovery once the 2005 World Exposition, Aichi, Japan is over, to reuse and recycle all construction materials.

Utilization of natural energy:

To generate zero CO_2 in total by generating electric power at a volume equivalent to that consumed in the pavilion at the wind force power generation plant constructed outside the Expo site (in Tawara City, Aichi Prefecture).

To express the future world of "transit" by exciting live performances.
- "Live performance" for proposing the direction of a rosy and affluent future society
- Impressive and exciting live performance by the future concept vehicle, "i-unit" and the Toyota Partner Robot.

Hitachi Group Pavilion

Hitachi Group Pavilion

■ Concept: Contact with nature
- Contact with rare animals -

Ubiquitous experience zone where Hitachi's IT is used to realistically re-create images of rare animals on the "red list" of animals threatened with global extinction, selected by the International Union for the Conservation of Nature and Natural Resources (ICUN), so that visitors can come into contact with such animals.

■ Consideration for the environment

- To utilize fuel cells for mobile equipment as the electric power source for the information display terminal, "Nature Viewer," for which the technical capabilities of the Hitachi Group were accumulated.

・To install the "Bifacial Photovoltaic Solar Cell Panel" outside the pavilion to use the electric power generated there in some parts of the pavilion.
・To set the target for the recycling ratio of 100 and 95 or more % for 4 items, namely concrete, asphalt, wood building materials generated in the process of construction and steel and for all building materials, respectively.
・To produce no surplus soil discharged from within the site.
・To control waste by selecting construction materials appropriately.
・To reuse equipment and appliances.

To provide a world of surprise and excitement where "contact with rare animals" can be experienced.
"Main show"
・To allow visitors to enjoy interactive communication with rare animals, while experiencing the latest image technology, MR (mixed reality) through the fusion of diorama and 3DCG (3-dimensional image).
・To allow visitors to enjoy fully the world of wonder and excitement on a ride that passes through 5 zones, namely "Prologue (Canyon)," "Jungle," "Savanna," "Ocean" and "Epilogue."

MITSUI-TOSHIBA Pavilion

MITSUI-TOSHIBA Pavilion

■ Concept:"The Earth and the Radiance of Life" - A New Earth for the Next Generation -

To realize that the largest living thing on the earth is the earth itself, and that it is extremely important for us, humankind, to live in harmony with the earth, protecting such precious and irreplaceable living things / the Earth, and to hand down "The Earth Resplendent with Life" to our children who will play a central role in the next generation.

■ Consideration for the environment

Consideration for the environment in the field of construction

・To save energy by the "Aqua Wall" and adopt a design that makes maximum use of natural energy through ventilation, natural lighting and so forth.
・To use reusable steel products and leased materials for construction as much as possible to minimize the waste materials once the Expo is over.
・To minimize the steel products used by adopting a suspension structure.
・To lease back the materials used to build the Aqua Louver and Aurora Wall once the session has ended for use at other construction sites.
・To reduce the cooling load by minimizing the space for air-conditioning as a result of having the Aqua Wall cover the semi-outdoor part, and re-use the discharged air from cooling for cooling the queue line.

To provide entertainment that anyone can enjoy under the theme of "The Earth Resplendent with Life."
・Space Child Adventure, "Grand Odyssey" ("Grand Adventure Travel")
・The entertainment system, the first of its kind in the world, "Futurecast System" (The facial portraits of each of the visitors scanned by the 3D scanner are instantly converted into computer graphics.) diorama and 3DCG (3-dimensional image).
・To allow visitors to enjoy fully the world of wonder and excitement on a ride that passes through 5 zones, namely "Prologue (Canyon)," "Jungle," "Savanna," "Ocean" and "Epilogue."

To adopt material recycled from PET bottles for the jackets of the staff of the pavilion.

Mountain of Dreams

Mountain of Dreams

■ Concept: The Power of the 21st Century"

Mountain of Dreams is the joint pavilion of 7 companies who agreed to restore in the 21st century the global environment that started to be destroyed in the 20th century, with the contribution of wisdom from each of them.

- Joint exhibition thematic theater of 4 companies (Sekisui House, Chubu-Nippon Broadcasting Co., Tokai Television Broadcasting Co. and Chunichi Shimbun)
- Individual exhibition of each of 3 companies (Shachihata Inc., NGK Insulators and Brother Industries)

■ Consideration for the environment

- To greatly reduce the amount of steel products by adopting a "suspension structure" for the large roof of the "Mountain of Dreams."
- To coat the tent cloth on the part corresponding to the hillside with photocatalytic titanium oxide that excels in organic matter decomposition and so forth, leaving it to self-clean.
- To use products recycled from sewage sludge for paving blocks.
- To use recycled materials for uniforms.
- To reuse lighting equipment.

4 zones containing the first experience-type image space in the history of international expositions and so forth as well as an event plaza

- Exhibition and events aiming at the "3 Es": Excitement, Entertainment and Experience.
- Thematic theater, "Ark of Awakening"
- Shachihata's Marktown - Dream experience marked in the mind -
- NGK's Water Laboratory - Research Room for the Wonders of Water -
- Brother's Output Fantasy

Gas Pavilion - Fire Magic Theater

Gas Pavilion - Fire Magic Theater

■ Concept: "Dream Energy for People and the Earth"

This is a production that enables visitors to easily understand the versatility and possibilities of natural gas, a form of clean energy that is "Easy on Humans and the Earth," and whose increased use around the world is desired. Cutting-edge technologies and information with respect to gas energy such as the household fuel cell and methane hydrate are presented.

■ Consideration for the environment

Efforts for the 3Rs

- To reduce the volume of concrete used by adopting the dry floor construction method / construction method without the use of piles.
- To cast concrete on the spot, and reduce materials for molds by adopting the spread foundation for PC (precast concrete).

・To reduce steel products by 100 tons by adopting simple skeleton construction (place structure) using steel beams for the structural members for the building. In addition, to facilitate the reuse after dismantlement by reducing the welding processing and adopting simply bound hardware.
・To reuse some steel beams and timber that are the main building components at the time of dismantlement, and recycle everything that remains. To attain the 3R ratio of 99% by reusing some parts of the building facilities and exhibits as well.

Measures for energy saving

・To introduce the gas cogeneration system with an overall efficiency of 90% or higher by combining a micro gas turbine, exhaust heat recovery-type gas absorption water heater and cooler and desiccant air-conditioning equipment.
・To introduce the local air conditioning for cooling only those spots where people are located within the large space for the main show.
・To provide coolness to visitors without using new energy by blowing out to the entrance the air used for cooling the pre-show / exhibition hall.
・To reduce the entry of heat from outside and improve the efficiency of air conditioning by implementing rooftop greening and water sprinkling on the roof.

・The main show, the "Fire Magic Theater" is a hyper live show, combining real flames, magic, images and theatrical entertainment by actors, to express the "Gentleness, Fun and Mysteriousness of the Flame" as well as the "Importance of Energy" by using various kinds of flames.
・To introduce various technologies and information in relation to natural gas in the exhibition hall, "Mysterious Traveling Amusement Park of Gas" with the burning ice, "Methane Hydrate" and fuel cells for residential use also making an appearance.
・To have the exterior appearance in which timber used in large quantities creates the feeling of oneness with the abundant nature in the surrounding area.

II Environment-Conscious Efforts in the Exposition Project

We presented our "environment-conscious approach" in the project policy for the "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)," which was formulated in December 2001, in line with the environment-conscious concept affirmed at the time of Cabinet approval in December 1995 relating to the application for holding the International Exposition in Aichi Prefecture. To achieve this approach, we built an environment management system unique to EXPO 2005 AICHI JAPAN. In addition, we complied and announced an "EXPO 2005 AICHI JAPAN Environmental Policy" that described the basic philosophy, basic policy and environmental objectives required to materialize the "environment-conscious approach," and formulated action plans and guidelines concerning environment-conscious efforts at each of the three stages: constructing the EXPO site, holding the EXPO and demolishing and removing the facilities, so that the EXPO 2005 Association, exhibitors and visitors could take environment-conscious approaches from their respective standpoints.

This chapter outlines the policy and content of the specific activities planned to achieve environment consciousness, and organizes the results of those environment-conscious activities according to the items of the "EXPO 2005 AICHI JAPAN Environmental Policy."

The content of the description in this chapter is based on data acquired in developing the site and holding the EXPO.

1. Process of Environment-Conscious Efforts

At the time of Cabinet approval on December 19, 1995 relating to the application for holding the International Exposition in Aichi Prefecture, the following policy was affirmed in the application for holding the EXPO in view of the importance of natural environment conservation.

"7. In materializing plans for allocating exhibition spaces and developing and utilizing the site, the national and local governments involved shall give sufficient consideration to the preservation of the natural environment surrounding the proposed EXPO site and strive to form a firmer consensus through continued dialogues and opinion exchange meetings with the local communities concerning issues including dealing with environmental problems at the proposed EXPO site.

In holding this exposition, the organizer shall appropriately perform an environmental impact assessment."

To deal with this policy in a specific manner, we generally proceeded with our environment-conscious efforts for the exposition on the basis of the following contents.

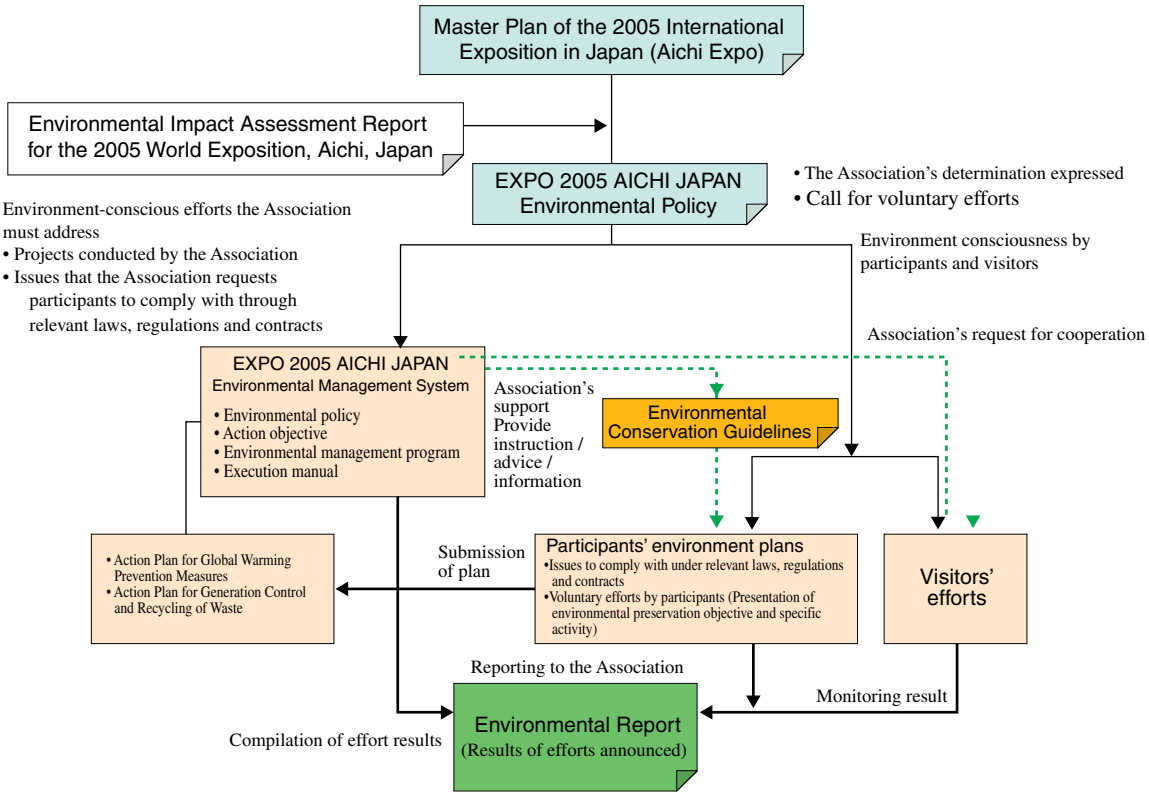
- We made environment-conscious efforts for EXPO 2005 AICHI JAPAN in line with the results of an environmental impact assessment conducted on the basis of the Master Plan of the 2005 International Exposition in Japan (Aichi Expo) set out in December 2001.
- The master plan presented 6 items including "Conducting an environmental impact assessment" as the "environment-conscious approach." We conducted the environmental impact assessment based on the "Guidelines for the Environmental Impact Assessment for the 2005 World Exposition, Aichi, Japan (notice from the commercial and distribution councilor for the cabinet of the International Trade and Industry Minister, dated March 27, 1998)" in line with the purport of the Environment Impact Assessment Law. We are currently conducting follow-up surveys (monitoring) in light of the progress of the project.
- We formulated a basic attitude toward working on environmental preservation as in the form of the "EXPO 2005 AICHI JAPAN Environmental Policy" based on the "environment-conscious approach" in the master plan.

・The environmental policy represented not only our efforts for reducing the environmental burden associated with site development and site operation, but also implementation of events concerning the Development for Eco-Communities. Participating enterprises performed specific activities in accordance with this environmental policy.
・To steadily implement the environmental policy, we established and operated an "EXPO 2005 AICHI JAPAN Environmental Management System."
・As for environment-conscious efforts in site development, we formulated an "Action Plan for Generation Control and Recycling of Waste (on site development)" and an "Action Plan for Global Warming Prevention Measures (on site development)" for civil engineering and construction works conducted by the EXPO 2005 Association and adopted the contents of the action plans in contract agreements, so that site development was conducted in an environment-conscious manner, in light of environmental preservation measures such as the environmental policy and environmental impact assessment. In addition, we formulated guidelines based on the same purport for private exhibitors and requested them to observe the guidelines.
・As for efforts during the EXPO period, we also formulated an Action Plan for Environment-Conscious Efforts (during the exposition) and the Environmental Conservation Guidelines during the Exposition to proceed with such efforts.

1-1 Framework of Environment Consciousness for EXPO 2005 AICHI JAPAN

We defined a framework for the thorough practice of environment consciousness at the exposition as follows. All people involved in the exposition performed their environment-conscious activities in accordance with this framework.

Framework of environment consciousness for EXPO 2005 AICHI JAPAN



1-2 Environment-conscious Approach in the Master Plan

The "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" (December 2001) is a general plan that presents elements and policy necessary to achieve EXPO 2005 AICHI JAPAN, whose theme is "Nature's Wisdom." Based on this master plan, we made specific efforts such as the encouragement of participation from across the world, the formulation of various project plans, the design/construction of the site, and operation/management of the exposition.

In addition, we also formulated the environmental policy of the EXPO 2005 Association in light of the master plan.

"Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" -Environment-conscious Approach-

(1) Conducting environmental impact assessment

For environmental impact evaluation in holding the exposition, strive to reduce the environmental burden by appropriately performing the evaluation based on the guidelines by the Ministry of Economy, Trade and Industry.

(2) Utilizing natural landscapes and materials

In planning and building the site, aim to achieve site building with little environmental burden by utilizing the existing plain land in principle and giving utmost consideration to the natural environment. In addition, aim to utilize natural materials such as wood, bamboo and soil.

(3) Considering introduction of recycling technologies

Aim at the advanced introduction of new energy, energy saving and recycling technologies for this exposition, which aims to build eco-communities. In planning water-use facilities, aim to reduce the clean water consumption through utilizing rainwater. In planning waste disposable facilities, control waste generation and promote thorough waste separation, and then study a system to effectively use raw waste in the site.

(4) Building and operation while aiming to achieve 3Rs

In selecting materials that compose civil engineering structures and facilities, execute efforts and operations aimed at achieving the 3Rs (reduce, reuse and recycle) of construction materials and zero emission at the site by aggressively utilizing reusable and recyclable materials.

(5) Promoting use of public transportation

Concerning the transportation of visitors to the site, strive to reduce CO_2 and other emission by aggressively encouraging them to use public transportation such as railways.

(6) Providing opportunities to learn with enthusiasm

For exhibits and events, provide opportunities to enthusiastically learn and think about global issues such as global environment problems.

Each visitor and participant works on zero emission while thinking about the environment enthusiastically.

Consider introducing an "EXPO rule" '(created by the EXPO 2005 Association).

1-3 Implementation of environmental impact assessment

We performed environmental impact assessment in light of the purport of the Environment Impact Assessment Law and in accordance with the "Guidelines for the Environmental Impact Assessment for the 2005 World Exposition, Aichi, Japan (notice from the commercial and distribution councilor for the cabinet of the International Trade and Industry Minister, dated March 27, 1998)."

Characteristics of environmental impact assessment of the exposition

◇ Implementation of environmental impact assessment in light of the characteristics of the EXPO project

Unlike other projects, the EXPO project is characteristic in that it is gradually materialized while aligning with exhibits and events and reflecting the intentions of the participants.

Therefore, we feed the results of examining environmental preservation measures, obtained in the course of the environmental impact assessment, back to the formulation of the site plan so that the results on avoiding and reducing the environmental impact are reflected in the assessment.

◇ Implementation of environmental impact assessment corresponding to the maturity of the site plan

For plans with high maturity, we proceeded with construction works while conducting "monitoring surveys" for the results of the environmental impact assessment. For those less mature plans and for which it was difficult to make a predicative assessment when impact assessment was performed, we proceeded with construction works after additionally performing predicative assessment when they became adequately mature and reflecting the results in the plans.

◇ Holding of explanatory meetings and opinion exchange meetings at different stages of environmental impact assessment

To broadly obtain opinions on the environmental impact assessment, we held explanatory meetings and opinion exchange meetings on the environmental impact assessment execution plan and the environmental impact assessment preparatory document. In addition, for the revised environmental impact assessment report (draft), we listened to the opinions of residents and administrative bodies, and also held explanatory meetings and opinion exchange meetings (see the table on page 60).

As for the opinions of residents on environmental preservation in connection with the follow-up survey report, we published all the opinions and the EXPO 2005 Association's view.

Conduct of follow-up surveys

As a result of our prediction and assessment in the environmental impact assessment report in June 2002, we judged that overall it would be possible to avoid or reduce the environmental impact.

We conducted the follow-up surveys below according to the maturities of plans. We included environmental preservation measures based on the results of the surveys in the project plan, and strived to reduce or avoid environmental impact.

- March 2003: Environmental impact assessment follow-up survey concerning the development of the Youth Park west terminal; Environmental impact assessment follow-up survey concerning the development of the Yakusa terminal; Environmental impact assessment follow-up survey concerning the installation of sewage water pipes
- September 2003: Environmental impact assessment follow-up survey concerning the installation of an inter-site gondola
- February 2004: Environmental impact assessment follow-up survey concerning the development of parking lots for private cars
- July 2004: Environmental impact assessment follow-up survey concerning events and lighting
- July 2005: Environmental impact assessment follow-up survey concerning demolishment and other works following termination of the Expo

In addition, to identify the state of the environment during the construction and at the time of the opening, we conducted an environmental monitoring survey during the period from the announcement of the assessment report through the end of the project for the "Monitoring Survey Items" in the table on page 81. If the result exceeded the environmental limit or the predicted value, we reported it to Aichi Prefecture or the local authorities concerned, and analyzed the cause and took measures to solve it as necessary. In addition, we summarized and published the survey results each fiscal year in the form of follow-up survey reports (monitoring).

<Reference> State of the environmental impact assessment procedure for EXPO 2005 AICHI JAPAN

Content		Timing / target party
Execution plan	Formulation / delivery	· Formulated an execution plan by Apr 17, 1998. · Delivered the execution plan to the Aichi Governor, Seto Mayor and Toyoda Mayor on Apr 17, 1998.
	Announcement / open to public inspection	· Announcement date: Apr 17, 1998 (Fri) · Inspection period: Apr 17, 1998 (Fri) through May 1, 1998 (Mon) · Inspection sites: EXPO 2005 Association's Nagoya Office, Tokyo Office, Seto City Hall, Toyoda City Hall · Number of citizens inspecting the plan: 378 (150 copies separately sent out)
	Explanatory meeting	· Seto City (Seto City Culture Center): Apr 22, 1998; 321 participants · Toyoda City (Toyoda City Culture Hall): Apr 24, 1998; 214 participants
	Opinion exchange meeting	· Opinion exchange meeting with "Citizens' Group that Provides Opinions about Environment Assessment of EXPO 2005 AICHI JAPAN": May 19, 1998 (Tue); co-op hall, Nagoya City Chikusa-ku; 20 participants
	Call-for opinions	· Apr 17, 1998 (Mon) though June 1, 1998 (Mon) · Number of opinions submitted: 474
Preparation document	Formulation / delivery	· Formulated a preparation document by Feb 24, 1999. · Delivered the preparation document to the Aichi Governor, Seto Mayor and Toyoda Mayor on Feb 24, 1999.
	Announcement / open to public inspection	· Announcement date: Feb 24, 1999 (Wed) · Inspection period: Feb 24, 1999 (Wed) through Mar 23, 1999 (Tue) · Inspection sites: EXPO 2005 Association's Nagoya Office, Tokyo Office, Seto City Hall, Toyoda City Hall · Number of citizens inspecting the document: 334 (146 copies separately sent out)
	Explanatory meeting	· Seto City Tomei Elementary School: Mar 5, 1999 (Fri); 125 attendants · Seto City Culture Center: Mar 6, 1999 (Sat); 281 attendants · Seto City Hatayama-higashi Elementary School:Mar 8,1999;108 attendants · Toyoda City Culture Hall: Mar 9, 1999 (Tue); 104 attendants
	Call-for opinions	· Feb 24, 1999 (Wed) through Apr 6, 1999 (Tue) · Number of opinions submitted: 271
	Opinion exchange meeting	· Participants: Wild Bird Society of Japan - Aichi Branch, Environmentalist Network Midorinokai, Kaisho Forest Nature Watching Society, Kaisho Forest World Heritage Registration Promotion Council, etc. · 1st meeting: Mar 28 (Sun) · 2nd meeting: Apr 3 (Sat)
	Opinions received by Prefecture Governor	· As of Jun 10, 1999
Assessment report	Formulation / delivery	· Formulated an assessment report by Oct 25, 1999. · Delivered the assessment report to the Minister of International Trade and Industry on Oct 25, 1999. The Minister delivered a copy of the note to the Director General of the Environment Agency on the same day.
	Open to public inspection	· Inspection period: Nov 1, 1999 (Mon) through Nov 30, 1999 (Tue) · Inspection site: EXPO 2005 Association's Nagoya Office, Tokyo Office · Number of citizens inspecting the note: 32 (26 copies separately sent out)
	Submission of opinions to Director General of Environment Agency	· Submitted to the Minister of International Trade and Industry on Dec 8, 1999 (Wed).
	Opinions received by MITI Minister	· Jan 21, 2000 (Fri)
Examination status report	Formulation / delivery	· Asked the Nagakute Town Mayor for his opinion on Jul 10, 2000 (Mon), and received a written opinion from the mayor on Aug 8, 2000 (Tue). · Published on Oct 25, 2000 (Wed) · Called for opinions from Oct 25, 2000 (Wed) through Nov 24, 2000 (Fri). · Announced an overview of opinions of the examination status report and the EXPO 2005 Association's view on those opinions on Feb 21, 2001 (Wed).
	Open to public inspection	· Inspection period: Oct 25, 2000 (Wed) through Nov 17, 2000 (Fri) · Inspection site: EXPO 2005 Association's Nagoya Office, Nagakute Town Hall
	Explanatory meeting	· Bunka-no-ie Forest Hall, Nagakute-cho, Sept 3, 2000 (Sun); 400 participants · Nagakute Elementary School, Nagakute-cho, Oct 30, 2000 (Mon)

	Opinion exchange meeting	· Opinion exchange meeting with "Citizens' Group that Provides Opinions about Environment Assessment of EXPO 2005 AICHI JAPAN" on Mar 28, 2000 (Tue), EXPO 2005 Association's conference room on 7th floor; 30 participants · Opinion exchange meeting with groups that submitted a written opinion on the "Council for the Examination of EXPO 2005 AICHI JAPAN" on May 24, 2000 (Wed), EXPO 2005 Association's conference room on 7th floor; 17 participants
	Call-for opinions	· Oct 25, 2000 (Wed) through Nov 24, 2000 (Fri) · Number of opinions submitted: 197
Revised assessment report (draft)	Formulation / delivery	· Formulated an assessment report (draft) by Mar 12, 2002 (Tue) and delivered it to related authorities. · Published an overview of opinions of residents about the assessment report (draft) and the EXPO 2005 Association's view and delivered them to related authorities on May 7, 2002 (Tue).
	Explanatory meeting	· Seto City Culture Center, Mar 27, 2002 (Fri) · Seto City Culture Center, Apr 15, 2002 (Mon), 44 attendants · Nagakute-cho Bunka-no-ie, Mar 22, 2002 (Fri)
	Opinion exchange meeting	· Opinion exchange meeting with "Citizens' Group that Provides Opinions about Environment Assessment of EXPO 2005 AICHI JAPAN" on Mar 19, 2002 (Tue), co-op hall Nagoya City; 20 participants · Opinion exchange meeting with "Group for Stopping EXPO 2005 AICHI JAPAN" on Mar 18, 2002 (Mon), EXPO 2005 Association's conference room on 7th floor; 24 participants
	Call-for opinions	· Called for opinions on how to assess the environmental impact from Dec 27, 2001 (Thu) through Jan 31, 2002 (Thu). Number of opinions submitted: 82 · Called for opinions on the environmental impact assessment report (draft) from Mar 13, 2002 (Wed) through Apr 26, 2002 (Fri). Number of opinions submitted: 256
	Open to public inspection	· Inspection period: Mar 13, 2002 (Wed) through Apr 12, 2002 (Fri) · Inspection site: EXPO 2005 Association
	Mayors' reception of opinions	· Toyoda City Mayor: May 10, 2002 (Fri) · Seto City Mayor: May 13, 2002 (Mon) · Nagakute Town Mayor: May 13, 2002 (Mon)
	Governor's reception of opinions	· Aichi Prefecture Governor: May 24, 2002 (Fri)
	Opinion of Environment Minister	· Delivered to the Minister of Economy, Trade and Industry on May 28, 2002 (Tue)
	METI Minister's reception of opinions	· Jun 10, 2002 (Mon)
Revised assessment report	Formulation / delivery	· Formulated an assessment report by Jun 24, 2002 (Mon) and delivered it to relevant authorities.
	Announcement / open to public inspection	· Announcement date: Jun 25, 2002 (Tue) · Inspection period: Jun 25, 2002 (Tue) through Jul 24, 2002 (Wed) · Inspection site: EXPO 2005 Association, Seto City Hall, Nagakute Town Hall,Toyoda City Hall
Follow-up survey (1)	Opinions received by MITI Minister	· Formulated a follow-up survey sheet (1) by Mar 18, 2003 (Tue), and delivered it to relevant authorities. · Published advice from related authorities and organizations and the EXPO 2005 Association's view on Jun 6, 2003 (Fri).
	Publication of interim report (method, etc.)	· Jan 17, 2003 (Fri)
	Governor's reception of advice	· Governor's advice: Apr 25, 2003 (Fri) · Seto City Mayor's advice: delivered to Aichi Governor on Apr 7, 2003 (Mon) · Nagakute Town Mayor's advice: delivered to the Aichi Governor on Apr 11, 2003 (Fri) · Toyoda City Mayor's advice: delivered to the Aichi Governor on Apr 9, 2003 (Thu)
	METI Minister's reception of advice	· METI Minister: May 16, 2003 (Fri) · Environment Minister's advice delivered to METI Minister on May 1, 2003 (Thu).
Follow-up survey (2)	Formulation / delivery	· Formulated a follow-up survey sheet (2) by Sept 19, 2003 (Fri), and delivered it to relevant authorities. · Published advice from related authorities and organizations and the EXPO 2005 Association's view on Dec 18, 2003 (Thu).
	Publication of interim report (method, etc.)	· Jul 18, 2003 (Fri)
	Opinion exchange meeting	· Opinion exchange meeting with "Citizens' Group that Provides Opinions about Environment Assessment of EXPO 2005 AICHI JAPAN" on Oct 10, 2002 (Fri), co-op hall, Chikusa-ku, Nagoya City
	Governor's reception of advice	· Governor's advice: Oct 27, 2003 (Mon) · Seto City Mayor's advice: delivered to Aichi Governor on Oct 8, 2003 (Wed) · Nagakute Town Mayor's advice: delivered to the Aichi Governor on Oct 8, 2003 (Wed) · Toyoda City Mayor's advice: delivered to the Aichi Governor on Oct 9, 2003 (Thu)
	METI Minister's reception of advice	· METI Minister: Nov 14, 2003 (Fri) · Environment Minister's advice delivered to METI Minister on Oct 31, 2003 (Fri)

Follow-up survey (3)	Formulation / delivery	· Formulated a follow-up survey sheet (3) by Feb 20, 2004 (Fri), and delivered it to relevant authorities. · Published advice from related authorities and organizations and the EXPO 2005 Association's view on Feb 20, 2004 (Tue).
	Publication of interim report (method, etc.)	· Dec 22, 2003 (Mon)
	Opinion exchange meeting	· Opinion exchange meeting with "Citizens' Group that Provides Opinions about Environment Assessment of EXPO 2005 AICHI JAPAN" on Jun 25, 2004 (Fri), co-op hall, Chikusa-ku, Nagoya City
	Governor's reception of advice	· Governor's advice: Mar 24, 2004 (Mon) · Nagakute Town Mayor's advice: delivered to the Aichi Governor on Mar 4, 2004 (Thu) · Toyoda City Mayor's advice: delivered to the Aichi Governor on Mar 4, 2004 (Thu) · Owari-asahi City Mayor's advice: delivered to the Aichi Governor on Mar 4, 2004 (Thu) · Nisshin City Mayor's advice: delivered to the Aichi Governor on Mar 1, 2004 (Mon) · Toyoyama Town Mayor's advice: delivered to the Aichi Governor on Feb 27, 2004 (Fri) · Miyoshi Town Mayor's advice: delivered to the Aichi Governor on Mar 3, 2004 (Wed) · Fujioka Town Mayor's advice: delivered to the Aichi Governor on Mar 2, 2004 (Tue)
	METI Minister's reception of advice	· METI Minister: Apr 9, 2004 (Fri) · Environment Minister's advice delivered to METI Minister on Mar 26, 2004 (Fri)
Follow-up survey (4)	Formulation / delivery	· Formulated a follow-up survey sheet (4) by Jul 9, 2004 (Fri), and delivered it to relevant authorities. · Published advice from related authorities and organizations and the EXPO 2005 Association's view on Aug 27, 2004 (Fri).
	Publication of interim report (method, etc.)	· May 20, 2004 (Thu)
	Governor's reception of advice	· Governor's advice: Aug 4, 2004 (Wed) · Seto City Mayor's advice: delivered to Aichi Governor on Jul 16, 2004 (Fri) · Nagakute Town Mayor's advice: delivered to the Aichi Governor on Jul 16, 2004 (Fri) · Toyoda City Mayor's advice: delivered to the Aichi Governor on Jul 14, 2004 (Wed)
	METI Minister's reception of advice	· METI Minister: Aug 11, 2004 (Wed) · Environment Minister's advice delivered to METI Minister on Aug 6, 2004 (Fri)
Follow-up survey (5)	Formulation / delivery	· Formulated a follow-up survey sheet (4) by Jul 19, 2005 (Tue), and delivered it to relevant authorities. · Published advice from related authorities and organizations and the EXPO 2005 Association's view on Sept 22, 2005 (Wed).
	Publication of interim report (method, etc.)	· May 17, 2005 (Tue)
	Governor's reception of advice	· Governor's advice: Aug 18, 2005 (Thu) · Seto City Mayor's advice: delivered to Aichi Governor on Jul 29, 2005 (Fri) · Nagakute Town Mayor's advice: delivered to the Aichi Governor on Jul 28, 2005 (Thu) · Toyoda City Mayor's advice: delivered to the Aichi Governor on Jul 26, 2005 (Tue) · Owari-asahi City Mayor's advice: delivered to the Aichi Governor on Jul 28, 2005 (Thu) · Nisshin City Mayor's advice: delivered to the Aichi Governor on Jul 28, 2005 (Thu) · Toyoyama Town Mayor's advice: delivered to the Aichi Governor on Jul 26, 2005 (Tue) · Miyoshi Town Mayor's advice: delivered to the Aichi Governor on Jul 25, 2005 (Mon)
	METI Minister's reception of advice	· METI Minister: Sept 13, 2005 (Tue) · Environment Minister's advice delivered to METI Minister on Sept 1, 2005 (Thu)

Follow-up survey (1): Environmental impact assessment follow-up survey concerning the development of the Youth Park west terminal; Environmental impact assessment follow-up survey concerning the development of the Yakusa terminal; Environmental impact assessment follow-up survey concerning the installation of sewage water pipes

Follow-up survey (2): Environmental impact assessment follow-up survey concerning the installation of an inter-site gondola; Simultaneously conducted environmental impact assessment follow-up survey (monitoring) (2002)

Follow-up survey (3): Environmental impact assessment follow-up survey concerning the development of parking lots for private cars

Follow-up survey (4): Environmental impact assessment follow-up survey concerning events and lighting; Simultaneously conducted environmental impact assessment follow-up survey (monitoring) (2003)

Follow-up survey (5): Environmental impact assessment follow-up survey concerning demolishment and other works following termination of the Expo; Simultaneously conducted environmental impact assessment follow-up survey (monitoring) (2004)

2. Environmental policy and objectives

2-1 EXPO 2005 AICHI JAPAN Environmental Policy

To proceed with environment-conscious efforts for EXPO 2005 AICHI JAPAN, we formulated and announced an "EXPO 2005 AICHI JAPAN Environmental Policy" in May 2003 in accordance with the environment-conscious concept of the master plan created in December 2001.

◆ EXPO 2005 AICHI JAPAN Environmental Policy ◆

Basic Philosophy

The Japan Association for the 2005 World Exposition will transmit messages on the direction of solutions to the problems facing humans and on how humans should live through an attempt to create a new relationship between humans and nature under EXPO 2005 AICHI JAPAN's theme "Nature's Wisdom."

We aim at creating an exposition that will serve to provide the opportunity for each individual around the world to think about how to form and achieve eco-communities that adopt zero emission while aiming at creating a sustainable society, which is a major challenge in the 21st century.

Basic Policy

The Japan Association for the 2005 World Exposition will aggressively press ahead with environment-conscious approaches while observing the environmental preservation measures described in the environmental impact assessment report not only in site planning and building, but also in site operation, visitor transportation and projects planned by the EXPO 2005 Association before, after and throughout the duration of the exposition.

We will provide support for the exhibitors so that they can observe the environmental preservation measures described in the environmental impact assessment report and perform their independent and unique efforts toward environment consciousness.

We will also request visitors to voluntarily work on environment-conscious approaches by compiling and publicizing the EXPO 2005 Association's efforts for environment consciousness and issues to which we would like them to give consideration.

To achieve these objectives, we will focus on the following efforts.

1. We will perform preservation measures indicated in the environmental impact assessment report.
2. We will formulate a site plan that is friendly to the natural environment.
3. We will adopt advanced technologies for eco-communities.
4. We will aggressively adopt the concept of the 3Rs (reduce, reuse and recycle).
5. We will promote the use of transportation that imposes little environmental burden.
6. We will provide opportunities for learning with enthusiasm through exhibits and events.
7. We will encourage those involved to make environment-conscious efforts.

May 12, 2003
Harumi Sakamoto, Secretary-General,
Japan Association for the 2005 World Exposition

2-2 Environmental Objectives

The EXPO 2005 Association set the following environmental objectives in accordance with the environmental policy and has worked to achieve these objectives.

* For the results of the objectives, see "Overview of the Environment-Conscious Efforts and the Results" (pages 76 onward).

◆ Environmental Objectivesy ◆

The Japan Association for the 2005 World Exposition shall work on the following issues in accordance with the environmental policy based on the attached "EXPO 2005 AICHI JAPAN Environment Conscious Framework" and the separately created "EXPO 2005 AICHI JAPAN Environmental Management System Execution Manual." In addition, we will review these and make additions according to the maturity of plans, and examine new efforts to achieve the goals. We will compile the results in the form of an environmental report and transmit it to the world.

1. Implementation of the preservation measures indicated in the environmental impact assessment report

With this exposition, we conducted a large-scale environmental assessment adopting the Environment Impact Assessment Law before others.

We will strive to reduce the environmental burden by implementing the environmental preservation measures indicated in the environmental impact assessment report at each of the three stages: during site development, during the exposition and after the duration.

(1) Strive to reduce the burden on the living environment surrounding the site by taking measures such as leveling construction works, distributing carry-in/carry-out routes and timings, aggressively encouraging visitors to use public transportation, distributing locations of private car parking lots and introducing low-emission vehicles.
(2) Secure biodiversity including the ecosystem, and secure enriching contact between humans and nature including the systemic preservation of the natural environment and landscape.
(3) Conduct a monitoring survey in order to check the impact of the project, and if a significant impact is observed on the environment, take the necessary measures.

2. Formulation of site plans that give consideration to nature

In formulating site plans, strive to reduce the burden while giving consideration to the environment in accordance with the "Master Plan of the 2005 International Exposition in Japan (Aichi Expo)" (December 2001).

(1) Avoid large-scale land development by utilizing existing plain landscape and existing buildings and planning a Global Loop, which will serve as a corridor-type main street.
(2) Avoid areas, forests and ponds where notable species are distributed in groups, as much as possible.

3. Adoption of advanced technologies for eco-communities

Proceed with the following efforts with the aim of introducing advanced technologies that are essential to building eco-communities containing natural energy, new energy and recycling technologies.

(1) Utilize biomass plastics for tableware in sites.
(2) Aggressively utilize natural energy sources such as sunlight and new energy sources such as fuel cells in sites.
(3) Use fuels generated through the fermentation of methane from raw garbage and gasification of waste plastics and wood.
(4) Introduce advanced technologies such as wastewater treatment using highly dense ozone.

4. Introduction of 3Rs (reduce, reuse and recycle)

For site development and site operation, proceed with the following efforts while taking the 3Rs into account.

(1) Set the ratio of recycling concrete mass, asphalt/concrete mass and wood produced in construction at 95%.
(2) Transplant 2,000 interference trees that are produced in the course of site development, within the site.
(3) Implement measures to increase the utilization rate of eco-friendly materials (promoting the use of chip pavements, thinned wood or recycled materials).
(4) Thoroughly implement the separate collection of waste into 17 types and reduce the amount of waste generated.

5. Promotion of use of environment-friendly transportation

Strive to lighten the environmental impact and reduce CO2 and other emissions through the following efforts, such as preparation of diverse transportation and appropriate routes corresponding to the movements of visitors and provision of transportation devices that adopt state-of-the-art technologies.

(1) Reduce the traffic of cars by promoting the active use of railway-based public transportation, such as the Aichi Loop Line, which increases convenience through mutual extension between multiple lines, and the Tobu Kyuryo Line, which adopts the superconductive magnetically levitated linear motor car (high speed surface transport) system with low noise and low vibrations.
(2) Curb the concentration of car traffic around the site by encouraging private-car visitors to practice "park & ride" and providing appropriate guides or instructions that correspond to the status of roads and parking spaces.
(3) Strive to introduce low-emission vehicles for shuttle buses, such as fuel-cell buses and natural gas buses.
(4) Provide detailed information using the latest ITS (Intelligent Transport System).
(5) Introduce a green transportation based on an unmanned "bus" train using cutting-edge technology (IMTS: Intelligent Multi-Mode Transit System) as a means of transportation in the site.

6. Provision of opportunities for learning with enthusiasm through exhibits and events

For exhibits and events, implement the following efforts in order to provide the opportunities to learn and think enthusiastically about global challenges such as geo-environmental problems.

(1) Provide an "environmental education program based on hands-on experience" that uses the natural environment of the site and enables participants to deepen their understanding from what they feel and sense through experience via interpreters and to make use of the experience in their next moves.
(2) Consider developing a system that provides environmental data of the site to visitors in a straightforward manner.
(3) Provide visitors with the opportunity to learn with enthusiasm about issues such as geo-environmental problems and deepen their understanding through exhibits and events with the themes of environment and water circulation.
(4) Hold international conferences on the environment such as the International Children's Conference on the Environment.

7. Promotion of efforts of those involved for environment-conscious approach

Encourage participants and visitors to make environment-conscious efforts.

(1) Formulate guidelines on environment consciousness that define items that participants must observe in environmental preservation and voluntary environment-conscious efforts in order to encourage them to make specific efforts.
(2) Compile guidance for visitors concerning the EXPO 2005 Association's environment-conscious efforts and items to which they should give consideration in order to encourage them to make environmental efforts.

3. Formulation of Guidelines for Environment-Conscious Efforts

Parties involved such as the EXPO 2005 Association and official participants (hereafter "EXPO participants") are obliged to comply with the applicable laws and regulations of Japan as well as relevant regulations. These regulations include General Regulations and Special Regulations, as well as supplemental conventions, rules and instructions established by the EXPO 2005 Association in accordance with the BIE Convention (hereafter called the "applicable laws and regulations").

In addition, we also formulated an action plan for environment-conscious issues the EXPO 2005 Association has to address in accordance with advice from the Environmental Minister, and asked the enterprises involved and other participants to provide their cooperation through guidelines for environment-conscious efforts, thus rendering the entire EXPO project environmentally conscious.

3-1 Compliance with Applicable Laws and Regulations

EXPO participants must obtain the permission of authorities if such approval defined in the applicable laws and regulations is required. We checked whether they had obtained such permission when we gave approval to the exhibit plans.

3-2 Environment-Conscious Efforts under General Regulations and Special Regulations

Special regulations on environment-conscious efforts include the Special Regulation No.4 (concerning construction, installations, fire prevention, labour safety and the protection of the environment) and the "Rule concerning construction, facilities, fire prevention, occupational safety and environmental protection (for pavilion exhibitors)" under the General Regulations and Special Regulation No. 4.

For example, Special Regulation No. 4 stipulates that exhibitors shall define floor planning, structural planning, fire prevention/evacuation planning, exterior and interior planning, facility planning, dismantlement planning, other environment conscious effort planning, the progress schedule chart for these plans and materials used in these in their exhibit plans.

3-3 Implementation of Efforts under the Action Plans

For the projects implemented by the EXPO 2005 Association, we formulated action plans for the generation control and recycling of waste as well as for global warming prevention measures in addition to the applicable laws and regulations, in order to obligate the EXPO 2005 Association itself and contractors to comply with the plans/regulations and report on their efforts.

Specifically, we formulated four action plans and proceeded with efforts in accordance with these action plans.

■ Site development stage
"Action Plan for Generation Control and Recycling of Waste (on site development)" (September 2002)
"Action Plan for Global Warming Prevention Measures (on site development)" (October 2002)
■ Exposition holding stage
"Action Plan for Environment-Conscious Efforts (during the exposition)" (July 2004)
■ Site demolition/removal stage
"Action Plan for Generation Control and Recycling of Waste (on demolition/removal)" (September 2005)

◇ Action Plan for Generation Control and Recycling of Waste (on site development) (September 2002)

This action plan was formulated to achieve generation control and recycling of waste and their appropriate treatment. The purpose is to implement comprehensive measures to control the generation of waste for example by obligating exhibitors to formulate site plans based on the 3Rs and contractors to submit plans and execution reports.

Overview of the Action Plan for Generation Control and Recycling of Waste (on site development)

Item	Major content
1. Propose	Promote generation control and recycle of waste and advance their appropriate treatment in site development
2. Policy	1) Promotion of the 3Rs and appropriate treatment of waste that cannot be reused or recycled 2) Use of recycled materials (recycled articles) for construction material 3) Effective use and recycling of interference objects 4) Control of the amount of soil produced in construction to be removed outside the site 5) Transplantation of interference trees and their reuse as they cannot be transplanted
3. Objective	1) Ratio of recycling concrete mass, asphalt/concrete mass and wood produced in construction: 95% 2) Do not remove soil in 1st phase land formation of the Youth Park Area outside the site 3) Transplant over 2,000 mid-to-high interference trees from among those in the Youth Park Area, within the site.
4. Scope/duty of promoter	1) Applicable to development works (civil engineering/construction) performed by the EXPO 2005 Association 2) Impose obligation on design trustee, contractor and supervision trustee through particular specifications and so forth
5. Major measures	1) Efforts in design stage ・Advance the 3Rs in the design of development work and promote the use of recycled materials (recycled articles) ・Produce recycling plans 2) Efforts in construction work stage ・Duty of contractor and supervision trustee to observe applicable laws and regulations ・Implementation of waste treatment/disposal and progress checking under contractor's responsibility ・Precautions on carrying in materials: Normalization of amount carried in; reduction of on-site processing; avoidance of packaged items ・Thorough implementation of separate collection of waste ・Structural criteria for waste storage facility on site
5. Method for checking the implementation status	1) Submission of recycled resource utilization plan (execution plan), recycled resource utilization promotion plan (execution plan) and waste treatment plan 2) Checking of the treatment status with a manifest and checking of appropriate treatment in submitting copy of slip to the EXPO 2005 Association
6. Advance of action plan	Tracking and improvement by the EXPO 2005 Association of the progress of the action plan based on submitted data

◇ Action Plan for Global Warming Prevention Measures (on site development) (October 2002)

The purpose of this action plan is to appropriately implement comprehensive measures to control greenhouse gases generated in site development.

Overview of the Action Plan for Global Warming Prevention Measures (on site development)

Item	Major content
1. Propose	Promote global warming prevention measures through controlling the emission of greenhouse gases in site development.
2. Policy	1) Promotion of efficient energy utilization 2) Use of construction vehicles with little environmental burden 3) Promotion of building method based on the 3Rs 4) Preservation of plants and promotion of afforestation
3. Objective	Minimize emission of greenhouse gases. Numerical goals: 1) Emission of carbon dioxide, methane and carbon monoxide in using cement, driving construction vehicles and operating construction machines: CO_2 emission 13,534(t-CO_2) CH_4 emission 4(t-CO_2) N_2O emission 25(t-CO_2) 2) Volume of forms used in concrete work: 918 (m^3)
4. Scope/duty of promoter	・Development work conducted by the EXPO 2005 Association (civil engineering / construction) ・Imposing obligation on design trustee, contractor and supervision trustee through particular specifications and so forth
5. Major measures	1) Promotion of efficient energy utilization ・Use of eco-conscious materials such as blast furnace cement ・Consider using a concrete-free infrastructure ・Appropriate arrangement and efficient use of construction machines, and prevention of overload through rated operation ・Control of energy consumption by reducing use of water and electricity during operations ・Energy-saving design such as use of heat insulators ・ Shortening of night work and efficient/effective use of lighting equipment 2) Use of construction vehicles with little environmental burden Balancing cut and fill of soil, increasing efficiency of traveling route, proper driving, etc. 3) Adoption of a 3R-type construction method 4) Preservation of plants and promotion of afforestation Afforestation, transplantation/use of interference trees, use of form-free construction method
5. Method for checking the implementation status	Submission of plans/execution reports on models/number of units of construction machines, models/number of units of construction vehicles, amount of cement used and volume of forms used
6. Advance of action plan	Tracking and improvement by the EXPO 2005 Association of the progress of the action plan based on submitted data

◇ Action Plan for Environment-Conscious Efforts (during the exposition) (July 2004)

The purpose of this action plan is to implement comprehensive measures to promote the 3Rs of waste and control greenhouse gases during the exposition period.

Overview of the Action Plan for Environment-Conscious Efforts (during the exposition)

Item	Major content
1. Propose	Thorough implementation of environment-conscious efforts in site management, exhibits, events, sale of souvenirs, etc. conducted by the EXPO 2005 Association
2. Policy	1) Efforts concerning generation control, reuse promotion and proper treatment of waste 2) Efforts concerning global warming prevention 3) Reduction of other environmental impacts associated with the opening of the exposition
3. Objective	1) Efforts concerning generation control, reuse promotion and proper treatment of waste ・Reduce planned standard daily waste generation from 45t (daily volume) to 38.2t. ・Control amount of waste after recycling efforts to 5.54t or less (daily volume) 2) Efforts concerning global warming prevention ・Minimize emission of greenhouse gases during the duration 3) Reduction of other environmental impacts associated with the opening of the exposition ・Compliance with applicable laws and regulations, appropriate implementation of environmental preservation measures and elimination of impact on animals and plants 4) Tracking and publication of waste emission, etc.
4. Scope/duty of promoter	・Site management and exhibits conducted by the EXPO 2005 Association ・Use of facilities operated by the EXPO 2005 Association
5. Measures	1. Efforts concerning generation control, reuse promotion and proper treatment of waste 1) Generation control of waste ・Thorough implementation of separate collection of waste ・Thorough implementation of bringing back hazardous waste ・Utilization of biomass plastics, etc. 2) Recycle of waste ・Methane fermentation of garbage from business activities within the site ・Composting garbage, etc. 3) Proper treatment of waste ・Utilization of a manifest system, etc. 2. Efforts concerning global warming prevention 1) Promotion of efficient energy utilization ・Control use of facility energies (electricity and gas) ・Promotion of use of energy-efficient equipment 2) Efforts concerning use of new energies ・Introduction of a new energy supply and demand system, etc. 3) Promotion of use of transportation with little environmental burden ・Building a transportation network with little environmental burden mainly based on public transportation ・Reducing the burden on roads surrounding the site through adoption of the park & ride method and shuttle bus operation ・Controlling the concentration of car traffic around the site through proper guidance, instructions, entry restriction, etc. 4) Introduction of low emission vehicles 5) Thorough implementation of environment-conscious efforts concerning the use of cars 6) Implementation of energy-saving and resource-saving measures in site management and office, etc. 3. Reduction of other environmental burdens associated with the holding of the exposition ・Thorough implementation of environment conscious efforts in using chemical substances, etc. ・Implementation of environment conscious efforts on water quality and quantity ・Provision of instructions to contractors for avoiding impact on animals and plants, etc.
5. Checking the implementation status	Tracking by the EXPO 2005 Association of the progress of the action plan and publication of emissions

◇ Action Plan for Generation Control and Recycling of Waste (on demolition/removal) (September 2005)

The purpose of this action plan is to implement comprehensive measures to promote the 3Rs of waste and control greenhouse gases in demolishing and removing the exposition site.

Overview of the Action Plan for Generation Control and Recycling of Waste (on demolition/removal)

Item	Major content
1. Propose	Efforts such as reuse of waste performed by the EXPO 2005 Association in demolition work, generation control of greenhouse gases, and other environment conscious efforts
2. Policy	1) Removal of all buildings and facilities prepared by the EXPO 2005 Association 2) Efforts in civil engineering work for demolition and removal (restriction of work other than existing altered land, prohibition of large-scale cutting and filling, minimization of land leveling, restoration of farmland to the original shape) 3) Reuse, recycle and proper treatment of waste from demolition 4) Efficient energy utilization to reduce greenhouse gases 5) Compliance with applicable laws and regulations and with environmental preservation measures defined in the environmental impact assessment report
3. Objective	1) Target value of rate of recycling waste from specified construction materials: at least 95% Reuse and proper treatment of other waste 2) Reuse and proper treatment of waste soil from demolition 3) Minimization of emission of greenhouse gases generated in demolition work
4. Scope/duty of promoter	・Car terminals, private car parking lots, etc. in addition to the Nagakute and Seto sites ・Familiarizing those involved in construction work with their duties and obligating contractors to comply with the plan
5. Measures	1) Promotion of reuse and recycling of materials associated with demolition work ・Production of a recycling plan ・Separate collection of waste ・Control of generation of soil generated from demolition and active utilization of such soil in refill within the site ・Proper treatment of soil removed outside the site, etc. 2) Promotion of efficient energy utilization ・Use of low-emission and fuel-efficient heavy equipment for heavy construction equipment, etc. 3) Reduction of environmental impact of construction vehicles ・Use of vehicles with little environmental burden such as those compliant with the latest regulations and fuel-efficient vehicles, etc. ・Increase in efficiency of removal route for demolished materials, etc. ・Avoidance of sudden acceleration/start and idling in operating construction vehicles, etc. 4) Proper management of post-closure site such as a measure to prevent soil from becoming airborne 5) Reliable implementation of preservation measures such as avoidance/reduction of other environmental impacts ・Adoption of low-noise construction method ・Restriction of careless entry into non-construction zone, etc.
5. Checking the implementation status	・ Submission of an execution plan (execution document) ・Confirmation of proper treatment of waste (thorough checking of manifest) ・Checking at the time of plan submission

3-4 Implementation of Efforts under the Environmental Conservation Guidelines

The Environmental Conservation Guidelines define items that participants other than the EXPO 2005 Association should observe and their duties to report. The purpose of the guidelines is to formulate and implement an environmental plan that allows participants to make their own efforts.

To date, we have formulated the following guidelines and implemented our efforts under these guidelines.

- "Environmental Conservation Guidelines on Site Development" (March 2003)
- "Environmental Conservation Guidelines on Pavilion Planning and Construction Works by Official Participants" (November 2003)
- "Environmental Conservation Guidelines during the Exposition" (July 2004)
- "Environmental Conservation Guidelines on Demolition and Removal" (September 2005)

The contents of the guidelines are almost the same as those of the action plans of the EXPO 2005 Association.

The Japanese government, local governments and private exhibitors have submitted their "environmental plans" that contain the environmental preservation measures they independently took at their pavilions and other environment-conscious efforts in site development.

4. EXPO 2005 AICHI JAPAN Environmental Management System

The EXPO 2005 Association has established and put into practice an "EXPO 2005 AICHI JAPAN Environmental Management System" (hereafter "EXPO 2005 AICHI JAPAN EMS") in order to implement our efforts systematically and comprehensively to achieve our environmental objectives.

4-1 Process of examining the EXPO 2005 AICHI JAPAN EMS

We undertook examination of an EXPO 2005 AICHI JAPAN EMS in fiscal 1998, and announced the environmental policies and put the EMS into practice in May 2003.

The process of examining the EXPO 2005 AICHI JAPAN EMS is as follows.

Process of examining the EXPO 2005 AICHI JAPAN EMS

Fiscal year	Content of examination
Fiscal 1998	■ Examination of problems in establishing an environmental management system and acquiring the ISO 14001 certificate, and how to establish the system ・We examined a certain philosophy and problems in applying the EMS to the Expo project in accordance with the ISO 14001 standard. In examining them, we set up a council/ preparatory committee consisting of academic experts (chaired by Prof. Tadashi Yoshizawa of Tsukuba University School) and received their advice (continued until fiscal 2000).
Fiscal 1999	■ Preparation for establishing the environmental management system in the Expo project ・Based on the result of a survey conducted in fiscal 1998, we formulated an environmental management document (draft) and procedural documents (drafts), and identified/evaluated environmental factors with the aim of establishing the environmental management system from the planning stage.
Fiscal 2000	■ Examination of details on deployment/utilization of the guidelines for environment-conscious efforts ・Based on subsequent circumstantial changes such as review of the basic policy for the Expo, we suspended ISO 14001 system establishment and certificate acquisition, and examined how to conduct the environment-conscious efforts utilizing the guidelines.
Fiscal 2001	■ Establishment of an environmental management system related to the 2005 World Exposition, Aichi, Japan ・We examined the following with the aim of establishing an EMS that suits EXPO 2005 AICHI JAPAN in light of the purport of ISO 14001 Formulation of the EXPO 2005 Association's environmental policy/objectives (draft) Examination of an environmental management plan by selecting/sorting out environment conscious plans and environmental plans by area execution manuals, etc. Formulation of promotion manual for EXPO 2005 AICHI JAPAN EMS, etc.
Fiscal 2002	■ Examination of issues such as the EXPO 2005 Association's attitude toward environmental preservation and the method for familiarizing parties involved with the EMS ・Production of the "EXPO 2005 AICHI JAPAN Ecological Declaration" ・Review for announcing the "EXPO 2005 AICHI JAPAN Environmental Management System" ■ Formulation/execution of environment conscious action plans/guidelines ・"Action Plan for Generation Control and Recycling of Waste (on site development)" (September 2002) ・"Action Plan for Global Warming Prevention Measures (on site development)" (October 2002) ・"Environmental Conservation Guidelines on Site Development" (March 2003)
Fiscal 2003	■ Execution of the EXPO 2005 AICHI JAPAN Environmental Management System ・We produced an environmental management program and an internal environmental audit procedure for the execution of the EXPO 2005 AICHI JAPAN EMS. In addition, we announced the "EXPO 2005 AICHI JAPAN Environmental Policy and Objectives" in May 2003.
Fiscal 2004	■ Execution of the EXPO 2005 AICHI JAPAN Environmental Management System ・We conducted a review of the environmental management program and an internal environmental audit. ■ Formulation and execution of an environment conscious effort action plan and guidelines ・Action Plan for Environment-Conscious Efforts (during the exposition)" (July 2004) ・"Environmental Conservation Guidelines during the Exposition" (July 2004)

Fiscal 2005	■ Formulation and execution of an environment conscious effort action plan and guidelines ・Action Plan for Generation Control and Recycling of Waste (on site development)" (September 2002) ・"Environmental Conservation Guidelines on Demolition and Removal" (September 2005) ■ Creation and announcement of an EXPO 2005 AICHI JAPAN Environmental Report

EXPO 2005 AICHI JAPAN is the first project to introduce an environmental management system for a series of actions from site building to operation, management and demolition/removal in an international exposition.

The main characteristic of an exposition project is that it is a temporary event where the content of the project changes in stages from the preparation for holding the event to the opening and demolition/removal of the site, and each stage is accompanied by various changes. In addition, a large number of participants including official participants are involved from diversified standpoints. Therefore, in establishing and executing an environmental management system, it is necessary to take a different approach from that for the environmental management systems of ordinary organizations (e.g., enterprises).

For this reason, the EXPO 2005 AICHI JAPAN EMS has the following characteristics.

4-2 Characteristics and Execution of the EXPO 2005 AICHI JAPAN EMS

◇ Implementation of continuous environment-conscious efforts

In an exposition project, the content changes in a short period from the planning stage to site development, opening, operation and removal of the facilities, and the issues on environment-conscious effort examination/execution also change according to project stages. Therefore, it is difficult to precisely apply those continuous improvements defined by ISO 14001. For this reason, the main focus of the EXPO 2005 AICHI JAPAN EMS is to continuously press ahead with environment conscious efforts from the planning stage to the implementation stage of each project of the Expo in accordance with the environmental policy and objectives.

◇ Establishment of a system for steadily executing the environmental policy

We formulated an environmental management program and supervised the progress according to gradual development of the project content.

By making use of various opportunities such as official participant conferences, various meetings and meetings for persons in-charge in the field, we conducted appropriate educational activities for a broad range of parties involved such as contractors, concessionaires and exhibitors.

◇ Securing of transparency of the EXPO 2005 Association's environment-conscious efforts

We clarified the steps for tracking the progress of the environment-conscious efforts and reporting the results, in order to create an environmental report based on the collected information and to announce our environment-conscious efforts.

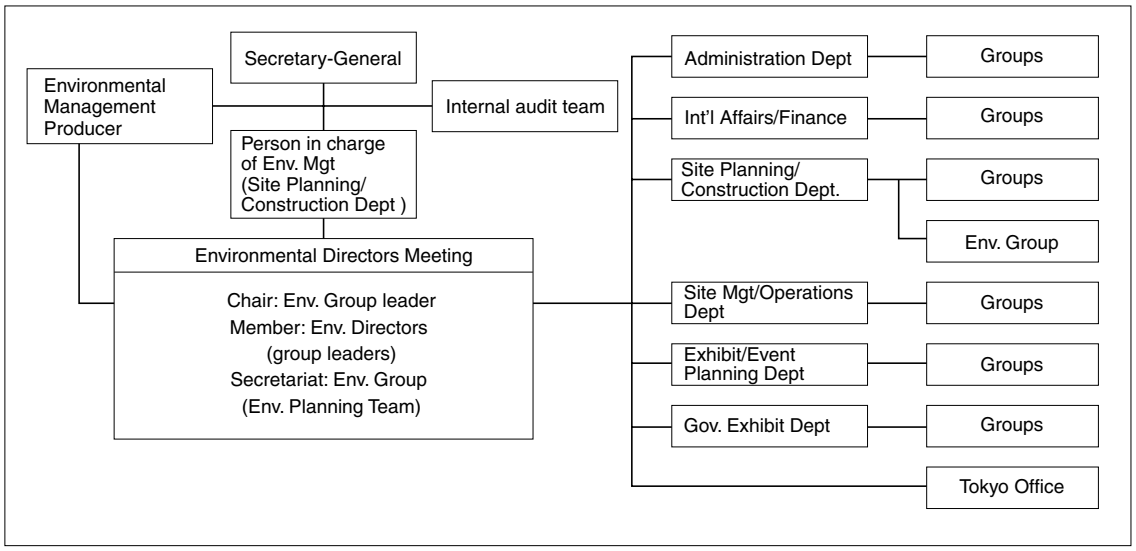
◇ Conduct of internal environmental audits

We conducted an internal audit on the status of the efforts and reporting in order to thoroughly implement environment-conscious efforts and raise motivation within the EXPO 2005 Association.

◇ Environmental Director Meeting

We examined environment-conscious efforts to be made at the respective departments of the EXPO 2005 Association with the Environmental Director Meeting (consisting of group leaders of the EXPO 2005 Association) as the core, created action plans and guidelines, and reported on the efforts.

Management System Execution Organization Chart (as of December 2004)



4-3 Result of Executing the EXPO 2005 AICHI JAPAN EMS

We evaluated the result of executing the EXPO 2005 AICHI JAPAN EMS as indicated below, based on the result of our internal environmental audit. We infer that the main reason for partially inadequate efforts in accordance with the EXPO 2005 AICHI JAPAN EMS is related to the characteristics of the EXPO 2005 Association organization and the nature of the exposition.

The EMS was effective in terms of promotion of continuous environment-conscious efforts

We put in order the specific environment-conscious efforts in EXPO 2005 AICHI JAPAN in accordance with the environmental policy/objectives of the EXPO 2005 AICHI JAPAN EMS, and compiled the contents and relevant departments in the form of an environmental management program. As a result, it became possible to identify the timetable for environment-conscious issues, and the correlation between the environment-conscious issues and the necessity of cooperation between the departments involved. This enabled us to continuously make environment-conscious efforts from the site development stage and to share consciousness and information between the departments. This seems to be a major achievement of the EXPO 2005 AICHI JAPAN EMS.

The efforts in accordance with the manual were not necessarily adequate

EXPO 2005 AICHI JAPAN EMS clearly defines the responsibilities and authorities of the persons in charge in the EMS operation manual. However, the persons in charge tended to give priority to planning/implementing the Expo project and coordination between the interested parties in limited time, rather than to environment conscious efforts. As a result, some efforts were not necessarily made in accordance with the operation manual.

In addition, many of the EXPO 2005 Association staff were dispatched from other organizations and replaced with other staff periodically. Therefore, to press ahead with environment-conscious efforts, it is necessary to conduct appropriate educational activities such as holding an explanatory meeting every time such personnel transfer occurs. The same applies to a broad range of parties concerned. However, the efforts in this area did not meet with expected achievements either.

The efforts in accordance with reports on the results of efforts were effective in general

Under the EXPO 2005 AICHI JAPAN EMS, the procedures for tracking and reporting the progress of environment-conscious efforts are clearly defined in the operation manual, and the result of efforts based on the environmental action plans and the guidelines for environment-conscious efforts are supposed to be reported and tracked in accordance with the system.

Since this system worked, we were able to basically identify the CO2 emission and the state of reuse of construction waste from the site development stage in the environmental report.

Concerning "environmental plans" to be voluntarily prepared by participants as indicated in the guidelines, a large number of pavilions submitted their plans, implemented the plans and reported the results. This was a significant achievement.

Transmission of information on environment-conscious efforts was almost satisfactory Expo activities including those related to the environment were published on the official website of the EXPO 2005 Association on a daily basis.

website of the EXPO 2005 Association on a daily basis.

We posted contents on the environment on the "Environment-related Links" page in order to facilitate searches. We classified the contents into 7 environmental policies and added information on those efforts as required in transmitting information on environment-conscious efforts. However, we received complaints suggesting that information transmission to visitors in the site was inadequate. Therefore, we placed 20 billboards showing environment-conscious facilities on the Global Loop and 10 billboards concerning waste recycling in early August to raise the environmental awareness of visitors.

Problems in adopting the EMS for similar projects

This Expo project has the following characteristics.

- A temporary event with a limited duration
- Project content changes with time
- Coordination between a large number of interested parties
- Frequent and short-term staff turnover

Therefore, if the EMS is adopted for a similar project, it will be more important to foster a sense of unity including the top management in order to promote the EMS while taking into account familiarization of all staff with the EMS and greater deepening of their understanding than ordinary business EMS's.

5. Deployment of the Environmental Policies

5-1 Overview of the Environment-Conscious Efforts and the Results

The following table shows the environment-conscious efforts that have been made and their results in the items of environmental policies and environmental objectives.

Environment conscious efforts and results (overview)

Environmental policy	Environmental objective	Execution content and result		Pages
1.Implement environmental preservation measures indicated in the impact assessment report	(1) Reduce burden on living environment surrounding the site (2) Secure biodiversity, systematically preserve the natural environment and secure enriching contact between humans and nature (3) mplement monitoring and necessary measures	Conduct follow-up surveys (forecast, evaluation)	1) Conducted the following follow-up surveys (forecast, evaluation), and added preservation measures to the project plan based on the results. ・Youth Park west terminal development ・Yakusa terminal development ・Sewage water pipe installation ・Inter-site gondola installation ・Private car parking lot development ・Events, lightings ・Post-duration construction work	p.59
		Conduct monitoring of atmosphere, noise, water quality, etc. and announce the result	1) Performed measurement and observation of atmosphere, noise, water quality, soil, plants, animals, etc. from fiscal 2002. 2) The environmental standards and monitoring objectives of the environmental impact assessment report are achieved for most items but not all.	p.80-81
		Reduce air pollution, noise, etc. associated with construction	1) Monitored efforts to prevent pollution from civil engineering/construction works and thoroughly implemented the efforts; Confirmation and thorough implementation through a check sheet and on-site patrol. 2) Adjusted construction works through "Council on measures to deal with the surroundings of the site concerning EXPO-related works" in site development. 3) Advanced efforts under the action plan and guidelines for environment-conscious efforts on site development.	p.66-71 p.82-83 p.87
		Avoid areas where notable species are concentrated	1) Avoided areas, forests and ponds inhabited by notable species in groups. ・Excluded the south forest area in the Aichi Youth Park from the site; planned approx. half the site as a non-alteration area. ・Secured a conservation area for the Daruma pond frog in Owari-Asahi parking lot ・Secured a conservation area for the Haccho dragonfly in Fujioka parking lot ・Gave consideration to gondola support position and construction period ・Transported materials for gondola construction by helicopter 2) Formulated a facility arrangement plan that gives consideration to the habitat environment of rare species Avoided direct alteration that would affect star magnolia, the quercus mongolica community, goshawks, etc.	p.84-86
2. Formulate a site plan that gives consideration to the natural environment	(1)Utilize existing buildings and avoid large-scale development (2)Avoid alteration of forests, ponds, etc.	Utilize natural landscape	1) Minimized the site area by utilizing flat land and existing buildings ・Site area: Nagakute site: approx. 158 ha; and Seto site: approx. 15 ha ・Event/exhibit area: Nagakute site: approx. 107,000 m2; and Seto site: approx. 9,000 m2 2) Avoided large-scale development by building Global Loop/Common ・Avoid landscape alteration with a circular 2.6 km sky walkway 3) Participated in global forest creation ・Plantation as a compensatory measure for forest alteration (7 ha total)	p.88-89

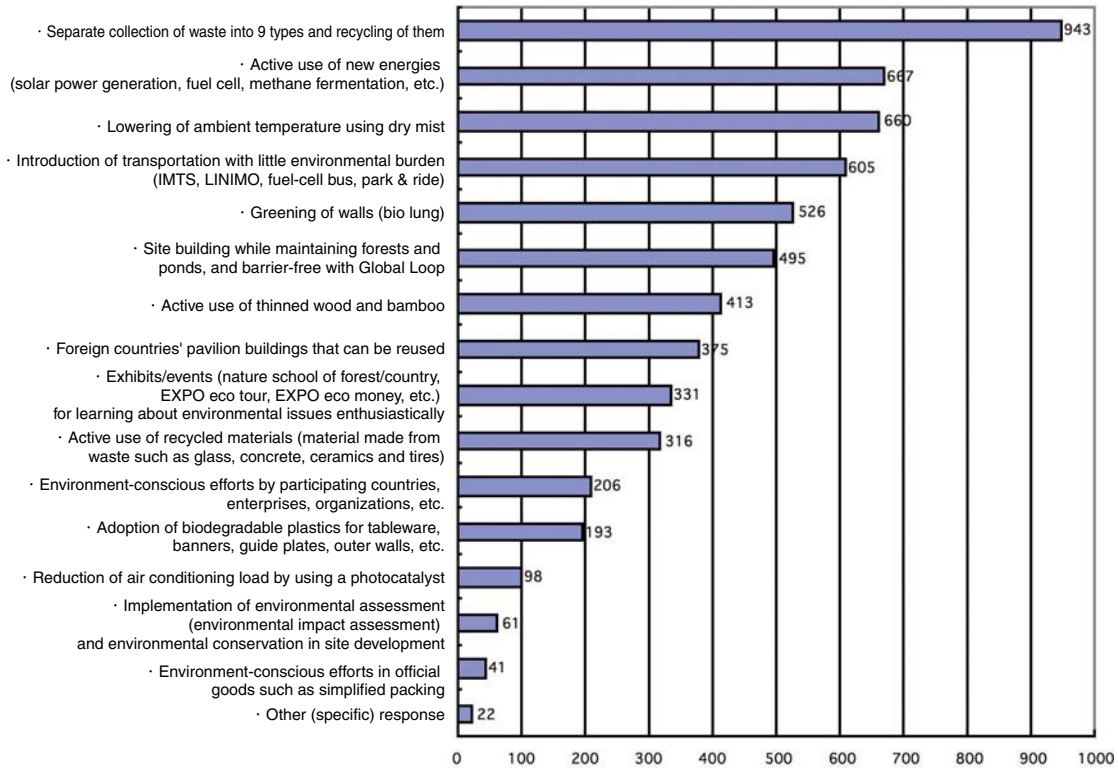
Environmental policy	Environmental objective	Execution content and result		Pages
		Reduce impact of development work	1) Reviewed the in-site soil transfer plan due to increase in the volume of soil from development as a result of reviewing the site development plan when implementing the Nagakute area execution plan 2) Reduced emission of air pollutants from the general plan by using high-performance construction vehicles/equipment such as large dump trucks	p.88
		Utilize natural materials	1) Adopted chip pavements 2) Adopted natural materials in the Japan Pavilion, Aichi Pavilion and private pavilions	p.89-90
3. Introduce advanced technologies for a recycling society	(1) Use biomass plastics for tableware (2) Actively use new energies (3) Use methane fertilization and gasified fuels (4) Use advanced technologies such as wastewater treatment based on concentrated ozone	Control energy utilization at pavilions, etc.	1) Pressed ahead with efforts based on the action plan and guidelines for environment-conscious efforts during the exposition ・Promoted reduction of facility energies (electricity, gas, water, cold water), use of energy-efficient equipment ・Published energy consumption within the site (by daily volume/facility) 2) Used natural energies such as solar power generation and wind power generation	p.71 p.90-95
		Actively use natural energies and new energies	1) Pressed ahead with the action plan and guidelines for environment-conscious efforts during the exposition as well as the waste treatment plan ・Supplied electricity to the Government Pavilion Nagakute through demonstrative study of new energies (solar power generation and biogas power generation through methane fermentation of garbage and gasification of waste plastics and wood chips) ・Used solar/wind power generation in Japan Pavilion and private pavilions	
		Use biomass plastics	1) Used tableware made of biomass plastics at restaurants in the site 2) Used biomass plastics in coating on paper bags	p.96
		Introduce other advanced technologies	・Reduced air-conditioning load through the bio-lung project (wall greening), photocatalytic steel sheet roofs and dry mist ・Used advanced technologies such as waste water	p.97-99
4. Aggressively introduce the 3Rs concept (reduce, reuse and recycle)	(1) Ratio of recycling concrete mass, asphalt/concrete mass and wood produced in construction at 95% (2) Transplant 2,000 interference trees within the site (3) Implement measures to use environment-friendly materials (4) Thoroughly separate waste at the site and reduce waste generation	Promote reuse and recycle of buildings and the like	1) Notification and checking in accordance with the Action Plan for Generation Control and Recycling of Waste on site development as well as the Environmental Conservation Guidelines ・Adoption of construction method for easy assembly/demolishment: Adopted box-type modules for pavilions of official participants for easy reuse ・Adoption of rental/reuse-type materials ・Utilization of used materials ・Of the recycling objectives, recycling of concrete mass and asphalt/concrete mass was achieved at 95% or higher ・The objective for wood generated from construction was not achieved	p.66-71 p.100-103
		Transplant interference trees in site development within the site	・Transplanted more than 2,000 interference trees generated in site development within the site	p.103
		Effectively use recycled materials	・Used waste ceramics for bowls and tableware, built waste-tire low-noise pavements, built woodchip pavements	p.103-104
		Separately collect waste and reduce waste generation	・Pressed ahead with instructions under the action plan and guidelines for environment-conscious efforts during the exposition as well as the waste treatment plan ・Thoroughly provided instructions through the measurement of waste emission (daily amount) and publication ・Thoroughly separated waste into 9 types (garbage, disposable chopsticks, plastics, paper drink containers, newspapers, inserts, burnable trash, noncombustible trash, and leftover water) ・Installed and managed trash box station (over 80 stations) and stockyards ・Prohibited bringing-in of PET bottles, cans, glass bottles and hazardous waste ・Collected waste of 5,164t/22.05 million people against the target of 3,820t/15 million people, translating into 234g/person a day against 255g/person a day.	p.69 p.104-109
5. Promote use of transportation with little environmental burden	(1) Reduce car traffic by promoting active use of public transportation	Promote active use of railway-based public transportation	1) Increased convenience through extension and mutual extension of Aichi Loop Line 2) Operated Tobu Kyuryo Line ("Linimo"), which uses the low-noise, low-vibration magnetically levitated system	p.110-111

Environmental policy	Environmental objective	Execution content and result		Pages
	(2) Control concentration of car traffic around the site by implementing park & ride, etc. (3) Introduce low-emission vehicles for shuttle buses, etc. (4) Provide information through utilization of ITS	Control concentration of car traffic around the site	1) Implemented park & ride, distributed locations of parking lots for private cars, and secured parking spaces for 10,600 cars at 6 parking lots 2) Introduced shuttle buses 3) Provided detailed information by using the latest ITS (intelligent transport system)	p.111-114
		Introduce low-emission transportation using advanced technologies	1) Introduced low-emission vehicles such as fuel-cell bus for shuttle buses, etc. 2) Introduced a low-pollution transportation system with unmanned bus (IMTS) using a cutting-edge technology as a means of transportation in the site 3) Operated Global Trams, bicycle taxis, etc.	p.113
6. Provide opportunities to learn enthusiastically through exhibits and events	(1) Provide participatory/hands-on environmental education programs (2) Examine a system for providing environmental data in the site (3) Provide opportunities to learn about environmental issues enthusiastically through exhibits and events (4) Hold an international conference themed on the environment	Provide participatory/hands-on environmental education programs	1) Provided a nature experience program 2) Provided an Expo eco tour 3) Hands-on exhibits (ECO LINK, etc.) 4) Provided data through EXPO AMEDAS and conducted environmental education	p.15.17 p.115-119 p.121-122
		Hold an international conference themed on the environment	・ Held an international conference themed on the environment	p.124
		Introduce an EXPO eco money business	・ Spread and promoted EXPO eco money as a social system	p.119-121
7. Encourage parties involved to make environment-conscious efforts	(1) Formulate guidelines for environment-conscious efforts and encourage participants to make environment-conscious efforts including voluntary ones (2) Compile environment-conscious guidelines for visitors and encourage them to make environment-conscious efforts	Formulate environment-conscious efforts guidelines and spread/raise awareness about environment consciousness	1) Formulated environment-conscious efforts guidelines in site development, Expo holding and demolition/removal, and spread/raised awareness about environment consciousness 2) Submitted environmental plans based on the guidelines, and collected and organized execution plans and the results	p.71
		Encourage participants to conserve the environment	1) Thoroughly separated waste into 17 types 2) Placed "EXPO Eco Map," "EXPO Eco Book," "Environmental Assessment Effort" and billboards showing environment-conscious facilities	p.105-106 p.124-125
		Press ahead with environmental management	1) Established and operated an environmental management system unique to the EXPO 2005 Association 2) Summarization and publication of results of environment-conscious efforts ・Conducted a web-based environmental questionnaire	p.72-75 p.127-130

"Most impressive environment-conscious activity" (from the Environmental Web Questionnaire)

More than 45% of the respondents indicated "Separate collection and recycling of waste into 9 types" as the most impressive environment-conscious activity. This was followed by "Active use of new energies," "Lowering of ambient temperature using dry mist," "Introduction of transportation with little environmental burden" and "Greening of walls," which are all easily understandable technological efforts.

Most impressive item among environment-conscious activities of EXPO 2005 AICHI JAPAN
(N=2035, up to 3 answers allowed)



5-2-1 Implementation of Environmental Conservation Measures Indicated in the Environmental Assessment Report

(1) Result of the monitoring survey and actions taken

To monitor the influence of holding the Expo in the surrounding environment, we conducted research from the site building to Expo duration, and to the demolition/removal of facilities in accordance with the monitoring plan indicated in the environmental impact assessment report and the follow-up surveys (forecast, evaluation), which were subsequently conducted. If a significant impact on the environment were observed as a result of the monitoring, we would seek expert advice or instructions and take appropriate measures including changing the project plan. In addition, we compiled survey results in reports* and published them.

As indicated in the following page, monitoring has been conducted for areas comprising the Nagakute and Seto sites, surroundings of the sites, gondolas between the sites and the parking lots for private cars on items including air pollution, noise, plants, animals, landscape, mutual-contact areas and park-type reservoir ecosystems, according to the specific construction work and operation plan in the area.

We have conducted the monitoring since the groundbreaking ceremony in September 2002. Overall, no significant impact of this project on the environment has been observed. For example, we have seen nesting and fledging goshawks around the sites every year since the construction of the sites. Thus, we judge that the monitoring objectives for environmental conservation have mostly been achieved.

Concerning the roadside air pollution and noise for which expected values were exceeded, we also infer that the impact of the Expo construction work has been minor on the grounds that the concentration and noise levels have remained almost unchanged from the levels before the project was launched and that contribution of the number of construction vehicles for this project to the overall traffic has been low.

In the meantime, for cases where expected values or environmental limits are exceeded in monitoring results, we have analyzed the causes and made improvements if the Expo construction was attributable. For example, the level of general environmental noise in part of the parking lots significantly rose after the construction work was launched, but this was because the construction machinery was operated near the borderline of the lot. Therefore, we strove to minimize prolonged operations near the borderline after the measurement. In addition, in some spots the turbidity of effluent water exceeded the control target value defined by the EXPO 2005 Association in the construction process. Therefore, we backtracked with the water system to identify the cause, cleaned the gutter and put in place a simplified settling tank. Additionally, we have strengthened surveillance.

* "Report on Environmental Assessment Follow-up Surveys (Monitoring Survey)

Items of Monitoring Survey

Item of monitoring survey				2002*1	2003*1	2004	2005 - 2006	
				Construction			In-service	Construc-tion
Assessment report	Air quality, etc.		Climate/air quality	○	○	○	○	○
	Noise		General environmental noise	○	○	○	○	○
			Roadside environmental noise	○	○	○	○	○
	Vibration		General environmental vibrations	○	○	○	○	○
			Roadside environmental vibrations	○	○	○	○	○
	Water quality		Water quality of river that effluent flows into	○	○	○	○	○
			Turbidity of effluent water	○	○	○		○
	Underground water		Underground water level	○	○	○	○	○
			Underground water quality	○	○	○	○	○
	Soil contamination		Soil contamination	○	○*2			
	Seto site	Plants	Notable plant species, star magnolia	○	○	○	○	○*4
		Animals	Flying squirrel, goshawk, honey buzzard, breeding birds such as popinjay, Haccho dragonfly / ceriagrion nipponicum, Luciola cruciata, Luehdorfia japonica	○	○	○	○	○*4
		Landscape	View from notable viewpoint				○	○
		Mutual-contact area	Notable mutual-contact area				○	
	Nagakute site	Plants	Notable plant species	○	○	○	○	○*4
		Animals	Goshawk, breeding birds such as popinjay, kingfisher, notable fish species, Haccho dragonfly / ceriagrion nipponicum, Luehdorfia japonica	○	○	○	○	○*4
		Ecosystem	Park-type country ecosystem focused on Luehdorfia japonica / quercus mongolica	○				○
			Park-type wetland ecosystem focused on Haccho dragonfly, etc.		○*5	○	○	○
		Landscape	Notable landscape resources	○			○	
		Mutual-contact area	Notable mutual-contact area	○			○	
Part 2	Inter-site gondola	Noise	General environmental noise			○		
		Plants	Notable plant species		○	○	○	○*4
		Animals	Goshawk, breeding birds			○	○	○*4
Part 3	Private car parking lot	Air quality	Air quality			○	○	○
		Noise	General environmental noise			○	○	○
			Roadside environmental noise			○	○	○
		Water quality	Water quality of river that effluent flows into			○*6	○	
		Animals	Daruma pond frog, harvest mouse, Eurema laeta betheseba, Haccho dragonfly			○	○	○*4
Part 4	Event/lighting	Ecosystem	Park-type reservoir ecosystem				○	

Notes:

*1: "Assessment report" in 2002 and "Part 2" in 2003 partially include items on which the survey started before the start of construction.

*2: Although these were already monitoring items in 2002, a survey was not conduced on them that year. Therefore, we surveyed only sulfide in 2003.

*3: Only Haccho dragonfly was surveyed in 2002. However, since ceriagrion nipponicum was found in the survey points in 2003, we started to survey the habitat status of ceriagrion nipponicum as well.

*4: Only those species for which the survey timing is suitable will be surveyed during the construction.

*5: Although these were already monitoring items in 2002, a survey was not conduced on them that year. Therefore, we started the survey in 2003.

*6: To compare only the Nagakute parking lot and the Fujioka parking lot, where purification facilities were installed, with the results of the survey conducted when they were in service, we surveyed this item also when they started operation.

(2) Environment-conscious efforts in civil engineering/construction works

The EXPO 2005 Association and EXPO participants are obliged to make environment-conscious efforts in civil engineering/construction works in accordance with the work specifications and the action plans*1/guidelines*2 for environment-conscious efforts (hereinafter "action plans/guidelines").

The action plans/guidelines stipulate that the parties involved shall submit plans and reports on the execution results (execution documents) concerning their efforts to control/recycle waste and control the emission of greenhouse gases when performing civil engineering/construction works in site development.

Reduction of air pollution and noise in civil engineering/construction works

◇ Monitoring and thorough implementation of efforts to prevent pollution in civil engineering/construction works

To prevent pollution associated with civil engineering/construction works, we asked the parties involved to submit execution plans concerning conservation measures in environmental impact assessment. In addition, in response to advice from the Aichi Governor on environmental monitoring, we established a monitoring structure based on on-site patrol to achieve thorough implementation of the efforts.

- Proper allocation and efficient use of construction equipment according to the construction scale
- Adoption of low-pollution type equipment
- Prevention of dust from flying around
- Equalization of works
- Distribution of material carry-in/removal routes, and more

■ State of the monitoring (environmental patrol) of environmental conservation measures (started in January 2004)

(1) Monitoring method
- The person in-charge patrols the site using a check sheet to track efforts
- For items that may have a significant environmental impact, take appropriate measures

(2) Monitoring frequency
- Jan to Mar 2004: once a week
- Apr 2004 onward: 2 to 4 times a month(September 2005)

◇ djustment of works through "Council on measures to deal with surroundings of the site concerning EXPO-related works"

In areas surrounding the site, since multiple works are conducted simultaneously, they might affect daily traffic and commuting in the communities. Therefore, we set up a "Council on measures to deal with surroundings of the site concerning EXPO-related works" (October 2001) consisting of transportation/road-related organizations of the prefecture, surrounding city/town governments, surrounding school officials and the EXPO 2005 Association. The council has worked on issues such as the prevention of construction vehicles from entering residential roads, prevention of soil and sand from flying from construction vehicles, proper allocation of safety billboards and traffic control staff, securing of existing car lanes during works, avoidance of works in morning/evening rush hours and commuting hours of elementary/middle schools and public relations for information on the works.

Reduction of impact by land formation work

The action plans/guidelines define that the parties involved shall reduce the impact of carry-in/removal on the surrounding environment by balancing between the amount of cut soil and the amount of filled soil in land formation of the site so that cut soil is not removed outside the site.

In the land formation work, the amount of soil in land formation increased from the initial plan due to partial change in the site development plan of the Nagakute area. The causes of the increase in the amount of soil in land formation are as follows.

*1 "Action Plan for Generation Control and Recycling of Waste (on site development)"; "Action Plan for Global Warming Prevention Measures (on site development)"
*2 "Environmental Conservation Guideline (volume of site development)"

・Matching with the Aichi Prefecture Park Development Plan
Matching with the Aichi Prefecture Park Development Plan, which requires the ground levels of the north gate and the surrounding area to be lowered from a barrier-free viewpoint.
・Change in the planned ground level of the Common and the Loop
Change in the ground level of the Global Loop to match the above.
・Clarification of the shape of land to be formed due to concretization of the IMTS (unmanned bus) route
・Implementation of transplantation work

Although the direct alteration area remained unchanged from the time when the environmental impact assessment was performed, the amount of soil in land formation increased by approximately 35%.

Difference in amount of soil in land formation between the master plan and the execution plan

Classification		(A) Master plan (assessment report)	(B) Execution plan	Change (B)-(A)
(1) Direct alteration area		89ha	89ha	0ha
(2) Land formation area		49.1ha	54.6ha	5.6ha
(3) Amount of soil in land formation	1.Cut soil	480,000 m^3	650,000 m^3	170,000 m^3
	2. Filled soil	530,000 m^3	720,000 m^3	190,000 m^3

As a result of examining a measure to avoid increase in the impact on the surroundings due to the increase in the amount of soil in land formation, we decided to take measures such as reviewing the in-site soil transfer plan, using high-performance construction vehicles/equipment such as large dump trucks and reducing the scale of deck work. Although this would slightly increase the total emission of NOx and other pollutants from construction machines inside the site throughout the land formation period, the total emission of those gases from construction vehicles running outside the site and the daily maximum amount of emission from construction machines/vehicles would drastically drop. Therefore, we judged that we would be able to minimize the increase in the environmental impact.

We posted and published these results on the website before performing the land formation work.

Pheasants nested in a land formation site

On June 30, 2003, we found a pheasant sitting on eggs in a small grassy area within a land formation site near the west gate of the Nagakute site. According to the work plan, land leveling was about to be started. We interrupted the land formation work for approximately 3 weeks until the eggs hatched and the chicks left the nest together with their parent, and then we resumed the work.

◇ Avoidance of areas, forests and ponds inhabited by notable and other species in groups

- In the process of site selection, we found a goshawk's nest in the Kaisho Forest (approx. 540 ha), which was initially the prime candidate of the EXPO site. Partly because of this, we changed the site to Nagakute (approx. 158 ha), which had been used as a Youth Park, as the main site, and to Seto (approx. 15 ha), which is located in the southwest end of the Kaisho Forest.
- In planning the use of the Nagakute site as the land for the EXPO, we thoroughly researched the natural environment including notable species (notable plant species, plant groups and animals) in and around the site. As a result, the forest area to the south of the Youth Park was excluded from the EXPO site. In addition, we decided to use as much as possible those spots originally containing facilities such as a baseball field, tennis courts, a camping site and a skating rink as part of the Aichi Youth Park, within the area we planned for the EXPO site, and preserve the forests and the agricultural reservoir, which occupy approximately half of the site, in their original state. Furthermore, in designing the EXPO facilities, we strove to maintain even those places where facilities would be built after land leveling wherever possible with due consideration given to notable species there. For these notable species, we have continued monitoring surveys throughout the entire period from the site construction to during the Expo and the demolition and removal.
- Similarly, for the Seto site, we strove not to alter the natural environment including logging in natural forests while utilizing those places where land had been formed for housing and bare lands as much as possible. In addition, the habitat of Lefua costata, listed as endangered (IB) in the red list of the Environment Ministry, was found in a brook within the Seto site. We decided to change the location of facilities and not to build any facility along the river.

◇ Control of the impact of gondola support construction

For the locations of gondola supports, we selected places that would not affect the areas where a large number of plants are found, avoided conducting works during the breeding season of goshawks and other notable birds, and used a helicopter for transporting materials and equipment instead of developing construction roads, which would involve logging in forests.

6th and 7th supports: conducted works while avoiding the breeding season of birds including goshawks

7th support: minimized landscape alteration and used a helicopter for transporting materials

◇ Facility planning with due consideration to the habitat environment of rare species

- For the Owari-Asahi parking lot, which is among the park & ride parking spaces for private cars, we originally planned to temporarily convert paddy fields into a parking lot. However, in our preliminary research, we found Daruma pond frogs, classified as extinction anxiety level II (VU) in the red list of the Environment Ministry, inhabiting the fields. We sought advice from experts, and they suggested that the highest paddy field in the ecological planning region, which was a wet paddy, should preferably be preserved. Therefore, we preserved that paddy (approx. 2,800 m2) intact as a "seed lot." In subsequent monitoring surveys, inhabitation of Daruma pond frogs has been observed in this preserved area and paddies around the parking lot.

Top: Capture by children
Bottom: Daruma pond frog

・For the Nagakute parking lot, which is among the park & ride parking spaces for private cars, we originally planned to temporarily convert paddy fields into a parking lot. However, in our preliminary research, we found a nest of the harvest mouse, which is classified as extinction anxiety level II (VU) in the red list of threatened wildlife of Aichi Prefecture, and Tsumaguroki-cho (Sp. inthe "white" butterfly family), classified as extinction anxiety level II (VU) in the red list of the Environment Ministry, were found. In our survey, both of these two species were also observed in the surrounding areas, and we first thought that they would survive even if the parking lot were built and the habitat environment would be restored after it was removed, and therefore the construction would not significantly affect them. However, as a measure to protect the harvest mouse, we created a preserved lot of 700m2 by transplanting thach plants (thach is family of rice plant, like Japanese pampas grass etc). and soil to bare land adjacent to a natural forest within the parking lot. In addition, as a measure to protect the Eurema laeta betheseba butterfly, we transplanted a total of approx. 2,000 plants of Kawaraketsumei, the grass the butterfly lives on, collected in the parking lot or raised from seeds collected there, to a slope of the parking lot. In subsequent monitoring surveys, inhabitation of both species has been observed in this preserved area and the surrounding areas.

Nest of the harvest mouse

Tsumaguroki-cho and Kawaraketsumei

・The Fujioka parking lot, which is among the park & ride parking spaces for private cars, had been used mainly as farmland converted from a quarry collection point and an old quarry. However, in our preliminary research, we observed Haccho dragonflies in a wetland within the planned parking lot area. Partly because this wetland was located at the end of the planned parking lot area, we preserved this wetland intact as a conservation area. In subsequent monitoring surveys, Haccho dragonflies were observed even during the parking lot construction and the EXPO period in which the area was used as a parking lot.

◇ Collection of information for future environmental impact assessment

The environmental impact assessment of EXPO 2005 AICHI JAPAN is not subject to the Environmental Impact Assessment Law. However, we started our efforts based on the purport of this law even before the law was fully enforced. The EXPO 2005 Association also conducted the following surveys so that they would be useful for similar future environmental impact assessments.

・From the viewpoint of systematic conservation of the natural environment and enriching contact between humans and nature, we added notable plant groups, countryside ecosystems and notable contact occasions to the existing forecast assessment items as forecast/assessment items of environmental impact assessment.
・When we planned the EXPO site in the Kaisho area, it was indicated that transplanting star magnolia, classified as Vulnerable (VU) in the red list of the Environment Ministry, to a different place would cause hybridization between the transplanted star magnolia and the existing star magnolia growing there. Therefore, we researched the genes of star magnolias growing in both places. As a result, it was found that the star magnolia in the Kaisho Forest is divided into several groups. Later, the Nagakute area was chosen as the main EXPO site, and the star magnolia was not transplanted.

- In the survey conducted to formulate an environmental impact assessment report, we found that an animal species, the flying squirrel, occurs in areas surrounding the Seto site. The EXPO 2005 Association decided to capture flying squirrels active mainly in the area adjacent to the site and practice the telemetry method (method of tracking individuals carrying transmitters) as a monitoring survey. In this survey, two males and one female were captured, and the difference in home ranges between males and females and the relation are coming to light.
- The honey buzzard is a medium size raptor that eats wasp larvae and so forth and migrates to Japan in spring to breed. The EXPO 2005 Association installed video cameras near an existing nest of honey buzzards in order to track their breeding and feeding states in a monitoring survey. During the EXPO period in 2005, we succeeded in the continuous filming of a series of their breeding state from nesting to mating, hatching, chick development and first flight. We expect the subsequent analysis will help to protect the honey buzzard. The videotaped breeding state was shown at the "Environment Assessment Exhibit Room" built in the Nagakute site during the EXPO period. In addition, we made moving images of the breeding state available on the official website of the EXPO 2005 Association.

State of greenhouse gas emission in site development

The environmental impact assessment report concerning the 2005 World Exposition, Aichi, Japan defines the target values for greenhouse gas emission and wooden frame usage in the site development stage.

This subsection summarizes the state of greenhouse gas emission and wooden frame usage based on the execution documents submitted in accordance with the action plans/guidelines.

State of survey sheet collection

The number of works at the stage of site development was 141. Data were tabulated as follows based on execution documents submitted by contractors by the end of December 2004.

State of survey sheet collection

	Number of works surveyed	Number of works for which survey sheets were collected	Collection rate
Issues related to number of machines/vehicles	141	118	83.7%
Issues related to materials such as cement		108	76.6%

State of greenhouse gas emission

According to the action plans/guidelines for global warming prevention, the contractors must submit reports on the results of their work executions on items such as type of construction machine, number of construction machines used, type of construction vehicle, cement usage and frame usage. Although not all execution documents were collected, the state of greenhouse gas emission at the site development stage was tabulated as follows based on the submitted execution documents.

Result of survey on greenhouse gas emission and wooden frame usage in the site development stage (fiscal 2002 to 2004)

Item			Seto site	Nagakute site	Other	Total		Target value*2
CO_2 emission ($t\text{-}CO_2$)	Construction machine		384.0	5,661.4	2,627.2	8,672.6	13,837.8	13,534
	Construction vehicle		13.8	54.7	90.6	159.1		
	Cement	Blast furnace	58.7	1,692.3	370.5	5,006.1		
		Other	113.3	2,480.8	290.4			
CH_4 emission ($t\text{-}CO_2$*1)	Construction machine		0.5	6.7	3.1	10.3	10.5	4
	Construction vehicle		0.0	0.1	0.1	0.2		
N_2O emission ($t\text{-}CO_2$*1)	Construction machine		2.0	29.5	13.7	45.2	48.1	25
	Construction vehicle		0.2	1.2	1.5	2.9		
Total			572.5	9,926.7	3,397.1	13,896.4		13,561
Wooden frame usage (m^3)			119.7	576.5	119.7	816		918

*1: CO2 equivalent value multiplied by global warming factor

*2: Target value is the total value of the Seto and Nagakute sites.

Note: Since fractions are rounded off after the 2nd decimal place, the total value may not be consistent.

Since the collection rate is not 100% and the values of uncollected data are not determined, we cannot present an achievement rate against the target values. However, the target values for CH4 and N2O emissions were exceeded.

5-2-2 Formulation of Site Plans with Due Consideration Given to the Natural Environment

Concept of site planning

◇ Concept of the Nagakute site

With the following items as the basis, we strove to organize facilities that were suitable for the international exhibition while minimizing the alteration of the natural surroundings.

(1) Avoid large-scale land formation by utilizing existing flat landscapes and existing building parts and adopting the Global Loop.

(2) Avoid areas, forests and ponds inhabited by notable species in groups as much as possible.

◇ Concept of the Seto site

We minimized the impact on nature through land formation following the natural landscape and the allocation of major facilities to bare land from the perspective that it is necessary to make the entire Kaisho Forest an area that will allow people to learn about the interaction between humans and nature in the future.

Utilization of natural landscapes

◇ Reduce the area of developed land by utilizing flat landscapes and existing buildings

We strove to avoid the environmental impact of facilities by utilizing flat land and part of the existing facilities of the Aichi Youth Park as well as the planned land for the Aichi Science and Technology Exchange Center, which is existing developed land.

In the Seto site, we allocated major facilities within natural landscapes and bare land.

Site areas and formed land areas

	Site area	Developed land area (execution plan)	Area of event/exhibit
Nagakute site	158 ha	54.6 ha	10.7 ha
Site area ratio	-	34.6 %	6.8 %
Seto site	15 ha	8.29 ha	0.9 ha
Site area ratio	-	55.0 %	6.0 %

◇ Avoidance of large-scale land formation by building the Global Loop and Common (Nagakute site)

The Global Loop was designed with the minimum of alteration to uneven landscapes and ponds and with consideration given to the habitat of rare animals and plants so that visitors can move freely around the natural landscapes while detouring around them.

Global Loop under construction

Supports with steel-rake structure

Bird's eye view

The Global Loop applies the following environment-conscious efforts to its structure.

- Steel-rake structure:The loop is held by approx. 200 sets of rake-like supports (steel rakes) in order to drastically reduce the foundation and minimize land alternation.
- Steel piles:The underground piles use recyclable/reusable steel materials, and have special shapes with blades on the end that allow the piles to be pulled off with reverse rotation so that they can be easily reused.

Participation in afforestation outside the sites

With EXPO 2005 AICHI JAPAN, we strove to create the sites while keeping the natural landscapes and forests intact. Nevertheless, it was inevitable that a total of approx. 7 ha of forest had to be altered in the Nagakute and Seto sites. Therefore, we conducted an afforestation project (afforestation experience event) as a compensatory measure for the alteration of 7-ha of forest.

The afforestation experience event was planned as a preliminary project of the "nature experience program," and held with volunteer participants in three places: the base of Mt. Fuji, Mongolia and Seto City, thus contributing to global afforestation.

Data on the afforestation project

Project name	Number of participants	Area of tree planting	Number of trees planted	Tree species
Mt. Fuji base tree planting experience event (Fujinomiya City, Shizuoka Prefecture)	Approx. 350	2.5 ha	4,650	Japanese cypress, maple, zelkova, etc.
Mongol international tree planting festival (Sukhebaatar City)	Approx. 100 (including 23 from Japan)	10 ha	30,000	Mongolia-native red pine, etc.
Seto City tree-planting experience event (Seto City Jokoji natural recreation forest)	Approx. 120	0.5 ha	1,000	Cherry Sp. Japanese maple, Rhododendron dilatatum

Mt. Fuji base tree planting event

International Tree Planting Festival in Mongolia

Seto City tree-planting experience event

Utilization of natural materials

Various materials were used in the sites of EXPO 2005 AICHI JAPAN. In particular, we actively used thinned wood, and proposed new ways of using it.

Examples of natural materials used in the sites

Place where natural material is used	Example of utilization
EXPO 2005 Association's facilities	•Use of waste wood in the Global Loop, thinned wood produced in Aichi Prefecture, eucalyptus forestation trees produced in Brazil, etc. •Use of thinned wood for deck floor of the north gate, the EXPO Dome, outer wall of the EXPO Hall and restaurant buildings near the north entrance (1,300 m3)
Japan Pavilion Nagakute	•Bamboo cage (world's largest bamboo cage) covering (90_70_19m, 23,000 madake bamboo trees) •Wall-greening with Sasaella kogasensis var. gracillimia •Laminated wood and cluster columns (structural column comprising 9 pieces of small-diameter thinned wood) made from thinned wood not popular as a building material •Acoustic absorbent and heat insulator using bamboo fiber as the main material
Japan Pavilion Seto	•Use of semi-fireproof domestic larch wood as exterior panels •Roof greening with coconut shell matting, which is a biomass material
Aichi Pavilion Nagakute	•Use of wood produced in Mikawa for structural material, roof deck and outer wall (540 m3) •Use of thinned wood for roof deck, etc.
Aichi Pavilion Seto	•Use of wood produced in Mikawa for roof deck and outer wall (155 m3) •Use of stone meshed cage for retaining wall
Chubu Community for Millennial Symbiosis	•Use of Indonesian silk worm cocoons for exterior material

Toyota Group Pavilion	•Use of plant fiber kenaf for part of inner wall
Gas Pavilion	•Use of domestic thinned cedar wood (approx. 38 t) for outer wall and circumferential independent columns of the building
Turkey Pavilion	•Use of method of wrapping Yezo spruce bark around supports made of hardened wood chips for part of the columns inside the pavilion
Philippine Pavilion	•Use of processed coconut wood for the floor of the pavilion
Others	•Use of natural materials such as woodchip pavements and waste wood for earth retainers in various places in the sites •Use of kenaf for part of tent roofs

Global Loop fund-raising for use of thinned wood

The Global Loop fund-raising, together with the Aichi Forest Association and other organizations, collected approx. ¥17 million to purchase thinned wood from cedar produced in Aichi Prefecture and provide part (3.5-m wide, 500-m long, approx. 50 m3) of the Global Loop in front of Chubu Community for Millennial Symbiosis. Names of the 9,138 fund raisers (including enterprises and groups) were displayed on the monument on the roof top of Chubu Community for Millennial Symbiosis.

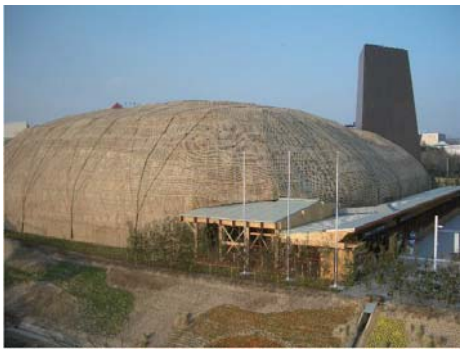
Thinned wood on the Loop: Left part is made from thinned wood of cedar produced in Aichi Prefecture

Bench made of thinned wood on the Loop

Thinned wood of the north gate

Effective use of bamboo and reduction of air conditioning load through the Bamboo Cage

n Japan, damage from excessively spreading bamboo trees has become a problem. The Japan Pavilion Nagakute covered the entire building with a cage made from approx. 23,000 bamboo trunks as an example of the effective use of bamboo. In addition, covering the building with a bamboo cage allows the building to breath while blocking solar radiation. Thus, the air conditioning load in the building was reduced.



Bamboo Cage

5-2-3 Adoption of Advanced Technologies for the Development of Eco-Communities

We actively adopted advanced technologies that are essential to building eco-communities, such as natural energies, new energies and recycling technology.

Active utilization of new energies

◇ mplementation of efforts in accordance with the action plans/guidelines

The action plans/guidelines define the controlled use of facility energies (electricity, gas, water and cold water) and the active use of energy-efficient equipment to promote efforts to save energies and resources in holding the EXPO.

The main source of electricity used for the EXPO is electricity purchased from power companies. However, from the perspective of adopting cutting-edge technologies, we also used new energies generated from large-scale experimental facilities at the sites. The pavilions also adopted electricity generated by solar power and wind power.

Examples of adopting new energy plants

Place	Environmental facility	Specifications
New energy		
Global Common 5, 1st floor	New energy plant in cooperation with NEDO (Demonstrative Project of Regional Power Grids with Various New Energies)	In the “Demonstrative Project of Regional Power Grids with Various New Energies,” we established a small-scale electricity network called the “micro grid”*1 by combining fuel-cell power generation using 3 types of fuel cells, the solid oxide fuel cell (SOFC), the molten carbonate fuel cell (MCFC) and the phosphoric acid fuel cell (PAFC), as well as solar power generation and a power storage system (NaS cell). The NaS (natrium sulfide) cell was added as the power source for regulating fluctuations. *1 The micro grid is a system that provides more efficient power supply that meets the needs of consumers with increased economic efficiency and supply reliability as a power supply system by controlling and operating the power supply within a given area through a combination of multiple distributed power sources.
Near the west gate	New energy plant in cooperation with NEDO (Demonstrative Project of Regional Power Grids with Various New Energies)	<Solar power generation> Polycrystalline silicon type (generation capacity:200 kW) Close to the monocrystalline type in both conversion efficiency and price
Outer fence of the Global Loop	New energy plant in cooperation with NEDO (Demonstrative Project of Regional Power Grids with Various New Energies)	<Solar power generation> Bifacial monocrystalline silicon type (generation capacity:30 kW) High conversion efficiency (13 to 20%), relatively expensive
Near the Spain Pavilion	New energy plant in cooperation with NEDO (Demonstrative Project of Regional Power Grids with Various New Energies)	<Solar power generation> Amorphous type (generation capacity:2100 kW) Relatively low conversion efficiency (8 to 13%), less efficient at high temperature (summer), inexpensive, great freedom in shape

New energy plant in cooperation with NEDO

Global Loop's fence

Near the Spain Pavilion

Solar power generation		
Hitachi Group Pavilion Waiting space	Bifacial solar cell	Capable of efficiently converting received solar radiation into electric power from both faces of the cell. Has a generation capacity 0.3 times greater than conventional solar cell panels (one face) irrespective of the mounting direction. (Monocrystalline silicon type) The vertical mount reduces materials such as a pedestal.
Wonder Circus - Electric Power Pavilion	Solar power generation system	A solar power system using the latest film board amorphous solar cell. Use of a board made of a flex plastic film (thin solar cell) allows application to curved surfaces and weight saving. Fewer materials and high mass productivity enable cost cutting. Output: approx. 10 kW
Near EXPO Plaza	Solar cell & wind power generation Hybrid tower "Wind Seagull"	Solar cell panel: monocrystalline silicon type, 84 W＊27 units Wind power: 30 W＊27 units Used as a power source for night lighting.
On the Global Loop	Solar cell panel	Recharged with a solar cell during daytime for lighting a sign (banner) at night.
Rest house opposite of company pavilion A	Solar cell roof tile	Roof tiles embedded with solar cell panels. Used for night lighting of an arbor.
Seto site Welcome House	Solar cell panel	Polycrystalline silicon type, 2.38 kW Area: 22.28 m^2
Aichi Pavilion Seto	Solar cell panel	Output: 4.5 kW Used for fixtures inside the facility.
Forest Visitor Center's roof	Solar cell panel	Output: 10 kW Used for lighting inside the facility.
In a flowerbed at the end of the Global Loop	EXPO Firefly	A stand-alone lighting combining solar cell panels and light-emitting diodes.
EXPO AMEDAS	Solar cell panel	Generates electricity for transmitting measurement data by radio.

Solar cell panels on the roof

Solar cell roof tiles

Seto site Welcome House

Forest Visitor Center

EXPO Firefly

Wind power generation		
Aichi Pavilion Nagakute Aichi Pavilion Seto	Using wind power generation	1) Utilized 335013 kWh of the power generated by the Chita City Shinmaiko Marine Park wind power plant (alternative power generation) 2) Utilized 335000 kWh of the power generated by the Tawara Rinkai wind power plant (green power certified)
Toyota Group Pavilion	Using wind power generation	Wind power facility in Tawara City, 1,980 kW＊1 unit Alternatively generates electricity equivalent to consumption.
Nagoya City "Earth Tower"	"Ongu" (acoustics instrument)	Four blades, length of the rotor: 2m Max output: 1,320 W Number of units installed: 3
Near EXPO Plaza	Hybrid tower "Wind Seagull"	30 W＊27 units (wind speed: 15 m/s) Used as power for night lighting.
Wonder Circus - Electric Power Pavilion	Wind power generation	A wind power system capable of generating electricity even with a breeze at a speed of 3 m. Rotor diameter: only 54.6 cm. Starts at a wind speed of 1.5 m. Max output (rated): 160 W (23 W×7 units)

Shinmaiko Marine Park Wind power plant, Used in Aichi Pavilion

Alternative wind power generation, Used in Toyota Group Pavilion

"Ongu"

"Wind Seagull"

Wonder Circus - Electric Power Pavilion

Fuel cell (excluding cars)		
Entrance of the Global House	"Galaxy Clock" using fuel cell	Generates electricity by extracting hydrogen from LP gas and reacting it with oxygen in the air. Uses the generated electricity to activate the "Galaxy Clock." Generation capacity of 1 kW, sold for household use. Three units are installed.
Hitachi Group Pavilion	Fuel cell for mobile equipment	Generates electricity by using methanol as a fuel. Produces hydrogen ion from methanol and reacts it with oxygen in the air to extract electric energy. Higher energy density than the conventional lithium ion cell. Discharges only water vapor during power generation.
Wonder Circus - Electric Power Pavilion	Related to Wonder Circus - Electric Power Pavilion (fuel cell)	Adopts world's first commercial cogeneration system as a plate-type solid oxygen fuel cell (SOFC). Power output: 30 kW, heat output: 30 kW
Gas Pavilion	Fuel cell	The pavilion exhibited a household fuel cell marketed in 2005 (PEFC: output: 1 kW) in a dynamic state. In addition, it exhibited a prototype solid oxygen fuel cell (SOFC: output: 1 kW) in a dynamic state.

Galaxy Clock

Fuel cell for mobile equipment

Fuel cell of W. Circus - E.P. Pavilion

Fuel cell of Gas Pavilion

◇ Demonstrative study on new energy plant in cooperation with NEDO

This demonstrative study was jointly conducted among 9 companies as commissioned by NEDO (New Energy and Industrial Technology Development Organization).

This system is capable of controlling the balance between the supply and demand of electric power by combining solar power generation with 3 types of fuel cells using methane fermentation gas and high-temperature gasified gas and adding a NaS (natrium sulfide) cell, which serves as the power source for regulating fluctuations. It is world's first trial of combining multiple new energies and controlling them.

The system has a generation capacity of approx. 2,200 kW, which covered the power consumption of the Japan Pavilion Nagakute (100%) and the NEDO Pavilion. In addition, we utilized heat energy, produced in the process of fuel cell power generation, for air-conditioning the NEDO Pavilion.

Throughout the EXPO, this plant processed a total of 587 tons of garbage (57% commercial waste including that from restaurants [on the basis of collection in the sub stockyard]) and 3,360 kg of PET bottles (equivalent to approx. 130,000 PET bottles [500 ml]) to produce fuel for the fuel cells.

In addition, following the closure of the EXPO, this plant will be transferred to the Central Japan Airport City (Tokoname City, Aichi Prefecture), adjacent to the Chubu International Airport, to continue the demonstrative study.

New Energy Plant

◇ Power generation facilities: fuel cells, solar cell systems, a power storage system

・Fuel cells: account for 85% of the capacity
3 different types of fuel cells are used to generate electricity. (One already at a commercial level, and two expected for large-scale distributed power generation)
・Solar power systems: account for 15% of the generation capacity; cell area: approx. 3,200 m2
Near the west gate: power generation output: 200 kW
On the Loop fence: power generation output: 30 kW
Near the Spain Pavilion: power generation output: 100 kW
・Power source for regulating fluctuations: NaS (natrium sulfide) cell

◇ Fuel for fuel cells: Garbage and PET bottles collected from the site are used as a fuel

A methane fermentation system (garbage of the site) and a high-temperature gasification system (plastics and woodchips) supply the hydrogen required for the fuel cells.

Fuel cell (MCFC)

Methane fermentation system

High-temperature gasification system

◇ Energy-saving efforts

The Japan Pavilions, Nagoya City Pavilion and company pavilions made various efforts such as utilization of energy-saving materials.

Energy-saving efforts

Facility name	Description
Japan Pavilion Nagakute	•Reduction in solar radiation load with a Bamboo Cage •Cooling effect through intermediate water spray on the photocatalyst steel roof (water-sprinkling effect) •Wall greening with kokumazasa (Sasaella kogasensis var. gracillimia) •Local air-conditioning of residential area in a large space and natural ventilation •Use of cascading of cold exhaust in the building for a waiting space •External lighting with solar cells + LEDs
Japan Pavilion Seto	•Reduction in heat load with “Wind Tower” (solar chimney) and a geo-heat utilization system •Roof greening with a coconut mat, which is a biomass material •Reduction in heat load with automatically responding light-control glass
Aichi Pavilion Seto	•Equalization of power consumption and elimination of a temporary heat source through the use of an ice thermal heat pump •Use of natural air-conditioning with natural ventilation and evaporation of running water
Nagoya City “Earth Tower”	•Reduction in air-conditioning load by applying a photocatalyst on the tower wall and pouring water
Wonder Circus - Electric Power Pavilion	•Implementation of pinpoint air-conditioning by using new energy (cool air provision) •Use of underground cold energy through underground burial pipes (pinpoint air-conditioning of the outdoor waiting space) •Use of a local air-conditioning system in a large exhibition space
JR Central Super-Conductive Linear Motor Car Pavilion	•Use of a titanium oxide photocatalyst tent
Mitsubishi Pavilion@Earth	•Greening of the roof and wall
Mitsui-Toshiba Pavilion	•Use of “aqua water” •Maximum utilization of natural energy such as daylight
Mountain of Dreams	•Use of a titanium oxide photocatalyst tent
Gas Pavilion	•Effective utilization of electricity and heat through the adoption of a highly efficient gas co-generation system (overall efficiency: over 90%) •Reduction in air-conditioning load through the adoption of residential area air-conditioning and secondary use of cooled air •Reduction in air-conditioning load through roof greening and roof water spray

Comparison of target values for greenhouse gas during the EXPO period with emission status

The action plan for environment-conscious efforts during the 2005 World Exposition, Aichi, Japan defines the objective on greenhouse gas emission as an effort to prevent global warming.

This subsection summarizes the status of greenhouse gas emission based on the action plans/guidelines, and compares the target values with the actual state.

Relevant emission sources

The relevant greenhouse gases are as follows:

・Carbondioxide (CO_2)

・Methane (CH4), nitrogenmonoxide (N2O)

We assumed the volume of greenhouse gases generated from city gas, water consumption, waste treatment, transportations at the sites and access transportations.

The relevant transportations at the sites are waste delivery vehicles, IMTS and commercial vehicles, while the relevant access transportations are the parking lot shuttle bus, station shuttle bus, inter-site shuttle bus and group bus.

(Unit: t-CO_2)

	Site	Generation source	Measurement	Total measurement	Target value
CO_2 emission	Seto	Gas, electricity, water	1,209.5	1,654.1	3,180
		Transportations at the site, assess transportations	444.6		
	Nagakute	Gas, electricity, water	29,417.2	42,818.2	60,731
		Transportations at the site, assess transportations	13,401.0		
			Total	44,472.4	63,911
CH_4 emission & N_2O emission	Seto	Gas, electricity, waste	10.2	13.6	55
		Transportations at the site, assess transportations	3.3		
	Nagakute	Gas, electricity, waste	379.8	492.5	1,020
		Transportations at the site, assess transportations	112.7		
			Total	506.1	1,075

Note: Since fractions are rounded after the 2nd decimal place, the total value may not reflect the actual value.

State of greenhouse gas emission

The action plan and guidelines for environment-conscious efforts during the Expo period define the target values for greenhouse gas emission assuming the number of visitors to be 15 million, and we strove to control emissions under the plan and guidelines. As a result, all actual measurements were below the target values although the actual number of visitors was much greater than the predicted number. We infer that this achievement was due to the attitude of the EXPO organizer and the exhibitors toward efficient energy use and the energy-saving efforts of the visitors.

Item		Seto site	Nagakute site
Gas consumption (Nm^3/day)	Measurement	705	24,916
	Planned value	3,630	63,597
Power consumption (kWh/day)	Measurement	11,814	251,635
	Planned value	22,275	329,760
Clean water consumption (m^3/day)	Measurement	195	5,691
	Planned value	1,096	10,557
Sewage consumption (m^3/day)	Measurement	195	3,879
	Planned value	735	6,615

Note: The measurement is the total number during the period (approx. 22 million visitors), while the planned value is the assumed number of visitors of 15 million

Use of biomass plastics

We adopted biomass (biodegradable) plastic products for waste bags and tableware and composted one-way-type products together with garbage, as an additional measure to control waste emission. In addition, through this experiment, the practicality of biomass plastic products was confirmed.

Use of biomass plastics

Type	Description
Tableware	Adopted biomass plastic tableware at food courts and restaurants (used at 11 restaurants). One-way (disposable) type: 24 types, approx. 20 million units Returnable (reusable) type: 25 types, approx. 120,000 units
Official original goods	Utilized biomass plastics as much as possible for materials of official original goods and souvenirs.
Package paper	Prepared plain biodegradable plastic bags as unified package bags and carrier bags containing aluminum hydroxide material.
Other use at the sites	Waste bags (approx. 550,000), guide maps at the sites (approx. 500), signs at the sites (550 places)
Use at pavilions	Used for the outer wall of the Japan Pavilion Nagakute.

◇ CO_2 reduction effect through use of biomass plastic tableware

According to a trial calculation by the Japan Bioindustry Association, carbon dioxide (CO_2) was reduced by approx. 720 tons as a result of efforts such as composting biomass plastic tableware and waste bags used at the EXPO 2005 AICHI JAPAN instead of burning them. This reduction is equivalent to the amount absorbed by approx. 100,000 cedar trees of 50 years old (approx. 100 ha) throughout the EXPO duration.

◇ Composted one-way-type biomass plastic containers

- Collected one-way-type containers in bio-plastic waste bags together with garbage including leftovers, and removed them outside the sites.
- Degraded and composted them together with waste bags outside the sites using microorganisms in approx. 6 months.
- From 2004, as an experiment, used this compost to cultivate eggplants, onions, figs, grapes and flowers at farmhouses in Tokai City, Aichi, and tasted them at the sites.

Biomass plastic containers (one-way type)

◇ Reuse/recycling of returnable biomass plastic containers

- After the closure of the EXPO, approx. 47,000 items of reusable tableware were reused at restaurants of central government offices and 25 local government offices.
- Those items of tableware broken during manufacturing and the EXPO period were material-recycled and reproduced as planters and the like. They were displayed at the EXPO sites and at the National Athletic Meet in Okayama.

Biomass plastic containers (returnable type)

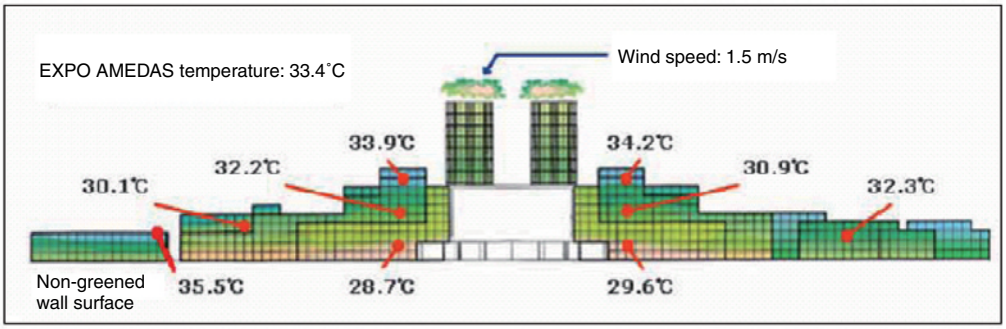
Bio Lung

The Bio Lung is a greened wall 150 m long and 12 m high. It helps improve the urban living environment and environmental burden through the power of plants such as by absorbing carbon dioxide, supplying oxygen and lowering the temperature in summer. As problems such as global warming and the heat-island phenomenon emerge, it has attracted much attention as an advanced technology for building cities that are comfortable for residents.

For the Bio Lung, cutting-edge, high-tech landscaping technologies such as water supply methods and the safe placement of flowers were adopted, and approx. 200 species of 200,000 flowers and trees were planted over a greening area of approx. 3,500 m^2.

The Bio Lung is expected to provide various environmental effects. Its changing environmental effects were observed in the adjacent Water and Green Pavilion.

In addition, according to a press announcement by the Land, Infrastructure and Transportation Ministry on the measurements, the temperature of the greened wall surface was lower than the non-greened wall surface by 7˚C at maximum, and than the artificial turf on EXPO Plaza by 20 to 30˚C.



Surface temperature at noon on July 28, 2005

"Voice of a visitor" (from the Environmental Web Questionnaire)

・When I first visited the site, I was surprised that the site looked almost the same as the former Youth Park. The Bio Lung is obviously cool. To alleviate global warming and the heat-island phenomenon, I hope it will come into practical use as early as possible (Customer "H" from Aichi).

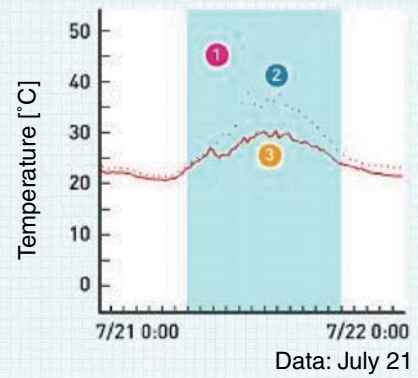
Lowering of room temperature by using a photocatalyst

The Japan Pavilion Nagakute aimed at lowering room temperature by covering the roof with a photocatalytic steel sheet. With a normal steel sheet roof, water sprayed on the roof becomes ball-like droplets. However, on a steel sheet coated with titanium oxide, which is a photocatalyst, the surface tension of the water is smaller due to its super-hydrophilic property, and forms a thin film instead of ball-like droplets. Therefore, it is vaporized by sunlight faster and draws the surrounding heat, thus lightening the heat load on the roof surface by sunlight.

With the Japan Pavilion Nagakute, we prepared a watered surface and a non-watered surface and observed the effect. The temperature of the non-watered surface of the roof was over 10ÅãC higher than the watered surface on hot days.

In addition, this material was also used in the waiting space for the 3D theater of the JR Central Super-Conductive Linear Motor Car Pavilion, a white tent of the Mountain of Dreams and the roof of a rest house of Global Common 4.

◇ Photocatalytic roof with/without water: surface temperature



(1)Pour water in the daytime when the temperature is high.
If the temperature of the non-watered roof reaches 28˚C or higher, water is automatically spayed. The light blue represents the time belt when water was sprayed.

(2)Spraying contributes to controlling temperature rise.
As spraying started, the rise in temperature of the wet part of the roof was better controlled than the dry surface. The temperature difference was 10˚C or greater at the hottest time of the day.

(3)The Bamboo Cage is also effective.
The temperature of the whole roof was relatively low even on hot days, partly due to the fact that solar radiation was already educed by the Bamboo Cage.

Cyber Japan Pavilion - Measure the Japan Pavilion!:

http://www.nippon-kan.jp/hakaru/example_nagakute3.php

Experiencing coolness with dry mist

Dry mist is a device that artificially produces mist and utilizes the principle of the heat of vaporization, which is drawn when water transforms from liquid to gas (vapor). It was the EXPO 2005 AICHI JAPAN that put dry mist into practical use for the first time, and efficiently provided coolness in an outdoor space.

Since the particle diameter of dry mist measures only 0.016 mm, which is smaller than that of ordinary mist, it will be vaporized before the face or clothes of a visitor become wet. Thus, the dry mist consists of super-fine particles. It is capable of lowering the temperature by 2 to 3 degrees, and the energy consumption for lowing the temperature is one 30th that of conventional air conditioners (the proving test indicates an energy-saving effect approx. 30 times greater than conventional air conditioners).

Dry mist is sprayed from approx. 2,000 nozzles including 152 points under an awning tent of the Global Loop at the Nagakute site (13,000 m^2), the waiting place of the Wonder Circus - Electric Power Pavilion (320 m^2) and the waiting place of the Australia Pavilion (240 m^2). The dry mist on the Global Loop was operated for approx. 70 days, approx. 7 hours per day on average.

As a result of conducting the visitor questionnaire at the waiting place of the Wonder Circus - Electric Power Pavilion, approx. 80% of the respondents answered "yes" to the question: "Do you want a dry mist system like this one to be provided at the railway station and the bus stop?" Thus, the dry mist system was well received.

In addition, dry mist systems or conventional mist generators were adopted at 16 points at the Nagakute site and one point at the Seto site, 17 points in total. Since they also served to provide a feeling of coolness, they were highly appreciated.

Locations where mist generators were placed

Location	Status
Global Common 5	Mist sprayed around the building
Wonder Circus - Electric Power Pavilion	Dry mist in the admission waiting place
	Mist sprayed in a square in front of the Electric Power Pavilion
Global Loop	Dry mist on the pole that supports the tent 1,824 nozzles used at 152 points
Mitsubishi Pavilion@Earth	Mist on the greened part of the exit
Bio Lung	Mist on the wall near the Global House Also provided a feeling of coolness
Nagoya City Pavilion “Earth Tower”	Mist on 3 edges of the tower (to approx. 1/3 of the height from the ground)
Global Common 1	Mist around the entrance deck
Japan Square	Mist from a spraying device above bamboo planter benches
Large flowerbed at the north of the carp pond	Mist from several spraying devices in the flowerbed
Japanese garden	Mist on the bridge near a huge rock behind the garden
Aichi Pavilion Nagakute	Mist on the roof of the admission waiting area
Gas Pavilion	Mist in the center of the observatory square
Seto gate	Mist in the garden area beside the gate
NGO Global Village	Mist on the opposite side of the north entrance
Wind Square	Mist on a slide
Andean Amazonian Pavilion (Global Common 2)	Mist for the whole façade of the pavilion
Australia Pavilion (Global Common 6)	Dry mist in the admission waiting area and around the table outside the building

Global Loop

Global Common 1

Global Common 5

Japanese garden

"Voice of a visitor" (from the Environmental Web Questionnaire)

・The temperature drop with dry mist was very cool and impressive as I experienced it. It provided a cool feeling to attract attention, but I hope outdoor air-conditioning like this will be spread not only in Japan but also around the world (Customer "S" from Aichi)

5-2-4 Active Adoption of the 3Rs (Reduce, Reuse, Recycle)

Promotion of the 3Rs in site development

◇ 3Rs concerning buildings and their materials

The action plans/guidelines promote the active reuse of buildings and their materials, and in accordance with the action plans/guidelines, we made necessary efforts in site development such as those shown below.

- Adoption of construction methods that allow easy demolishment
- Utilization of materials that can be reused, rented or leased
- Utilization of waste wood, used materials and eco materials

The following table shows representative examples.

Examples of adopting the 3Rs at the pavilions

Classification	Execution examples
Adoption of construction methods that allow easy assembly and demolishment	• Japan Pavilion Nagakute Adopted a method that enables easy cutting in demolishment by replacing steel connectors for thinned wood to bamboo connectors. • Official participants' pavilions Adopted modules for easy reuse (*1). 1 module: 18 m (depth) ×18 m (width) ×9 m (height) • Nagoya City "Earth Tower" Threaded steel piles and methods that do not produce waste, such as pavement that returns to soil when crushed into pieces. • Wonder Circus - Electric Power Pavilion Adopted prefab method, concrete-free method and dry-floor method. • Mitsubishi Pavilion@Earth Unitized parts and adopted a simple and east assembly method. Adopted lightweight, direct foundation instead of using foundation piles. Used temporary building materials such as single pipes that allow structural materials to be reused. • Toyota Group Pavilion Adopted lightweight steel frame structures, adopted friction-based binding method for outer wall circumference, minimized drilling operation. • Mitsui-Toshiba Pavilion Minimized volume of steel by adopting a suspended structure. • "Mountain of Dreams" Adopted a suspended structure for the large roof to drastically reduce iron materials. • Gas Pavilion Adopted dry-floor method, pile-free method, PC (precast concrete) direct foundation, simple steel frame structure (brace structure) and simplified binding metal fixtures.
Adoption of materials that can be reused, rented or leased	• Global House, Wanpaku Treasure Island, NGO Global Village Utilized existing buildings in the Aichi Youth Park. • Wonder Circus - Electric Power Pavilion Used (reused) temporary aluminum soundproof panels (temporary reusable material) for the outer wall. • JAMA Wonder Wheel Pavilion Utilized steel material that can easily be reused. The giant wheel was an existing one. • Mitsui-Toshiba Pavilion Utilized reusable steel and leased materials for construction materials.

Classification	Execution examples
Adoption of materials that can be reused, rented or leased	• Mountain of Dreams Utilized reusable steel and leased materials for construction materials. Reused lighting equipment. • Gas Pavilion Large facilities such as the gas co-generator and elevators were reused for other buildings. Used temporary leased material for the stepped floor for the audience seats. • Aichi Pavilion Seto The outer wall and floor wood in the temporary part were reused by a newly built elementary school in Shimoyama Village (currently Toyoda City), Aichi Prefecture (*2). • The components of the Aqua Wall and the Aurora Wall were used at another construction site on a “lease pack” basis. • The administrative facility used a leased building. • Utilized rental toilets for outdoor toilets. • Used (reused) temporary steel frames for the columns and beams of the Civic Pavilion.
Utilization of waste materials, used materials and eco materials	• Global Loop Used thinned wood, waste plastic mix material. • Nagoya City “Earth Tower” Mixed sewage sludge of Nagoya City in the cement boards of the outer wall. • Wonder Circus - Electric Power Pavilion Utilized waste (driftwood chips, dam bank sand, coal ash) from facilities related to electric projects for the forecourt. • JR Central Super-Conductive Linear Motor Car Pavilion Adopted permeable pavement blocks mainly made of sludge incineration ash for the gutter pavement. • Mitsubishi Pavilion@Earth The wall surface was composed of PET bottles, ceramics and plants (*3). Adopted woodchip pavement material. • Toyota Group Pavilion Used wall material made from recycled paper for the outer wall. • Mountain of Dreams Used permeable blocks made from sewage sludge (pavement of the square). • Gas Pavilion Adopted domestic thinned cedar wood for the building’s outer wall material. • Rotary Pavilion Used recycled material instead of asphalt for the pavement outside the building. • NGO Global Village Used bamboo for the major structural material of the pavilion. • Japan Pavilion Nagakute Adopted a Bamboo Cage for the exterior. Adopted biomass plastics and greened wall with kokumazasa (Sasaella kogasensis var. gracillimia) for the outer wall of the building. Adopted clustered columns of thinned wood (*4), bamboo fiber acoustic and insulating material, bamboo roof tiles and bricks that will return to soil when crushed. • Chubu Community for Millennial Symbiosis Used Japanese paper produced in 9 Chubu prefectures and Indonesian “golden silk” for the outer wall.

Classification	Execution examples
Invitation of public participation in reuse of materials	• Japan Pavilion Nagakute / Japan Pavilion Seto To broadly promote the reuse of construction/facility materials, launched an Internet site, “Reuse Japan Pavilion,” after the duration and called for bids from general secondary users. • EXPO 2005 Association Distributed facilities and fittings to local governments, and to those who were interested. • Gas Pavilion Invited public participation from Japan Gas Association members and sold some of the building facilities and exhibits.

(*1) Module

(*2) The 2nd floor part reused for building a school

(*3) Outer wall made from rocks and plants

(*4) Clustered column

◇ Recycling of construction by-products

The Action Plan for General Control and Recycling of Waste and the Environmental Conservation Guidelines define the recycling objectives of construction by-products concerning existing facilities in site development.

The result of our estimation based on the "Recycled resource utilization execution documents" submitted by the contractors indicates that the target values for concrete mass and concrete/asphalt mass were achieved. In particular, the concrete mass of the existing buildings of the Youth Park was 100% reused. On the other hand, the recycling rate for construction-generated wood was 78%, which was below the target.

Actual recycling rate results (fiscal 2002 to 2004)

Item	Seto site	Nagakute site	Other	Total	Target
Concrete mass	98%	98%	98%	98%	95%
Asphalt/concrete mass	100%	96%	98%	96%	95%
Construction-generated wood	100%	81%	38%	78%	95%

Examples of utilizing construction by-products

- Crush concrete mass with a mobile concrete crusher into recycled crushed-stone on site, and use it as roadbed material within the site.
- Crush construction-generated wood such as wood from logging and root removal with a mobile wood crusher into woodchips on site, and utilize it as mulching material within the site.
- Recycle metal dust and woodchips from demolishment at recycling facilities.

◇ Transplantation of interference trees associated with site development

We transplanted over 2,000 trees that interfered with the site development of the Nagakute site and the land formation work within the site, and achieved the target values of the action plan. In addition, we distributed more than 10,000 interference trees/shrubs to public organizations and citizens for free.

State of transplanting and distributing interference trees

Classification		Tall trees	Medium trees	Shrubs	Total
Total number of interference trees		4,780	5,226	50,372	10,006 50,372
Transplantation/distribution	Transplanted within the site	1,726 (15)	292 (4)	2,165	2,018 (19) 2,165
	Transplanted outside the site (public organizations, groups, companies)	850 (199)	762	7,095	1,612 (199) 7,095
	Distributed to the general public	45	23	2,176	68 2,176
	Transplanted/distributed total	2,621 (214)	1,077 (4)	11,436	3,698 (218) 11,436
Logged trees		2,159	4,149	38,936	6,308 38,936

The numbers in the parentheses represent the numbers of trees transplanted by the prefectural government.

Concrete mass being recycled

Trees being transplanted

Distribution to citizens

Effective use of recycled materials

At the EXPO sites, we effectively utilized various materials recycled from waste.

◇ Waste tire pavement

At the EXPO 2005 AICHI JAPAN, an experiment of utilizing waste tires for roadbed material as an effective use of waste tires was conducted. The experiment site was prepared in the wet terminal, which was the operation base of the shuttle buses and group buses that carried visitors to the EXPO

sites. The result of the experiment shows that the roadbed made from waste tires had equal durability to ordinary road surfaces (dense grade pavement, permeable pavement, etc.). In addition, it was confirmed that the noise level from the waste tire pavement was lower than ordinary road surfaces by the value equal to the noise reduction effect of "-6 to -10 dB" (equivalent to noise when traffic is 1/4 to 1/10), as published earlier, both before and after the EXPO period.


Waste tire pavement and a magnified view

◇ Water-receiving bowls made from waste ceramics

In Seto City, Aichi Prefecture, a project of recycling broken ceramics (mostly porcelains) into new ceramics by blending finely ground granules of broken ceramics (50%) with a new ceramic material has been conducted.

At the EXPO sites, we placed 2 water-receiving bowls each, produced by recycling these waste ceramics, at 28 drinking fountains (at a high and a low place, 56 pieces in total).

◇ Woodchip pavement

Woodchip pavements were used in 4 places (forest experience zone, Seto Terminal, Mitsubishi Pavilion@Earth, and play & participation zone) at the sites. Thinned wood produced from the EXPO sites was crushed into chips (5 cm or less), placed in a mold, and then pressed with high-pressure steam (180℃) for approx. 30 minutes to form a pavement board.

An experimental study project using this woodchip pavement board has been conducted to prevent deserts in Ghana from expanding and to promote greening. This project was introduced at the Ghana booth in the Africa Pavilion.

Woodchip pavement

◇ Recycled organic construction material

The elevated part of the Global Loop, measuring approx. 21 m wide, was paved with recycled organic wood (approx. 6 m wide in the center). The pavement was composed of hollow boards made from waste chips and waste plastics.

Separation of waste into 17 types

In accordance with the general plan for waste treatment facilities and the action plans/guidelines during the exposition, we thoroughly implemented waste separation and pressed ahead with waste emission control and recycling. For the reuse of waste, we composted raw garbage and biomass plastics in addition to transforming raw garbage and PET bottles into a fuel in the new energy demonstrative study.

◇ Waste emission target

The action plans/guidelines define the target values for waste emission as follows.

Planned standard daily emission*	45.00 t/day
Waste emission (after control measure implementation)	38.20 t/day
Final disposal amount (after recycling implementation)	5.54 t/day
Target value for total waste emission (for the duration)	3,820 t/185 days

◇ Efforts under the action plans/guidelines

The action plans/guidelines define that the parties involved must thoroughly implement the separate collection of waste, prohibit bringing in hazardous materials, thoroughly implement taking home hazardous waste, utilize biomass plastic products, implement waste control measures such as reduction and reuse of packaging material, and implement recycling of waste such as methane fermentation of commercial waste at the site and composting of raw garbage.

Placement of 9 separate trash boxes

■ Implementation of separate collection

We thoroughly implemented separation of waste in accordance with the separate collection standard on the following page. We placed 9 separate trash boxes at more than 80 trash box stations for visitors. In addition, exhibitors and concessionaires of pavilions and restaurants are generally obliged to separate waste into 17 types. The EXPO 2005 Association finally classified the waste, including the waste collected at trash box stations, into 17 types.

■ Prohibition of items to be brought

As a safety measure, we prohibited the bringing of PET bottles, cans and glass bottles. In addition, we obliged visitors to take home hazardous waste not covered by the separate collection system.

■ Implementation of recycling

Waste separately collected at trash box stations was recycled as follows.

Separation waste	Recycled
Raw garbage	・Compost
	・Fuel cell power generation by generating hydrogen
Disposable chopsticks	・Water conditioner in composting raw garbage
PET bottles	・Uniforms
	・Fuel cell power generation
Plastics	・Fuel material RDF
Paper cups / paper packs	・Toilet paper
Newspapers, magazines, pamphlets	・Pamphlets, newspapers, magazines
Burnable waste	・Refuse power generation through incineration ・Road bed material from incinerated ash
Unburnable waste	・Recyclable waste is selected and transformed into plastics.

* Standard daily waste emission: amount calculated based on the basic unit (waste emission/person/day) assumed from past expos with the planned standard daily admittance (150,000 visitors)

A waste separation explanatory board placed at trash box stations

Separation and collection criteria

ISeparation		Trash box station (visitors)	Sub stockyard (participants/organizer)	Main stockyard
1 Aluminum cans		—	●	●
2 Steel cans		—	●	●
3 PET bottles		●	●	●
4 Glass bottles		—	●	●
5 Paper cups		●	●	●
6 Plastics		●	●	●
7 Commercial cans		—	●	●
8 Expanded polystyrene		—	●	●
9 Cardboard boxes		—	●	●
10 Disposable chopsticks		●	●	●
11	Magazines/pamphlets	●	●	●
12	Newspapers/inserts		●	●
13	OA paper		●	●
14 Raw garbage		●	●	●
15 Waste cooking oil		—	●	●
16 Burnable waste		●	●	●
17 Unburnable waste		●	●	●
Leftover water*		●	—	—
Total		9 types	17 types	17 types

* Leftover water is collected at trash box stations, and then poured into the sewage system in the sub stockyard for treatment.

◇ Waste generation and emission

In terms of amount of waste collected at the sub stockyard, the number of visitors was much larger than the planned number, and the total amount of waste during the EXPO period was approx. 5,165 tons, which is approx. 1,345 tons greater than the planned waste emission. However, as a result of thorough implementation of 3Rs efforts, the waste emission per visitor was 234.24 g/day/visitor against the planned emission of 254.67 g/day/visitor.

Of the waste emitted, burnable waste represented the largest portion (approx. 1,200 tons), followed by raw garbage produced from restaurants and the like (approx. 1,080 tons), cardboard boxes for commercial use and plastics.

The planned emission was exceeded in four types of waste: PET bottles (1.5 times greater), glass bottles (2.6 times), paper cups (2.2 times) and cardboard boxes (2.5 times). However, the PET bottle emission per visitor was almost the same as the planned value. Although it was prohibited to bring in glass bottles, consumption at foreign countries' pavilions was greater than expected. The paper cup emission exceeded the planned value since we started serving cold water to visitors as a means of preventing heat exhaustion/stroke on June 18. As for cardboard boxes, we promoted the use of returnable boxes for carrying in articles. However, partly because the sales of souvenirs far exceeded the expected level, the emission greatly exceeded the planned value.

On the other hand, visitors were prohibited from bringing in aluminum and steel cans, and their consumption at eating and drinking establishments was lower than expected. Their emissions were far below the planned values as a result.

The following table shows the amounts of waste collected at the sub stockyard for the period between March 25 and September 25 in comparison with the general plan for waste treatment.

Amounts of waste collected at the sub stockyard (by item)
Comparison with the waste treatment plan

Item	General plan for waste treatment			Emission of waste during the EXPO period			Difference from plan
	Estimated total emission (t)	Emission ratio by type (%)	Emission source unit (g/man-day)	Total emission (t)	Emission ratio by type (%)	Emission per visitor (g/man-day)	Difference (emission - planned value) (t)
Number of visitors	15,000,000	-	-	22,049,544	-	-	7,049,544
Total emission (t)	3,820	100.0	254.7	5,164.90	100.0	234.24	1,344.9
Aluminum cans	77	2.0	5.1	12.78	0.2	0.58	-64.2
Steel cans	203	5.3	13.5	4.40	0.1	0.20	-198.6
PET bottles	270	7.1	18.0	396.43	7.7	17.98	126.4
Glass bottles	112	2.9	7.5	294.68	5.7	13.36	182.7
Paper cups	101	2.6	6.7	222.12	4.3	10.07	121.1
Plastics	236	6.2	15.7	648.23	12.6	29.40	412.2
Commercial cans	15	0.4	1.0	40.15	0.8	1.82	25.2
Expanded polystyrene	2	0.1	0.1	8.00	0.2	0.36	6.0
Cardboard boxes	378	9.9	25.2	940.82	18.2	42.67	562.8
Disposable chopsticks	49	1.3	3.3	60.16	1.2	2.73	11.2
Magazines / pamphlets	42	1.1	2.8	10.75	0.2	0.49	-31.3
Newspapers/inserts	55	1.4	3.7	40.24	0.8	1.82	-14.8
OA paper	73	1.9	4.9	17.32	0.3	0.79	-55.7
Raw garbage	898	23.5	59.9	1,079.57	20.9	48.96	181.6
Waste cooking oil	31	0.8	2.1	68.70	1.3	3.12	37.7
Burnable waste	1,157	30.3	77.1	1,201.34	23.3	54.48	44.3
Unburnable waste	121	3.2	8.1	119.20	2.3%	5.41	-1.8

Lifting of the ban on bringing in lunch boxes: April 1
Start of cold water service: June 18

In the meantime, waste temporarily collected at the sub stockyard was subsequently separated at the sub stockyard and then at the main stockyard, and finally carried out from the site.

In terms of the amount of waste carried out from the main stockyard of the site between March 25 and September 30, the total amount was approx. 5,007 tons. In emission per visitor, the actual emission was 227.10 g/visitor against the planned value of 254.67 g/visitor. Therefore, it is inferred that the actual total amount was greater than the planned total value simply because the number of visitors was far greater than the planned number.

Of the waste, the burnable waste emission was approx. 2,250 tons, almost twice the planned value. The burnable waste included large amounts of waste separated for recycling, but not suitable for recycling due to stains or impurities, and those inevitably incinerated because the planned throughput at the recycling facility was exceeded. Of the PET bottles, plastics, raw garbage and disposable chopsticks collected at the sites, approx. 1,000 tons represent those not recycled.

Some of the raw garbage produced at the sites was methane-fermented at the sites. Although the raw garbage was reduced by approx. 430 tons before it was carried out of the sites, a total of approx. 411 tons of raw garbage was transferred to a treatment facility outside the sites. This raw garbage included approx. 156 tons of residues from the methane fermentation, which were composted together with some of the disposable chopsticks at a treatment facility outside the sites. The remaining approx. 225 tons of raw garbage was also composted at the treatment facility outside the sites. However, this raw garbage notably included one-way-type biodegradable plastic tableware.

In terms of the recycling rate calculated based on these, the total waste amount after deducting burnable and unburnable waste from the total emission of approx. 5,437 tons was approx. 3,071 tons, which translates into a recycling rate of approx. 56%. However, although burnable waste was incinerated, the heat generated from incineration was collected and used for power generation, and all incinerated ash was processed at a recycling firm into roadbeds and the like. Therefore, if the burnable waste were added to the recycled waste, the recycling rate would rise to approx. 98%.

The following table shows the amounts of waste carried out from the sites for the period between March 25 and September 25 in comparison with the general plan.

The amount of waste carried out from the sites in comparison with the waste treatment plan

Item	General plan for waste treatment (estimated value)		Emission of waste during the EXPO period (actual value)		Difference	
Number of visitors	15,000,000		22,049,544		7,049,544	
	Total emission (t)	Emission per visitor (g/visitor)	Total emission (t)	Emission per visitor (g/visitor)	Total emission (t)	Emission per visitor (g/visitor)
Total emission	3,820.0	254.67	* 5,007.4	227.10	1,187.4	-27.57
Aluminum cans	77.0	5.13	8.9	0.40	-68.1	-4.73
Steel cans	203.0	13.53	15.3	0.70	-187.7	-12.84
PET bottles	270.0	18.00	347.9	15.78	77.9	-2.22
Glass bottles	112.0	7.47	342.3	15.52	230.3	8.06
Paper cups	101.0	6.73	93.3	4.23	-7.7	-2.50
Plastics	236.0	15.73	310.5	14.08	74.5	-1.65
Commercial cans	15.0	1.00	25.5	1.16	10.5	0.16
Expanded polystyrene	2.0	0.13	3.0	0.14	1.0	0.00
Cardboard boxes	378.0	25.20	958.7	43.48	580.7	18.28
Disposable chopsticks	49.0	3.27	1.2	0.05	-47.8	-3.21
Magazines / pamphlets	42.0	2.80	47.5	2.16	5.5	-0.64
Newspapers/inserts	55.0	3.67	10.4	0.47	-44.6	-3.20
OA paper	73.0	4.87	4.4	0.20	-68.6	-4.67
Raw garbage	898.0	59.87	410.6	18.62	-487.4	-41.24
Waste cooking oil	31.0	2.07	61.8	2.80	30.8	0.74
Burnable waste	1,157.0	77.13	2,247.0	101.91	1,090.0	24.78
Unburnable waste	121.0	8.07	119.2	5.41	-1.8	-2.66

* Note that the total waste emission during the EXPO period was approx. 5,437 tons, which includes the amount of raw garbage methane-fermented at the sites.
The values represent the amounts of waste carried out from the sites between March 25 and September 30.
They are expressed on an emission basis except for the approx. 430 tons recycled through methane fermentation at the sites.

*Note that the total waste emission during the EXPO period was approx. 5,437 tons, which includes the amount of raw garbage methane-fermented at the sites.
The values represent the amounts of waste carried out from the sites between March 25 and September 30.
They are expressed on an emission basis except for the approx. 430 tons recycled through methane fermentation at the sites.

◇ Instructions by volunteers on waste separation

The purpose of the waste separation was to raise the consciousness of visitors and participants concerning separation in addition to promoting the 3Rs concept. Therefore, in cooperation with the EXPO 2005 AICHI JAPAN Volunteer Center, a large number of volunteers was involved in providing instructions on the separation in front of the trash box stations. A total of 21,219 separation volunteers, 115 per day on average, worked at the Nagakute site, which was divided into four areas, and the Seto site as one area.

Working area	Number of participants
West area: cleaning and separation	4,912
West Play & Participation Zone: cleaning and separation	4,770
North area: cleaning and separation	5,886
East area: cleaning and separation	4,379
Seto area: cleaning and separation	1,272
Cleaning and separation total	21,219

Trash box station

Sub stockyard

Main stockyard

"Voice of a visitor" (from the Environmental Web Questionnaire)

- In the early period of the EXPO, I was impressed with the volunteers who were working hard to re-separate waste thrown into the trash boxes. Near the closing stage, I saw a lot of people in front of the trash boxes asking volunteers, "Which box can I put this in?" and separating waste by themselves. It seems to me that the waste separation at the EXPO sites has become established in the past several months (Customer "Y" from Aichi).
- I was impressed that the waste separation was thoroughly practiced. Normally, I roughly separate burnable and unburnable waste. But, I thought if I kept separating waste only roughly, the efforts of the EXPO would be wasted. So, I became more careful about separation in my private life. This way, my experience at the EXPO has brought me an eco life. Instead of thinking "only one person's effort won't help," I will keep up my efforts (Customer "M" from Saitama).
- I was surprised that waste was thoroughly separated. In my hometown, waste is not separated to that extent, so I first thought it would be troublesome. But, it is a wonderful thing in fact. If we think about our future, it is necessary to work on recycling and other efforts earnestly. I have changed a lot (Customer "B" from Nara).
- When I first joined the volunteers, I was most surprised by the good manner of the young people. They were honestly separating waste. On the other hand, I saw a lot of middle-aged or older people carelessly putting waste in plastic bags and throwing it away. But, I was happy that many people said, "Thank you for your work," to me with a good smile, and I thought I would work harder. (Person experiencing working as a separation volunteer)

5-2-5 Promotion of the Use of Environmentally Friendly Transportation

The roads around the site are in areas where traffic traditionally becomes heavy at times of commuting or holidaymaking depending on the time zone. For this reason, plans had to be developed to avoid concentrations of private car traffic visiting the EXPO on specific roads, and to exert a minimal burden on the environment due to traffic congestion and gas emission.

Consequently, a visitor transportation plan has been developed in a manner consistent with the existing infrastructure improvement plans, with the EXPO 2005 Association making minimum improvement for temporarily needed structures for the EXPO. The characteristics of this transportation plan are increased convenience of railways, such as the doubled track of the Aichi Loop Line, extension of the JR Chuo Line into the Aichi Loop Line, improvement of the Tobu Kyuryo Line by adopting a superconductive magnetically levitated system (linear motor car) with low noise and low vibration, as well as building of a transportation system centering on public transportation including the introduction of shuttle buses. On the other hand, for road traffic, a large-scale "Park & Ride" system, which is unparalleled in the history of expositions, has been implemented. Furthermore, fuel-cell buses have been introduced into the inter-site shuttle buses, and detailed information is provided by the EXPO ITS using the latest ITS (Intelligent Transport System).

Visitors' use of transportation by traffic mode

The planned values of the traffic modal share for the target 15 million visitors were 59.2% for railway and 40.8% for road. The actual values of the traffic modal share for the 22.05 million visitors during the whole period were 48.8% for railway, 35.1% for road, and 16.1% for others. Others include walking or the use of bicycles and bikes, taxis, or direct-route buses, but these were not taken into account as assumed transportation, because in forecasting visitors by traffic mode, which is prerequisite to improving each transport facility, the safety side implements improvement of each transport facility. (Note that for visitors who use bicycles, bikes and taxis, to meet requests from the public, the number of these users was estimated separately, which was reflected in the improvement of transport facilities).

These visitors in "others" are classified into private car users using private parking areas, visitors using taxis, and visitor using private cars and so on for pickup (for "road"), Nagakute Town shuttle buses, Seto City excursion buses (for "railway"), and two-wheeler (bicycle) users, and walking visitors (for "others," by nature). For this reason, the shares were estimated based on various surveys such as visitor questionnaire surveys or in-terminal counting surveys conducted several times during the whole period. As a result, many visitors are classified into road users, such as private parking area users (estimated 7.7% of total visitors) and private car picked-up visitors (3.9% of total visitors), so that the shares of railway, road and others are [railway : road : others = 49.5 : 48.5 : 2.0]. This result did not reach the target of [railway : road = 6 : 4]. However, in central Japan where a high dependency on the automobile is observed, the following were considered to be effective: Public information on the promotion or equalization of the use of public transportation and the traffic information provided by the EXPO 2005 Association during the whole period; traffic controls around the site enforced by Aichi Public Safety Commission (traffic regulation of no through roads in residential areas within 3 km of the EXPO site, no stopping or parking around the Nagakute site terminal, and bus lane controls); and the provision of public information on total traffic volume control conducted mainly by Aichi Prefecture. For this reason, road traffic jams around the site that had been a focus of concern before opening were observed in general only in specific time zones with many visitors. However, in the areas where there is a lot of private parking, traffic jams due to the loading and unloading of cars were observed, and this tendency increased at returning home in the later period.

Visitors' share of transportation

Traffic mode	Planned				Actual	
	Basic plan (published)		expected 15 million visitors by traffic mode		observed 22.05 million visitors by traffic mode	
	visitors	share	visitors	share	visitors	share
Total visitors	15 M		15,000,000	100.0%	22,049,544	100.0%
Railway system	8.8 M	approx. 59%	8,880,000	59.2%	10,751,916	48.8%
Railway	7.7 M	approx. 51%	7,800,000	52.0%	9,088.561	41.2%
for Yakusa	5.4 M	approx. 36%	5,480,000	36.5%	5,071,487	23.0%
Linimo [A]			2,600,000	17.3%	4.336,488	19.7%
Yakusa supplementary shuttle bus			1,600,000	10.7%	266,111	1.2%
Yakusa-Seto shuttle bus			1,280,000	8.5%	468,888	2.1%
For Fujigaoka	2.3 M	approx.15%	2,230,000	15.5%	4,017,074	18.2%
Linimo [B]			2,230,000	15.5%	3,997,604	18.1%
Fujigaoka extra bus	-	-	-	-	19,470	0.1%
Linimo total [A+B]			(4,920,000)	32.8%	(8,334,092)	37.8%
Station shuttle bus (excluding Yakusa)	1.1 M	approx.8%	1,080,000	7.2%	1,209,269	5.5%
Nagoya Station			600,000	4.0%	1,054,800	4.8%
Owari-Seto			250,000	1.7%	120,716	0.5%
Kurozasa			230,000	1.5%	33,753	0.2%
Direct-route bus	-	-	-	-	454,086	2.1%
Road system	6.2 M	approx. 41%	6,120,000	25.8%	7,739543	35.1%
Private car	3.9 M	approx. 26%	3,872,000	25.8%	4,441,173	20.1%
Owari-Asahi			370,000	2.5%	354,853	1.6%
Nagakute			600,000	4.0%	963,967	4.4%
Nagakute-Minami			770,000	5.1%	717,956	3.3%
Miyoshi			560,000	3.7%	763,117	3.5%
Fujioka			990,000	6.6%	811,498	3.7%
Nagoya Airport			580,000	3.9%	759,476	3.4%
Parking for those with Disabilities (West Terminal)	-	-	-	-	70,306	0.3%
Chartered bus	2.3 M	approx. 15%	2,250,000	15.0%	3,298,370	15.0%
Nagakute site			2,030,000	13.5%	3,153,550	14.3%
Seto site			220,000	1.5%	144,820	0.7%
Others (walking, two-wheeler, taxi, etc.)	-	-	-	-	3,558,085	16.1%

- Performance of "P&R parking" includes users of spare parking (areas) especially used on days of increased visitors.
- "Others" include visitors using private parking areas, as well as walking visitors, visitors using two-wheelers (bicycles and bikes), and visitors using taxi.

Intensive control of vehicle travel around the site

◇ Extension of the JR line to the Aichi Loop Line

Direct-link trains began to operate through the JR Chuo Line from JR Nagoya Station to Banpaku-Yakusa Station of the Aichi Loop Line.

◇ Operation of "Linear motor car"

This is a superconductive magnetically levitated linear motor car connecting 9 stations from Fujigaoka Station of the Nagoya City Subway Higashiyama Line to Banpaku-Yakusa Station of the Aichi Loop Line, and the line contains Banpaku-kaijo Station, the nearest station to the Nagakute site and Koen-Nishi Station. It is the first operation in Japan as a linear motorcar. With low noise and low vibration, these are environmentally friendly vehicles along the railroad.

Of the 22.05 million visitors in total, about 8.3 million visitors used linear motorcars.

◇ Implementation of Park & Ride

Throughout the exposition, the traffic regulation of no through roads in residential areas within 3 km of the EXPO site and no stopping and parking around the Nagakute site terminal was enforced, and the park & ride system was adopted in the case of coming to the exposition in a private car, which the visitors parked in one of the six outside parking areas located near the EXPO site, and they then transferred to a shuttle bus. This method reduced traffic congestion around the EXPO site and eased air pollution from automobile exhaust gas. Parking spaces for 10,600 cars in six parking areas were secured (spaces for 13,110 cars including spare parking areas for weekends and holidays).

Use of Park & Ride Parking Areas

Planned:

Parking area		Number of cars parked		Planned usage	
Name	Distance to terminal	Regular area	Spare area	Number of users (people)	Number of cars
Owari-Asahi	9.0km	1,000	-	370,000	1,200
Nagakute	3.6km	1,700	1,150	600,000	2,000
Nagakute-Minami	6.2km	2,100	500	770,000	2,500
Miyoshi	12.2km	1,500	160	560,000	1,800
Fujioka	11.6km	2,700	400	990,000	3,100
Nagoya Airport	27.7km	1,600	300	580,000	1,900
Total		10,600	2,510	3,870,000	12,600

"Average number of persons in car" and "Parking turnover rate" were planned to be 3.1 persons/car and 1.2 respectively, based on the figures of past expositions.

Actual:

Parking area	Number of Private cars [1]	Planned usage					Average number of persons in car (persons/car) [2]/[1]
		Private car [2]	Two-wheeler	Courtesy	Prefectural airport	Total	
Owari-Asahi	104,207	348,240	630	5,983	-	354,853	3.34
Nagakute	296,954	960,226	1,820	1,921	-	963,967	3.23
Nagakute-Minami	224,308	715,389	731	1,836	-	717,956	3.19
Miyoshi	236,884	759,720	1,012	2,385	-	763,117	3.21
Fujioka	245,563	804,887	520	6,091	-	811,498	3.28
Nagoya Airport	240,243	750,211	1,250	4,437	3,578	759,476	3.12
Total	1,348,159	4,338,673	5,963	22,653	3,578	4,370,867	3.22

- "Courtesy": User of shuttle bus ticket distributed to neighboring residents
- "Prefectural airport": User of air ticket for arriving at and departing from Prefectural Nagoya Airport

◇ Introduction of Shuttle Buses

Shuttle buses were operated between off-site parking lots and the site by the EXPO 2005 Association, as well as being operated between the main stations and the EXPO site by the bus operator.

◇ Information services using ITS (Intelligent Transport System)

The system that organically combined the technologies at the practical-use stage as of 2005 provided the "integrated traffic information" including that on public transportation as well as road traffic information in order for visitors to select per se an optimum route among various access routes to the site and travel to the site in a smooth and comfortable manner. Media for the information services especially included the Vehicle Information and Communication Systems (VICS), a variable information board, that provided full/available information on Park & Ride parking, in addition to the website of the EXPO 2005 Association, mobile internet site, and EXPO FM station.

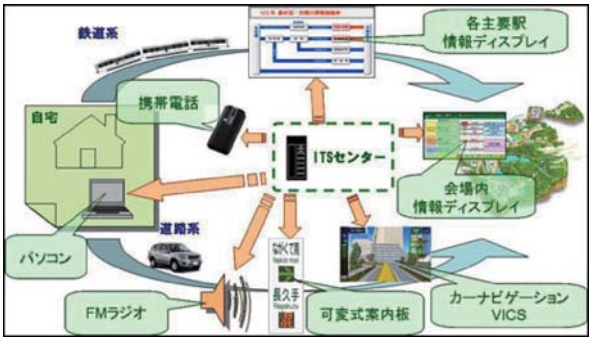
The following traffic information with regard to the EXPO was summarized in the "ITS Center" in almost real time:

- Operation of railway and station shuttle buses for the site
- Use of parking areas by private car visitors
- Operation of parking shuttle buses
- Surrounding road conditions and operation of railway

The latest traffic information was provided through the following media:

*ITS : Intelligent Transport System.

- Personal computers or mobile phones
- Information display device on site and off site
- Car Navigation
- FM Radio
- The latest full/available information on twenty parking information display boards on main roads



Introduction of low-emission vehicles

Cell-fuel buses have been introduced for the inter-site shuttle buses connecting the Nagakute site and the Seto site.

Unlike gasoline- and diesel-fueled vehicles, they do not emit carbon dioxide or other toxic substances during operation and are highly energy-efficient, as well as quiet.

The hydrogen fuel is stored in several high-pressure hydrogen tanks mounted on the roof, and refilled at two hydrogen gas stations at the Seto site.

Moreover, low-emission CNG (compressed natural gas) buses have been adopted for the shuttle bus between Yakusa Station and the Seto site.

Efforts for on-site transportation

◇ Introduction of IMTS (Intelligent Multimode Transit System)

The IMTS was developed as a new transport system taking advantage of state-of-the-art IT technology. Three large low-emission buses (CNG engine mounted) electrically organized without physical couplers ran as automatic operation in a platoon. In addition to the automatic platoon operation of these three buses, dual-mode running was also performed, which combined stand-alone operation with a driver of an ordinary bus and two other unmanned automatic-operated buses. They feature punctuality, high speed, and transportation capacity of orbital traffic systems such as railway as well as economic merit and flexibility of routed buses.

◇ Other transport equipment

The electric trams were operated on global orbiting loops at the Nagakute site as environment-friendly visiting and transportation means. Electric emergency vehicles and heartful carts as well as bicycle taxis also played an active role in transportation means.

Evaluation of off-site visitor transport

The factors allowing transport to the site of more than 22 million people, that is one and half times more than the target number of 15 million people, without serious accident or confusion to be considered to be as follows:

○Promotion of the use of public transport. Specifically, publicity that recommends the Banpaku-Yakusa Station route and such corresponding measures as the sales of special tickets that integrate railway tickets of the JR, Aichi Loop Line and Linear Motorcar with discount privilege for the Kikkoro Gondola, the operation of a direct train between Nagoya Station and Banpaku-Yakusa Station, the increased operation of shuttle buses between Yakusa and the site, and integrated sites by means of a free ticket for the Morizo Gondola, allowed the number of users of the Banpaku-Yakusa Station route to come close to the original planned figure.

○Linear motorcars transported passengers stably throughout the day. (During the whole period, the timetable coped with congestion such as increased operation mainly in the time zone of concentrated visitors on days of a lot of visitors as well as the timetable revised on August 6 to increase operation in concentrated time zones).

◯The convenience of Nagoya Station shuttle buses has been recognized and the number of passengers has increased. In addition, many visitors used the direct-route buses and the related bus operators dealt with it actively and respectively.
◯Many private car visitors recognized the park & ride parking lots and used them stably. On the other hand, spare parking areas were secured and accepted plenty of visitors. Furthermore, by means of the EXPO ITS, incoming vehicles could be guided appropriately to each parking lot to achieve a balanced use of parking.
◯Many visitors used other transportation.

Effects of Park & Ride system on carbon-dioxide emission reduction

If parking places are located at the site, or if the users of Park & Ride parking lots park their private cars in private parking places established around the site, these private cars can run near the site. Instead, using the buses with low CO_2 emissions per passenger at Park & Ride parking areas has a CO_2 emission reduction effect.

According to published data of the Ministry of Land, Infrastructure and Transport (2003 data: from the website of MLIT), since the carbon dioxide emission intensity of passenger transportation is 173 g-c/passenger-km for a private car and 54 g-c/passenger-km for a bus, getting out of one's private car to get on the bus will reduce CO_2 emissions by 119 g to transport one person for 1 km. The calculating formula is as follows:

CO_2 emission reductions (ton) =
CO_2 emission reduction intensity (119 g-c/passenger-km)
×number of parking users (person)×travel distance (km)× go and return (double)

CO_2 emission reduction intensity (119 g-c/passenger-km): difference in CO2 emission intensity of private car use (173 g-c/passenger-km) and that of bus use (54 g-c/passenger-km)
Number of parking users (person): number of persons who used a park & ride parking lot in a private car (record of number of registered persons when getting parking coins)
Travel distance (km): distance between the park & ride parking lot and site terminal
Go and return: outward and homeward have respective reduction effects

As a result, the carbon dioxide emission reductions for the Park & Ride system is calculated to be about 12,000 tons, as indicated in the table below. Note that the average number of passengers of various transport facilities, the calculation basis of the carbon dioxide emission intensity used in the present estimation (published data of MLIT), differs from that of the EXPO. Specifically, because the average number of passengers for private cars of the MLIT data is likely to be smaller than that of the EXPO, CO_2 emission reduction is calculated to be greater.

Table – CO_2emission reductions (Park & Ride system)

	Distance to site terminal	Number of persons who used the parking lots in private cars (persons in the whole period)	CO_2emission reductions (ton)
Owari-Asahi	9.0km	348,240	756
Nagakute	3.6km	960,226	832
Nagakute-Minami	6.2km	715,389	1,056
Miyoshi	12.2km	759,720	2,206
Fujioka	11.6km	804,887	2,222
Nagoya Airport	27.7km	750,211	4,946
Total		4,338,673	11,998

5-2-6 Providing Enjoyable Educational Opportunities

Various exhibitions and events have been held at the EXPO. Among others, visitors participated in the events for themselves, and many people participated in the participatory environmental education programs to have contact with nature, to share joy and emotion and to learn about the environmental facilities. These programs acquired a favorable reputation. Furthermore, the EXPO Eco-Money activity to promote individual environmentally conscious efforts has attracted attention as a new social system.

Nature Experience Program

At the "Natural School Forest" of the Forest Experience Zone (Nagakute site) and "Village Nature School" of the Satoyama Trail Zone (Seto site) as a background, rather than employing one-way transmission of knowledge or information, four programs have been deployed to think about "Nature's Wisdom" through "awakening" by the participation and experience of the visitors themselves, and 1,010,000 people *1 have participated in these programs.

As for the programs, professional "interpreters"*2 who came together from all over Japan and trained "interpreters" selected through public offering have proceeded with the program with the participants. The results of the EXPO 2005 AICHI JAPAN are expected to be widely succeeded as environmental education programs.

Examples of individual programs:

(1) Nature School Forest: Thematic exhibits on "light," "water" and "the forest" will be held, and interpreters will offer interactive, hands-on environmental education programs on the mechanisms of nature.
(2)Village Nature School: Through interaction with old "kilns" and "satoyama," Japan's distinct natural landscape, participants will experience the mechanism of coexistence between nature and people and the wisdom and techniques of our ancestors.
(3) Growing Village: Through the concept of "growing," children will be encouraged to grow sympathy and love for nature such as forests and trees through play.
(4) Satsuki and Mei's House: A replica of Satsuki and Mei's house from Studio Ghibli's animated feature, "My Neighbor Totoro," will be erected in the forest. A program will be offered in which participants can experience the slow life of bygone days.

Participating in the Nature Experience Program*3 (persons)

Nature School Forest				Village Nature School	Growing Village*4	Total*1
South Forest	North Forest	Earth Art Program	Total			
248,470	155,453	97,513	501,436	39,839	470,240	1,011,515



*1 Number of participants of "Nature School Forest," "Village Nature School" and "Growing Village (pavilion visitors)"
*2 Interpreter: in environmental education, this stands for a person who explains the ecosystems of nature and delivers messages from nature to people.
*3 Excluding visitors of Satsuki and Mei's House
*4 Only visitors of Misodaru Pavilion

“Voice of a visitor” (from the Environmental Web Questionnaire)

- I participated in the program for 60 minutes, and this length of time was not as long as I expected. I thought I would like to hear more about the program. There are many plants and wildlife in the forest, and I think anew we should not destroy it from human egoism (Aichi: Y).
- Recently, despite the commitment to tackling global warming and conserving nature, land improvement and deforestation are still being conducted. After visiting the EXPO 2005, I felt keenly that we were protected by the power of nature such as trees, earth, water and grass. I recognized that plants and trees absorb carbon dioxide and release oxygen to produce what is needed for humans, animals, birds and wildlife to live. I have learned what we must do in future. I enjoyed the EXPO 2005, Nature School Forest and Village Nature School very much (Aichi: H).

EXPO Eco Tour

Many environmentally conscious facilities that utilized advanced environmental technologies are located at the site.

The EXPO 2005 Association distributed the "EXPO Eco Map" that listed these 57 environmentally conscious facilities for the visitors. The EXPO Eco Tours are programs in which visitors can visit environmentally conscious facilities such as the pavilions using this EXPO Eco Map.

Three types of EXPO Eco Tours were planned.

(1) Backyard Tour: This tour is for members of governmental agencies, business entities and students, who are interested in environmental technology, to understand advanced environmental technologies. There are two types: a course of looking around a demonstration experiment of new energy and another course of looking around facilities such as the water recycling system and wastewater treatment system.
(2) Kids Eco Tour: This tour is for elementary and junior high school students, and also used as school excursions and trips or an opportunity for environmental learning. Volunteers will lead this tour. The capacity is 10 people per tour. The time required is about 1 hour.
(3) Self Eco Tour: This tour is for general visitors and provides an opportunity for each person to think about the environment by looking around environmental facilities of interest freely, guided by the Eco Map.

Participation in Eco Tours (persons)

Backyard Tour	Kids Eco Tour	Total
4,758	20,095	24,853

◇ Backyard Tour

In this tour, participants hear accounts of and learn advanced environmental technologies on site that cannot be seen in the pavilions or superficial exhibits. As cosponsored by the Environmental Partnership Organizing Club (EPOC), staff of the EPOC member corporations participated this tour as guides.

Backyard tours were carried out 192 times on 52 days during the EXPO period. Because more applications than expected were received, about twice as many tours were conducted as originally planned.

There are two types of course, they run twice a day for each course, and the capacity is about 30 people. Two hours is required for looking around, and 4,758 people participated in this tour.

Tour Courses

◇ **Energy Course**

- Wonder Circus-Electric Power Pavilion: Wind power generator, solar cells, SOFC co-generation system, and use of waste from power generation for foreyard material
- Gas Pavilion: Gas co-generation system, solid-oxide fuel cell (SOFC)
- Ride on Fuel-cell Bus and EXPO Hydrogen production facility

◇ **Recycling Systems Course**

- New Energy Plant: NEDO-supported new energy plant
- Japan Pavilion Nagakute: Energy monitoring, resource recycling information management using IC tags and IT, roof made of photocatalytic steel, biomass-plastic exterior walls, bamboo cage
- Energy-efficient waste water treatment system facilities (using high-concentration ozone): NEDO plant
- Water purification system: Sewage facility using water from the Lotus Pond (using ceramic film)

◇ Kids Eco Tour

This tour guides children to environmentally conscious buildings and facilities at the site to initiate their interest in environmental problems and gain a deeper understanding of a recycling society. It was targeted at senior children at elementary school and junior high school students, and provided an opportunity for them to talk about a recycling society and environmental problems through interregional or intergenerational exchanges of children from different regions.

This tour has been conducted every day from April 22 to the closing date, with 20,095 participants (9,099 for groups, 10,996 for individuals), and 3,916 volunteer guides.

Tour Courses (Travel on the Global Loop)

Facilities	Description Point
• Solar Cell (West Gate – Common 5)	Solar electrical generation system
• New Energy Plant	Garbage fueled power plant, etc.
• Japan Pavilion Nagakute	Bamboo cage, roof made of photocatalytic steel, etc.
• Family island and squares (Interactive Fun Zone)	Wind-powered play facility, earth tubes, etc.
• Biodegradable plastic tableware and information signs (Global Loop)	Made from corn, etc. and biodegradable
• Wonder Circus-Electric Power Pavilion	Bricks made of the coal ash from a thermal power plant, etc.
• Gas Pavilion	Gas co-generation, etc.
• Toyota Group Pavilion	Use of win power generation in Atsumi Peninsula
• Winding Walkway (EXPO Plaza)	Water recycling system, rainfall experience using the Lotus Pond


Backyard Tour


Kids Eco Tour

◇ Self Eco Tour

The "EXPO Eco Map" (B3 size) to help each participant to look around the environmentally conscious facilities freely, and the "EXPO Eco Book" (A5 size, 32 pages) that describe in detail those main facilities were developed and distributed to the visitors. There are Japanese and English versions of both.

On the "EXPO Eco Map," a total of 57 environmentally conscious facilities are presented with a brief description with photos, and their locations are marked. After participating in the Self Eco Tour, bringing this Eco Map to the EXPO Eco-Money Center allowed Eco-Money points to be accumulated. In early August, information boards that presented the main facilities were set up on the Global Loop in order to provide a better understanding of "the Environment":

20 information boards presenting environmentally conscious facilities

10 information boards presenting recycling of garbage

Top 20 visited environmentally conscious facilities (from the Environmental Web Questionnaire)

The EXPO Eco Map illustrates 57 facilities and their activities on the illustration of the Nagakute area and Seto area. The top 20 facilities that participants visited are as follows:

The most-visited facilities of the top 20 are visited not because of the environmental technologies that are used in the facilities, but mainly because they are naturally seen in the process of looking around or are highly visible in appearance.

Top 20 visited environmentally conscious facilities

Environmentally conscious facilities	Respondents	%
1. Global Loop Base Materials (Global Loop)	1572	77.2%
2. Garbage Separation into 9 Categories	1483	72.9%
3. Bamboo Cage (Japan Pavilion Nagakute)	1425	70.0%
4. Benches Made from Thinned Wood (Global Loop)	1418	69.7%
5. Bio Lung (EXPO Plaza)	1258	61.8%
6. Inter-site Fuel Cell Bus	1219	59.9%
7. Wall Greening (Mitsubishi Pavilion@Earth)	1175	57.7%
8. External Walls Made from Kokumazasa (Japan Pavilion Nagakute)	1171	57.5%
9. Dry Mist (Wonder Circus-Electric Power Pavilion)	1145	56.3%
10. Dry Mist from Tents (Global Loop)	1127	55.4%
11. Clustered Column from Thinned Wood (Japan Pavilion Nagakute)	1105	54.3%
12. Wood Chip Paving (Trails)	1093	53.7%
13. “Ongu” Driven by the Power of Nature (“Earth Tower” Nagoya City)	1087	53.4%
14. Reducing Ambient Temperature by Mist	1086	53.4%
15. Reduction of Cooling Load by Photocatalytic Coating, Aqua-Wall and Mist (“Earth Tower” Nagoya City)	1040	51.1%
16. Recycled Materials for External Wall (Mitsubishi Pavilion@Earth)	1002	49.2%
17. Biodegradable Plastic Tableware	987	48.5%
18. Biomass Plastic Exterior Wall (Japan Pavilion Nagakute)	976	48.0%
19. Efforts such as Packing of Souvenirs Using Recycled Paper and Reduction of Shopping Bags	939	46.1%
20. Utilization of Driftwood Chips as Roadbed Material (Wonder Circus-Electric Power Pavilion)	895	44.0%

“Voices of visitors” (from the Environmental Web Questionnaire)

- I participated in both the south and north parts of the backyard tour and, unlike coming to the EXPO without thinking it through, I learned that I was participating in recycling or reuse by participating in the EXPO, such as, "Here, Eco is also exploited" or "This energy is generated from the garbage that we have produced,” so I was very impressed by this tour (Aichi: K).
- I participated in the Kids Eco Tour with my children. We had biodegradable dishes explained in various areas and I saw different scenery than usual in my mind. Later, I told the children that this map was made from corn. I still have the idea of recycling. Better than only gaining knowledge from talks or books, I believe I will never forget what we have experienced. Thank you very much (Aichi: H).
- I participated in the Self Eco Tour and I enjoyed it very much because I could actually look at those environment friendly efforts, technologies and ideas that we cannot usually see when walking around. I think I can see now the EXPO more deeply. Despite a positive and enjoyable tour that gives us the joy of learning, the Eco Tour seems to have low visibility. As for me, since I studied the environment and became naturally interested in it, I could get to know about the Eco Tour. I think the EXPO 2005 Association should have given it more publicity (Ibaragi: H).
- It was convenient that the "EXPO Eco Map" was distributed at various places so that visitors could easily get one within the EXPO site. It was good that on the map, each pavilion and facility was briefly described and its location indicated. It was also good for us to gain Eco-Money points in the Self Eco Tour. Now, I am very interested in the environment (Shiga: C).

EXPO Eco-Money Project

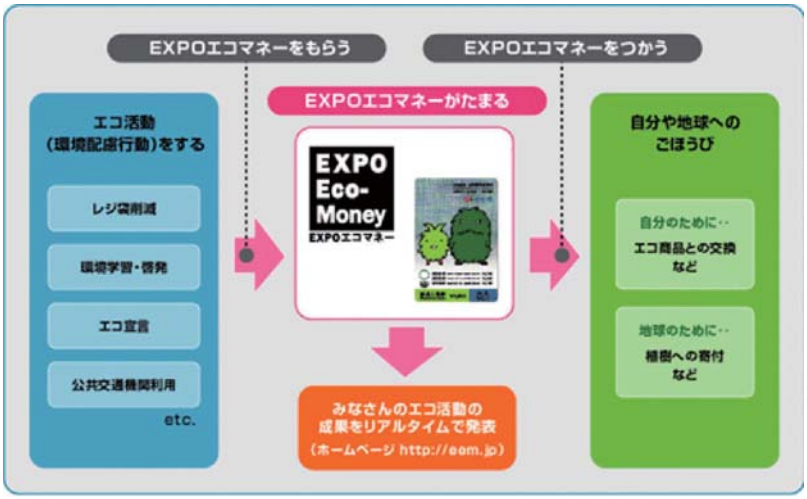
The EXPO Eco-Money Project is a program that aims to widely develop ecological movements in collaboration with four parties, namely, citizens (visitors), supporters on site and off site, the Japan Association for the 2005 World Exposition, and sponsors, using EXPO Eco-Money that will be issued for environmentally conscious behavior by citizens as "key..ŧ Off site, over 20 supporter companies cooperated with this project, and about 2,400 shops across the country gave Eco-Money points for the non-use of shopping bags.

Initially, the EXPO 2005 Association expected the number of visitors to the EXPO Eco-Money Center to be 150,000 people, but due to the strong "environmental consciousness" or "ecological behavior" of the visitors, a significantly better-than-expected 600,000 people visited the center. In order to further establish the environmentally conscious behavior of citizens as a social system, the EXPO 2005 Association has transferred the Eco-Money Center to Kanayama in Nagoya City as the EXPO 2005 Association's project, and for about one year after the end of the exposition, it will continue this experimental project in such a way as to spread it throughout society.

◇ Mechanism of EXPO Eco-Money

■Efforts to accumulate Eco-Money points lead to activities of protecting the environment.

The "EXPO Eco-Money" Project is an experimental project for a new society system that, aiming to prevent global warming and develop a recycling society, enhances and promotes links among the respective "environmentally conscious activities" of citizens, corporations and the government. Eco-Money points will be issued for each "environmentally responsible action" by EXPO visitors. These points for the environment will be also issued for the daily activities of citizens off site, such as the reduction of shopping bag use or the use of public transport. These points can be used as "Return to Individuals" that include participation in the prize competitions of Eco Tours and receiving eco goods, and "Return to Society" such as afforestation. Furthermore, CO2 emission reductions achieved through the "environmentally responsible behavior" of all participants was summed up, and the outcome was regularly published in visible way.



Example of activities that can gain points:

- Arriving at the Park & Ride parking areas around the EXPO site in certified low-emission vehicles (eco cars) (a copy of the vehicle's inspection certificate has to be shown at the EXPO Eco-Money Center) = 1 point
- Participating in environmental programs such as the Eco-Tours within the EXPO site = 1 point
- Purchasing eco goods or refusing shopping bags in pavilions or shops with the EXPO Eco-Money mark = 1 point
- Points will be also issued for Eco Actions in supporting companies or shops off site.

■ Exchanging earned Eco-Money for eco-goods

Accumulated "EXPO Eco-Money" was exchanged for eco-goods according the number of points or used for the contribution for environmental preservation activities such as afforestation. One "Donguri's Tree" will be planted for every 1,000 points.

◇ Self Eco Tour

State of Achievement	Number of Visitors to Eco-Money Center	Approx. 600,000 persons
	Total Points Issued	Approx. 3,270,000 points
	Total Points Returned	Approx. 2,170,000 points
	Contribution for "Donguri's Tree"	Approx. 530,000 points
Off-site performance exchanged at Eco-Money Center* (CO_2 reductions)		Approx. 233 tons

* CO_2 emission reductions generated in the process of production to disposal of shopping bags by refusing to receive shopping bags in shops off site

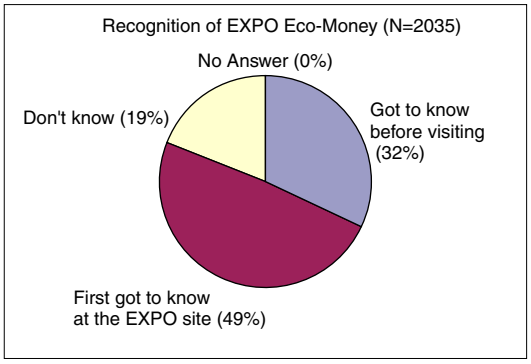
Visitors hear explanation

Donguri's Tree

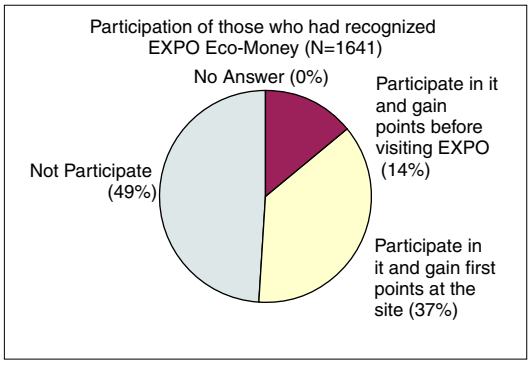
EXPO Eco-Money Center

“Visibility of EXPO Eco-Money” (from the Environmental Web Questionnaire)

The environmental web inquiry investigated, for "EXPO Eco-Money," when respondents recognized "Eco-Money" (visibility) or whether they participated in it. For visibility of Eco-Money, about half of the respondents learned about it only when coming to the EXPO, and over 80% of the respondents including those who had known of it before visiting the EXPO recognized Eco-Money. In addition, about half of those who knew about EXPO Eco-Money before visiting participated in it, and 37% acquired their first points at the site.



Recognition of EXPO Eco-Money



Participation in Eco-Money

“Voices of visitors” (from the Environmental Web Questionnaire)

- My children no longer receive shopping bags, and if I receive one inadvertently, they warn me. We understood why we shouldn’t use shopping bags, and if used, how they will harm the Earth; I am very concerned. I feel fulfilled that I could participate in Eco-Money to make a humble contribution to protecting the Earth (Aichi: H).
- I think it's a good project. We could easily participate in the Eco, the closest thing that we are usually unaware of, so daily awareness of the Eco has been further enhanced. From now, not only in the Nagoya area, if the government deploys this project across the nation and expands the point earning activities, individual awareness of the Eco will be further enhanced (Tokyo: K).
- It's a very good effort. Some participants are focused on getting eco goods but many others made donations for afforestation. I expect to see panel trees covered with green leaf seals (Aichi: H).

EXPO AMEDAS

As a system of providing environmental information during preparation and the EXPO period, two systems were installed: the "EXPO Environmental Information System" and the "EXPO AMEDAS," an environmental data observation and display system.

◇ MEXPO Environmental Information System

The "EXPO Environmental Information System" has developed a database of environmental information obtained from the environmental impact assessment and processed visually to be easy to understand and provided it.

The system is divided into a system for internal use and a system for external use.

■ System for internal use

This is a system for using the environmental information within the EXPO 2005 Association. Data processing and the development of documents have been performed to disclose environmental information on database basis in an easily understandable way.

In building the system, the geographic information system (GIS) has been used in order to treat in a comprehensive and planar manner a wide variety of environmental information such as on animals and plants.

■ System for external use

This is a system to deliver environmental information to the general public including regional residents and investigators and to incorporate broadly the opinions of those many people during use.

Information is delivered via the Internet, and GIS technology is used to display the information readably.

◇ "EXPO AMEDAS, "an environmental data observation and display system

The EXPO AMEDAS is a system to measure the weather and CO2 concentrations at 25 points within the site, determine quantitatively and verify the results of environmentally conscious efforts including the Bio Lung and various environmentally conscious roadbed paving, as well as to transmit the results via the Internet to enhance environmental learning and awareness of the environment for those accessing them. Furthermore, using web contents ("Eco Club"), the EXPO AMEDAS invited elementary and junior high school students to submit independent research for the summer vacation and granted awards for excellent research.

Measuring Points

Measuring Instruments and Apparatus

Civic Projects

The Citizens' Pavilion and Kasha Plaza are set up in the Seto area, and there are 235 projects organized lectures, dialogues and exhibits almost every day. The themes are divided into "Peace," "Welfare" and "Environment," and 81 projects are covered by the "Environment" theme. Some of these projects are presented below.

Civic Projects <Case Example>

Project Name	Project Content	Date
Young people talking about the 21st century — from Shanghai to the Sea	Collaborative project by Chinese Shanghai Fudan University and Japanese undergraduate students. Students from Fudan University develop a symposium focusing on the environment. In a panel discussion, citizens from the EXPO and students as project leader participate in and discuss environmental problems in a variety of cross-sections.	8/23
Save the World's Largest Tropical Rainforest Amazon	ABC Japan, which supports the activities of Japanese immigrants from Brazil in Japan, collects human resources and information and develops planning through local networks. Rapid destruction goes on around the Amazon. The farming methods of Japanese immigrants and the lifestyle of the Indios, which are attracting attention as measures and policies to overcome the current situation, are presented and exhibited.	EXPO Period
Help Clean the Earth	The International Resources Utilization Association carries out recycling of the resources of Southeast Asia and exchange of culture, technologies and human resources based on Mie Prefecture. It organizes visitor participatory workshops that think about the environment, in which participants produce original clayey soap from domestic waste oil (spent tempura oil).	3/25–6/28
Creation of video pictures describing the importance of marine nature	The images of Kaisho Forest will convey the importance of nature, of coexisting with nature and the significance of satoyama preservation° Also collaborated with Aichi Prefecture and Satoyama Forest of learning and interchange.	EXPO Period
Eco Talk Session	Talk Shows for children and top management and staff in charge of the environment of companies talk about the environment. This project is sponsored by the Environmental Partnership Organizing Club (EPOC).	6/17 7/5,6
Regeneration of the Forest for Everybody!! — Diversity and Potential of the Forest	C. W. Nicole, who purchased a devastated village and carries out forest regeneration activities himself, will talk about his experiences and what is needed for the co-existence of nature and humans.	7/28

“Save World's Largest Tropical Rainforest Amazon”

“Help Clean the Earth”

Event in Kaisho Plaza

Eco Talk Session

5-2-7 Promotion of the Environment-Conscious Efforts by the Parties Concerned

The EXPO 2005 Association has been trying to promote the environment-conscious efforts of the parties concerned by creating environment-conscious guidelines and calling on people to conduct environment-conscious activities.

In addition, we have been promoting environment-related communications by publishing environmental data, preparing environmental materials and holding symposiums.

International symposiums held

Starting with the 1st international symposium (theme: creation of a new earth and its regional development) held in Nagoya on Jan. 27, 1998, eight international symposiums have been held to date.

In the 8th international symposium held just before the EXPO (in Sept.2004), about 800 participants gathered at Tokyo International Forum under the theme of "Nature's Wisdom and the Possibility of Sustainable Development."

During the session, key international figures and experts held a relay symposium under the similar theme of "creation of a sustainable society" as the EXPO 2005 International Forums to study "Nature's Wisdom." Such a relay symposium was held for the first time in EXPO history. We want to discuss the "policies and methods toward the creation of a sustainable society" to be developed and used even when the EXPO is over.

International Symposiums

Theme		Date
1st	How to design 2005 Japan EXPO	Mar., 15, 1998
2nd	Aiming at a cyclical society in the 21st century	Feb. 20, 1999
3rd	Creation of sensibility in the 21st century	Oct. 31, 1999
4th	Legacy of EXPO (Hanover EXPO international conference hall)	Oct. 29, 2000
5th	Global Stage For Cross-Culture	Nov. 12, 2001
6th	EXPO 2005 AICHI JAPAN and Fantasy	Dec. 8, 2002
7th	The Future of Humankind and the Children of the 21st Century	Aug. 19, 2003
8th	"Nature's Wisdom and Sustainable Development"	Sept. 17, 2004

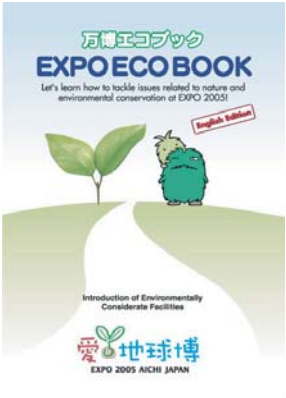
EXPO 2005 International Forums

Theme		Date
Opening Forum	Mutual Relationship among Culture, Environment and Development; and the Possibility of Balanced Development	Mar. 27, 2005
	Issues to be resolved in Creating a Sustainable Society	Mar. 28, 2005
Theme Forums	Culture and Biological Diversity and Internationally Common Recognition	Apr. 16, 2005
	Aiming for an environment-based society Ideal form of science in the 21st Century	May 21, 2005
	Industrial Infrastructure of the 21st Century: A Message for the Development of Eco-Communities	Jun. 2, 2005
	Environmental Education Necessary for Realizing Sustainable Society	Jul. 23, 2005
	Economic and Industrial Development in Harmony with the Environment	Aug. 27, 2005
Closing Forum	Toward the Creation of Sustainable Society	Sept. 21, 2005

Preparation of environmental pamphlets

We prepared pamphlets containing the result of the assessment of the environmental consequences, change of the planned site and approaches as a result of the change, environment-conscious facilities at the site, technologies introduced, etc., and delivered them to visitors and the organizations concerned. We also made English versions of the "EXPO eco map" and "EXPO eco book." "Efforts for environmental assessment" were produced in both Japanese and English.

EXPO eco map



EXPO eco book

Efforts for environmental assessment

Official environment-conscious commemorative products

The number of official commemorative products eventually reached between 5 to 6 thousands. We were as ecologically conscious as we could be when manufacturing and handling these products. We prepared our own environment-conscious guideline stipulating not only the material of the products, but also the procurement, distribution and shop management for the product makers, distributors, and retailers such as department stores. We also established an environmental committee consisting of the companies concerned, and disclosed the information on the realization of the decrease in burdens on the environment and the accomplishment as a result.

Concretely, we promoted activities to reduce the package space rate, use recycled paper and decrease the quantity of shopping bags used, which were effective in reducing waste. According to the questionnaire, the 250 companies that participated in these activities improved their environmental awareness.

"Nature's Wisdom Award" and "Global 100 Eco-Tech Awards"

In EXPO 2005 AICHI JAPAN, each participating country exhibited the design and display of its pavilion, focusing on its own culture and nature. Also various technologies were used to solve global environmental problems and largely contribute to the sustainability.

In EXPO 2005 AICHI JAPAN, the "Nature's Wisdom Award" was established for the most unique efforts made by a participating country, and the "Global 100 Eco-Tech Awards" was established for the purpose of the popularization of global environmental technologies and the promotion of research and development in order to announce the fruits of the EXPO to the world.

◇ "Nature's Wisdom Award"

The award system, which was stopped after the 1958 Brussels EXPO, has since been reestablished after a lapse of half a century. ("Special Regulation No. 14 on Prizes and Awards" approved at the 136th session of the BIE General Assembly on Dec. 16, 2004)

Purpose: To encourage the participating countries of 2005 EXPO Aichi to realize and spread the theme of "Nature's Wisdom" through their pavilions.
Target: 69 pavilions of the official participating countries (*). Japanese pavilions or those municipally-owned or company-owned are not applicable.

The 1st award:

Evaluation of the exterior appearance, interior and display contents of the officially-participating countries' pavilions toward the realization of "Nature's Wisdom." (May 26, 2005)

Award-recipient pavilions

Size of the pavilion	Gold prize	Silver prize	Bronze prize
Category A (4 modules or more)	Korean	Spanish	British
Category B (1.5-3 modules)	Turkish	Mexican	Greek
Category C (1 module or less)	Filipino	Moroccan	New Zealand
Category D (joint pavilions)	Venezuelan/Bolivian (Andean Amazonian Pavilion)	Kenyan (Africa Pavilion)	Uzbekistani (Central Asia Pavilion)

The 2nd award:

Evaluation of the messages of the official participating countries to the world to solve today's global issues such as conservation of nature, biodiversity, cultural diversity, promotion of international exchange based on the theme of "Nature's Wisdom." (Sept. 19, 2005)

Award-recipient pavilions

Size of the pavilion	Gold prize	Silver prize	Bronze prize
Category A (4 modules or more)	German	French	American
Category B (1.5-3 modules)	Mexican	Australian	Malaysian
Category C (1 module or less)	Dutch	South African	Indonesian
Category D (joint pavilions)	Andean Amazonian Pavilion	Madagascan (Africa Pavilion)	Kenyan (Africa Pavilion)

◇ Global 100 Eco-Tech Awards

Purpose: To clarify 100 global environmental technologies from the most advanced to traditional ones to solve global environmental issues and contribute to sustainability based on the EXPO 2005 AICHI JAPAN theme of "Nature's Wisdom," promote the roles and the possibility of technology to realize coexistence between humankind and the earth, and diffuse the global environmental technologies and promote research and development.

Target: 236 global environmental technologies recommended by the officially participating countries and international organizations, Japanese municipalities (prefectures and 12 major cities) or the judging committee.

Judging method: 100 technologies were selected through discussion among the judging committee members by checking the entry documents submitted by the presenters from the viewpoints of (1) contribution, (2) novelty, and (3) universality.

The 100 award-recipient technologies consist of 44 from overseas (23 countries), and 56 from Japan. The overseas technologies were selected mainly from environmentally-advanced European countries, followed by East Europe, Asia, Africa, North America, and Latin America.

Number of award-recipient technologies by country

Country	Number of award-recipient technologies		
Japan	56		
Overseas	44		
		6	Australia
		5	Germany
		3	Austria, Holland
		2	Britain, Greece, Sweden, Canada, Philippines, Thailand
		1	Portugal, Switzerland, Romania, Croatia, Uganda, Eritrea, Tanzania, Madagascar, Brazil, Venezuela, Panama, Korea

6. EXPO 2005 AICHI JAPAN Web Questionnaire Survey Result

The EXPO 2005 Association conducted a questionnaire survey of the visitors using the Internet to ask for opinions, impressions of the environmental facilities and environmental friendliness at the site.

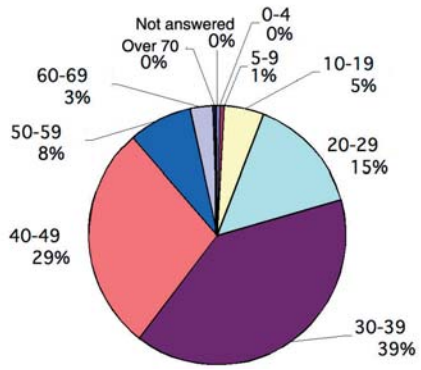
The following shows the environmental awareness of the respondents that is not described in each of the environment-conscious efforts.

Responses to the questionnaire are also shown in the following pages:

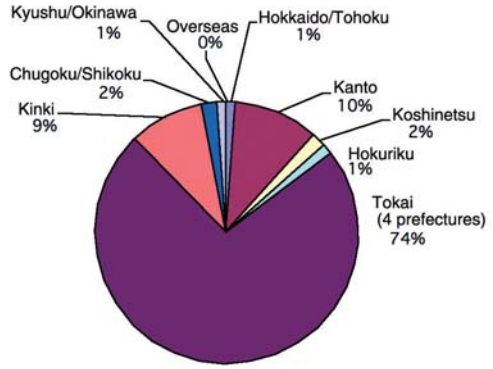
- Duration of survey: 2005.7.8 – 9.30
- Survey method: Internet questionnaire
- Total number of accesses: 4,900
- Number of effective responses: 2,035

■ Respondents' attributes

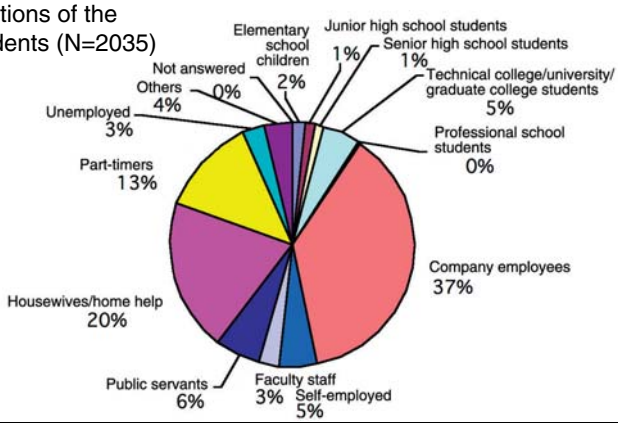
Ages of the respondents (N=2035)



Addresses of the respondents



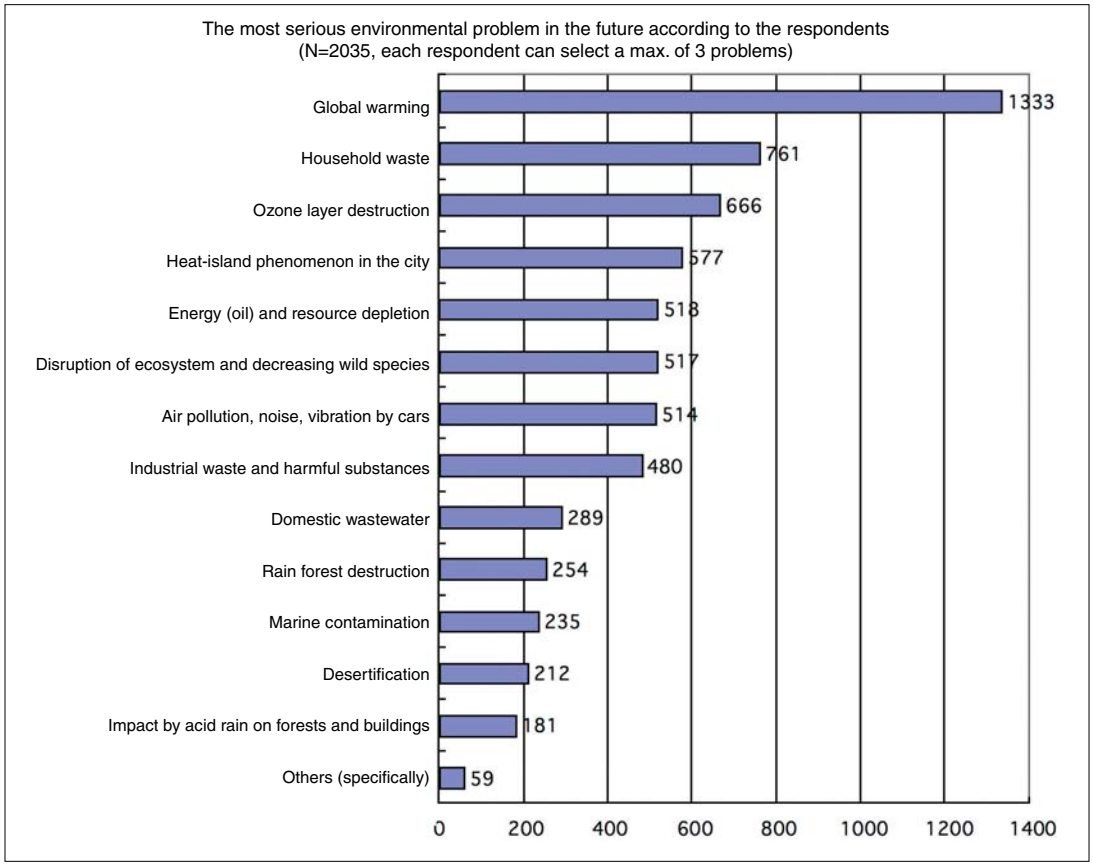
Occupations of the respondents (N=2035)



■ Most serious environmental problem in the future according to the respondents

Sixty-five percent of the respondents indicated “global warming” as the most serious environmental problem in the future, which gained the majority, followed by “household waste (food)” and “ozone layer destruction.”

The most serious environmental problem in the future according to the respondents



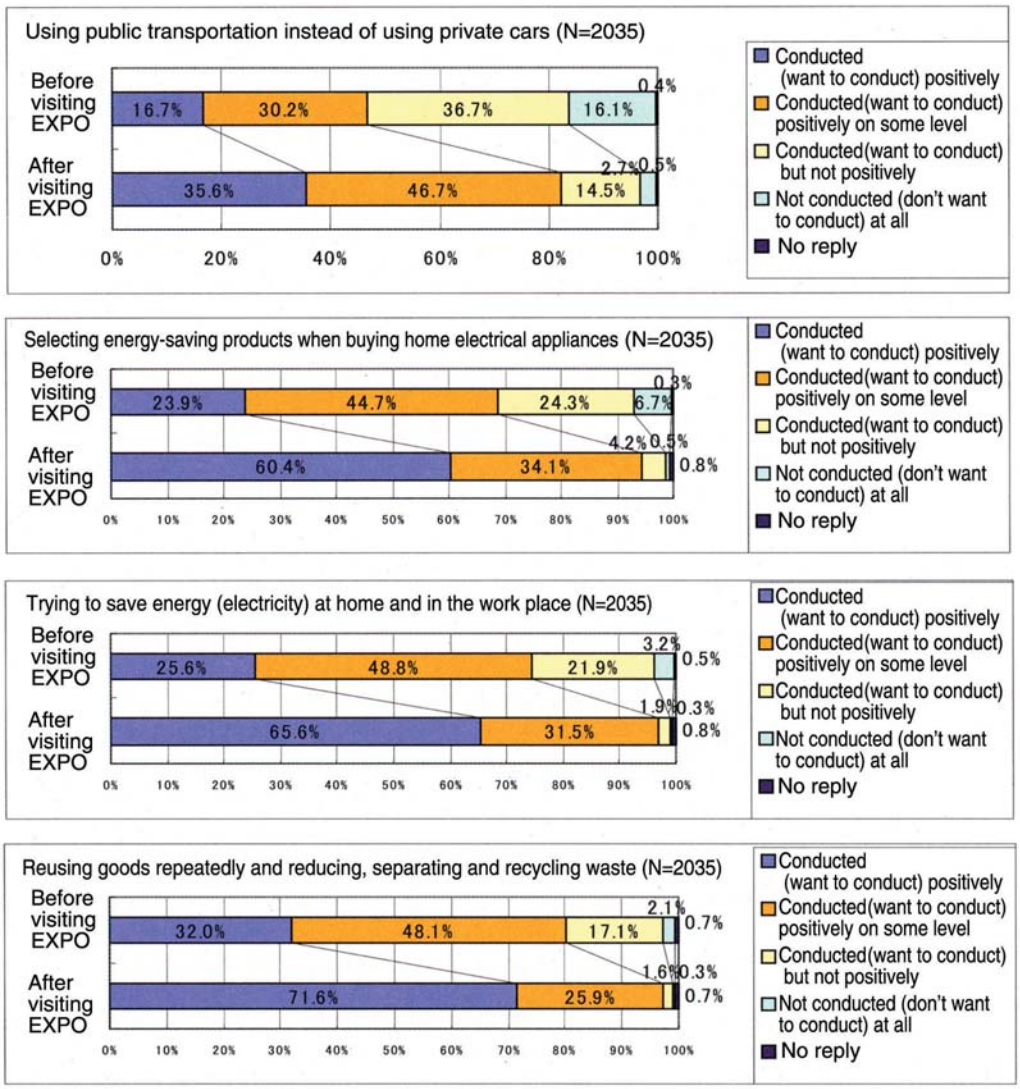
■ Change in the respondents’ awareness before/after visiting EXPO 2005 AICHI JAPAN

We asked the respondents how their awareness was changed before and after visiting the EXPO in terms of the following four activities.

In all activities in the following table, the number of respondents who selected “Want to conduct positively” and “Want to conduct positively on some level” greatly increased after visiting the EXPO. Accordingly, we can say that the people’s visits to the EXPO contributed to improving their environmental awareness.

“Reduction of waste and recycling,” which leads to the “separate collection and recycling of waste into 9 types” indicated by the respondents as the most impressive environment-conscious activity, was selected as the activity the respondents wanted to conduct more than any other activity after visiting the EXPO. We consider that this shows that the respondents’ experience of visiting the EXPO was affected favorably.

Change in the respondents' awareness before/after visiting EXPO 2005 AICHI JAPAN



Impressions of environment-conscious activities at EXPO 2005 AICHI JAPAN (from the Environmental Web Questionnaire)

- I was really surprised to see that environment-conscious technologies have been greatly advanced. I'm proud that an EXPO whose theme is the environment was held in our town. I felt the most important thing is raising people's awareness of the environment. For example, we can start with a very small thing such as bringing and reusing our EXPO maps on our next visit. (W from Mie prefecture)
- Eco-friendliness was evident in various places at the site, and it was good that I could understand the theme of the EXPO visually rather than by reading difficult sentences. My child could also see the eco-friendliness in household goods that were not even displayed. My family was given an opportunity to think about environmental problems. When we came home, my child said to his mother, "Mum, the light is still ON, be careful about global warming." or "Don't throw it away as I can still use it." I liked the eco-conscious goods that even a small child could be attracted to and could use easily. (Y from Chiba prefecture)
- I think the EXPO showed wonderful human activities and our future hopes (excluding global crises) by uniting the displays related to natural ecology, environmental technologies and global history under the theme of environmental problems. As many pavilions offered visitors' participation, we could learn more. I expect follow-up activities to be conducted so that environmental technologies and efforts may be understood more in the future (by indicating that technology introduced in EXPO 2005 AICHI JAPAN is used here, for example). I thank all EXPO staff members for presenting us with a wonderful exhibition in today's troubled times when it is difficult to foster our future hopes. (Y from Aichi prefecture)
- I felt it was very difficult to have built the EXPO site without destroying the forests. By this, however, we were given an opportunity to learn a lot. Thanks to the EXPO, I realized that "I should start eco-conscious activities" other than thinking "one person doesn't matter." (K from Aichi prefecture)
- I found something new whenever I visited the EXPO as various eco-conscious efforts were being made. I could see such efforts when I visited each pavilion, walked on the moving global loop, and waited in a long line, therefore, I could experience a feeling of global-friendliness when I was in the EXPO site. How wonderful it would be if all people on the earth conducted environment-conscious activities! I think I should start first. (S from Gifu prefecture)
- At the beginning of the EXPO, I could not see the eco-conscious efforts, but as I visited many times, I came to realize various eco-conscious efforts. I think people who visited the EXPO repeatedly could understand such efforts, but those who visited once may not have done so, unfortunately. (H from Aichi)
- I had been interested in the EXPO even before the opening as the theme of "environment" was wonderful. Actually, the eco-conscious efforts in the EXPO facilities were nice. However, while I expected eco-consciousness to be promoted more positively, people were interested in companies' pavilions, and the theme was understood only by those who wanted to learn about the environment. I think the environment should have been appealed more strongly. (E from Osaka prefecture)

List of Concepts, Themes, etc. of Official Participating Countries / International Organizations

(Prepared on the basis of the information on the official website of the Japan Association for the 2005 World Exposition)

■ Global Common 1

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Yemen Pavilion	Republic of Yemen	・To re-create the streets of Sana'a (the world's most ancient skyscraper city) and to present videos of the unique ecosystem on Socotra Island (Galapagos Island of the Arabian Sea).
Iran Pavilion	Islamic Republic of Iran	・Concept: Art and Wisdom of Life ・To introduce the history / cultural heritage and Islamic religion with visual images in addition to an exhibition of craftwork, under the theme of Art of Life.
India Pavilion	India	・Concept: A journey to explore nature's wisdom ・To present the pavilion's displays centering on the two well-known symbols of the Bodhi Tree and the Dharma Chakra.
Qatar Pavilion	State of Qatar	・Concept: Balanced development with harmony between new and old areas ・To introduce the past, present and future of Qatar which promotes "balanced development" in all aspects of life, not only preserving the environment for the rich fauna and flora in the Persian Gulf, but also contributing to the conservation of the global environment as an exporter of "clean energy"-natural gas.
Saudi Arabia Pavilion	Kingdom of Saudi Arabia	・Concept: "Wisdom""Harmony" and "Hope" ・To set out the exhibition for the purpose of allowing visitors to feel the wisdom of Islamic culture and deepen their understanding of Islam.
Bangladesh Pavilion	People's Republic of Bangladesh	・To present, drawing upon exhibits and audiovisual presentations, the actual way of life of the people of Bangladesh, who have continued leading their lives with nature, doing battle with nature as it periodically unleashes storms, tidal waves and so forth.
Sri Lanka Pavilion	Democratic Socialist Republic of Sri Lanka	• Theme: To introduce the glorious history of the Theravada school of Buddhism that created the unique art and architecture of Sri Lanka through its unique natural environment and religious culture.
Korea Pavilion	Republic of Korea	• Concept: Light of Life • To introduce the Korean view of nature and outlook on life, unique culture and craftwork as well as dynamic industry under the theme of “Light of Life,” dividing the pavilion into 5 zones of 5 colors (green, red, yellow, black and white).
China Pavilion	People’s Republic of China	•Theme: Nature, City, Harmony – Art of Life •To present completely, under the plan of the “Tree of Life,” the immense Chinese culture that pursues balanced development by removing discordant elements in urban and rural / economic and social development and in the relationship between humanity and nature, using various media ranging from calligraphic works and paintings to visual images.
Nepal Pavilion	Kingdom of Nepal	•Concept: Mandala, which symbolically represents the Cosmos. •To exhibit a replica of a Buddhist temple constructed by 200 craftsmen who came from Nepal, introduce Nepalese art, architecture, culture and life, evolved through the integration of the philosophies of Buddhism and Hinduism, and present the “Wisdom of Life” of the Nepalese people.

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Pakistan Pavilion	Islamic Republic of Pakistan	• Concept: “Art” and Wisdom of Life • To spread out a mysterious space, under the theme of “Wisdom of Life,” with sculptures, reliefs, frescos and various designs representing various civilizations with a backdrop of three-dimensional models of the world’s highest mountain peaks.
Bhutan Pavilion	Kingdom of Bhutan	• To introduce the nature, culture, philosophy, art and so forth, of which Bhutan is proud, with a bridge constructed by the unique architectural technique of Bhutan, textiles, Buddhist statues, photos, paintings and so forth.
Mongolia Pavilion	Mongolia	• Theme: Development for Eco-Communities • To exhibit in the pavilion items to show the natural resources and potentiality of Mongolia in an easy-to-understand way, displaying a “ger” (pao) that is a portable dwelling, household goods, daily commodities used for nomadism and otherwise.
Central Asia Pavilion	Republic of Uzbekistan, Republic of Kazakhstan, Republic of Kyrgyzstan and Republic of Tajikistan	• Joint pavilion of 4 republics, namely Uzbekistan with “Blue Capital,” Kazakhstan, a “Country of Steppes,” Kyrgyzstan, a mountain country and Tajikistan, a country at the foot of the sun. • Concept: Exchanges of Time • To present a dynamic exhibition of the items of cultural exchange between East and West under the theme of “Exchanges of Time.”

■ Global Common 2

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
U. S. Pavilion	United States of America	• Concept: The Franklin Spirit • To introduce American nature and development of science and technology, in commemoration of the 300th birthday of Benjamin Franklin, a politician / scientist,who contributed to the country’s independence.
Argentine Pavilion	Argentine Republic	• Concept: Peaceful global relations and sustainable development as well as environmental conservation • To introduce with visual images and so forth the splendor of nature, sightseeing spots and way of life in the regions with different characteristics.
Canada Pavilion	Canada	• Concept: Wisdom of Diversity • To introduce the attractions of Canada through 3 conceptual spheres – a Geosphere showing Canada’s land, water and air including climate, a Biosphere presenting Canada’s nature in which microorganisms, plants, animals and humans live, and an Ethnosphere shedding light on the people and culture of Canada as well as the relationship between humans and nature.
Cuba Pavilionn	Republic of Cuba	• Concept: Efforts for preserving nature and historical relics. • To portray Cuba from various angles, where different cultures were amalgamated under the sub-theme, “Symphony of Inter-Culture,” in an exhibition pavilion adopting a colonial style.

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Pavilion of the Dominican Republic	Dominican Republic	• Concept: (Columbus' favorite) "Island Crystallized with Nature and History" • To show pictures painted by artists from the Dominican Republic on the façade, in addition to the introduction of historical data and visual images during the Columbus era.
Mexico Pavilion	United Mexican States	• Theme: "Complicatedly Intertwined Diversity: Changing Nature and Culture" • To express through the movement of culture / nature the diversity developed over many years by several races, animals and plants in different natural environments inside Mexico, as well as its nature's wisdom.
Andean Amazonian Pavilion	Republic of Ecuador, Bolivarian Republic of Venezuela, Republic of Peru and Republic of Bolivia	• To produce the image of the Andean and Amazon area, "Paradise Full of Natural Wisdom." • Rediscovery of a paradise is important to protect the future of life on the Earth, as the nature in the Andean and Amazon area not only supplies farm produce and water resources, but also supports human life globally by purifying air and otherwise.
Central America Pavilion	Joint presentation by 7 Central American countries (Note 1)	• To convey, using large visual images and from various viewpoints, the present aspect and attractions of the Central American region that faces both the Pacific and Atlantic oceans, the difference of which is shown in beautiful underwater images and in an exhibition of rare sand.
United Nations Pavilion	More than 20 U. N. organizations	• Presentation by more than 20 U. N. organizations • Concept: Celebrating Diversity – All are different. That's the world. • To exhibit a computer-generated display of Picasso's "Guernica" as the symbol of peace. To portray the people across the world and praise their diversity through the work of the U. N. families.
International Red Cross and Red Crescent Movement Pavilion	International Red Cross and Red Crescent Movement, engaged in the protection of victims of armed conflicts, disaster-relief activities, social welfare services and so forth	• To allow visitors to see people around the world helping each other crossing the boundaries of races and religions in the rescue of those suffering from wars, natural disasters and sickness, through visual images and a gallery zone at the planetarium-shaped theater.
OECD Pavilion	Organization for Economic Co-operation and Development	• To introduce OECD activities up to today, using multiple panels, to the general public over a wide range, with the main theme of the "Creation of a Sustainable Society" aimed at making economic, environmental and social policies compatible with each other, based on the EXPO 2005 theme "Nature's Wisdom."
ITTO Pavilion	International Tropical Timber Organization (ITTO)	• To explain to visitors how to protect tropical forests with proper forest management, and allow them to think about the use of tropical timber and sustainable management of their supply sources.

(Note 1) Countries making presentations in the Central America Pavilion are as follows:
Republic of El Salvador, Republic of Guatemala, Republic of Costa Rica, Republic of Nicaragua, Republic of Panama, Belize and Republic of Honduras

■ Global Common 3

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Italian Pavilion	Republic of Italy	• Concept: Italian Lifestyle • To introduce beauty, art, culture and other aspects of the Italian lifestyle under the unified theme of the "Mediterranean Sea." • To display the ancient Greek bronze statue, “Dancing Saturos.”
Greek Pavilion	Hellenic Republic	• Concept: Man and nature • To allow visitors to view 4 zones of soil, wind, water and fire in succession, to experience nature, culture, harmony with nature and the future of Greece.
Croatia Pavilion	Republic of Croatia	• Concept: A drop of waterÅFa grain of salt • To allow visitors to see and experience in the pavilion the scene of salt production mainly at a “Salt Field,” viewing it from 5 sites, on the sea floor, beneath the surface of the sea, on the sea, on the ground and in the air.
Libya Pavilion	The Great Socialist People’s Libyan Arab Jamahiriya	• Theme: “Yellow and Blue is Green.” (The “Yellow of the Desert” and the “Blue of Water” generate Green which symbolizes life.) • To promote the importance of the environment and so forth through the theme.
Spanish Pavilionn	Spain	• Concept: Sharing the “Art” of Life • To install 16 large screens and reproduce a traditional lattice window, “Serosia,” on the external wall of the Spanish Pavilion.
Tunisia Pavilion	Republic of Tunisia	• Concept: Tunisia: Peace and Sustainable Development • To introduce Tunisia’s efforts to protect and manage water and other natural resources, conserve biodiversity through the development of national parks and nature reserves, and popularize environmental education, as well as the 3,000 years of Tunisian history and its national land.
German Pavilion	Federal Republic of Germany	• Theme: "Bionis" proposing coexistence between nature and technology • Experience-type pavilion eliminating explanation as far as possible: To allow visitors to depart, riding in a transparent cabin, “Experience Drop” (orbital system, called “Ride”) to the future bio-world for an experience of wonder, including the enjoyment of German sceneries.
Turkey Pavilion	Republic of Turkey	• To consider “Living together with Nature” through tackling the problem of forests that are rapidly disappearing from the Earth due to destructive development and climate changes. • To build the pavilion with recyclable timber. • To dismantle the pavilion after the end of the EXPO and take it back to Turkey for use as materials for some parts of the History Museum in Istanbul.
French Pavilion	French Republic	• Concept: Relation between humanity and nature • To make presentation in a uniquely French way, principally with the use of visual images, under the main theme, “Relation between humanity and nature, interpreting “Nature’s Wisdom” in a unique manner and questioning about “sustainable development.”

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Bulgaria Pavilion	Republic of Bulgaria	• Concept: "Nature's Wisdom and Gifts from Nature - Essentials for Human Health, Lifestyle and Tolerant Coexistence" • To focus on the important balance of humankind and nature, and introduce the traditional and modern approach of Bulgarians for the production of typically Bulgarian natural and organic products.
Bosnia and Herzegovina Pavilion	Bosnia and Herzegovina	• Concept: Bridge between Man and Nature / Gift of Nature” • To propose the promotion of interaction between humanity and nature as well as between men, and the utilization of natural building materials for that purpose.
Morocco Pavilion	Kingdom of Morocco	• Concept: Openness and Tolerance - the Sources of Moroccan Culture • To exhibit Moroccan art via a variety of materials and show various clips on nature, the environment and tourism on plasma screens.
Jordan Pavilion	Hashemite Kingdom of Jordan	• Concept: Silent Floatation • To introduce the Dead Sea, called a “mini universe” with its unique ecosystem, and its relations with mankind over 5,000 years. • To reproduce the environment of the Dead Sea with water and sand brought from there in its surroundings.

■ Global Common 4

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Ireland Pavilion	Ireland	• Concept: Art of Life • To convey the message on symbiosis with nature and wisdom of the Celts through the introduction of Celtic culture and historic heritage, with items of rich Celtic art and cultural heritage brought together and exhibited to the public.
Ukraine Pavilion	Ukraine	• To seek the possibilities of human wisdom in the sections of “Historical Outline” and “Present Ukraine.” • “Historical Outline”: To introduce Ukraine’s long history and its unique culture. • “Present Ukraine”: To show, under the theme of development of a harmonized civilization, how Ukrainian people are tackling the protection of nature, exhibiting technologies to use the benefits from nature in a meaningful way, and production technologies friendly to the environment.
Austrian Pavilion	Republic of Austria	• Concept: The Slope
The Netherlands Pavilion	The Netherlands	• Theme: Land of Water • To introduce nature and culture fostered with the blessings of water, by throwing light on the quintessential balance between man and nature, and between land and water through the Netherlands' involvement with water and otherwise.
U. K. Pavilion	United Kingdom of Great Britain and Northern Ireland	• Concept: Inspiration from nature • To exhibit garden, art and innovative technologies utilizing nature under the watchwords ofÅ@"Planet of Blessing and Budding."

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Swiss Pavilion	Swiss Confederation	• Concept: “The Mountain” • “Experiencing Tour” to walk in the Swiss mountains - To position “The Mountain” as the symbol of symbiosis with nature and have visitors experience the energy, strength, tranquility and soothing effect of mountains which not only constitute Switzerland's geographical features, but also symbolize its culture.
Czech Pavilion	Czech Republic	• Concept: Art of Life • To introduce Czech culture and society through the exhibits and events that appeal to the senses and hearts of visitors with full use of music and visual images, aiming at presenting exhibits for them to see, hear, touch and feel.
Belgium Pavilion	Kingdom of Belgium	• To present exhibits combining artistic imagination with cutting-edge technology to express the interaction between arts such as paintings and rich nature.
Poland Pavilion	Republic of Poland	• Concept: “Encounter with Something Magnificent” • To give visitors the current picture of Poland - a cultural state that gave birth to Fryderyk Chopin, a Polish composer known as a "poet of the piano" - which, located at the center of Europe, is seeking the symbiotic coexistence of mankind and nature while unifying variegated cultures.
Portuguese Pavilion	Portuguese Republic	• Concept: Nature and History - Portugal where the land ends and the sea begins • To introduce the annals of contact between Portugal and Asia including Japan, tied together by the sea and land, including the interaction of people and exchange of gastronomic cultures.
Lithuania Pavilion	Republic of Lithuania	• Concept: Lithuania: progress of civilization and culture • To present visual images of Lithuanian civilization, nature and so forth, symbolizing “Dialogue between Culture and Nature” and introduce history, culture, economy and art of Lithuania, making full use of multimedia.
Romania Pavilion	Romania	• Concept: Legacy for the Future • To introduce by visual images history, nature, art, local culture and so forth, combining exhibition space with space for cultural and artistic performance. • To convert the force with which visitors push the door into electric power to operate a water wheel and so forth.
Russian Pavilion	Russian Federation	• Concept: Harmony of the Noosphere” • To propose reasonable life in harmony with nature, and introduce natural resources such as water, forests and mineral resources as well as aerospace technology and traditional culture including handicrafts
Caucasus Pavilion	Republic of Azerbaijan, Republic of Armenia and Republic of Georgia	• Theme: “Health and Longevity” • To convey the splendor of nature’s wisdom by exhibiting, in accordance with the theme, maps, pictures of mountains, paintings and so forth, and introducing the races, traditions, history and lifestyles of 3 Caucasian countries known throughout the world as the region of “Health and Longevity.”
Nordic Pavilion	Republic of Iceland, Kingdom of Sweden, Kingdom of Denmark, Kingdom of Norway, and Republic of Finland	• Concept: Oasis in the North • To introduce Nordic nature and gastronomical culture, the unique culture of welfare, “Energy in Harmony with the Environment,” industries including “Forestry,” “Nordic Design,” “High-Quality and Safe Foods” and so forth, presenting visual images of the Northern lights.

■ Global Common 5

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Egyptian Pavilion	Arab Republic of Egypt	• Concept: Eternal Egypt • To present a graphical exhibition of Egypt from the ages of the ancient pharaohs and their glories to the modern era to introduce the country's history and culture.
South Africa Pavilion	Republic of South Africa	• Concept: Rhythm of Life • To introduce some dramatic snapshots of a South African story that starts before the birth of mankind through human settlement, conquest, liberation and the ultimate celebration of freedom.
Africa Pavilion	Exhibitions jointly provided by 28 African countries (Note 2)	• Concept: African epic • To arrange the booths of 28 countries in such a way that it allows visitors to feel as if they are taking a real tour of the African continent from the north to south, to introduce the colorful attractions of these African countries, displaying in the joint booth masks, tableware, clothing and other objects, from which visitors can learn about the history and mode of life of the countries concerned.

(Note 2) Countries providing exhibition in the Africa Pavilion are as follows:
Republic of Angola, Republic of Uganda, Federal Democratic Republic of Ethiopia, State of Eritrea, Republic of Ghana, Gabonese Republic, Republic of Cameroon, Republic of Guinea, Republic of Kenya, Republic of Cote d'Ivoire, Republic of Congo, Democratic Republic of the Congo, Democratic Republic of Sao Tome and Principe, Republic of Zambia, Republic of Djibouti, Republic of Zimbabwe, The Republic of the Sudan, Republic of Senegal, United Republic of Tanzania, Republic of Chad, Federal Republic of Nigeria, Burkina Faso, Republic of Burundi, Republic of Benin, Republic of Madagascar, Republic of Mali, Islamic Republic of Mauritania and Republic of Rwanda

■ Global Common 6

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Indonesia Pavilion	Republic of Indonesia	・Concept: Integrating People and Nature - Building Eco-Community in Harmony ・To express the eagerness of Indonesia, aiming at the development of an Eco-Community in which humanity and nature are in harmony.
Australian Pavilion	Commonwealth of Australia	・Theme: "We have to protect and preserve our environment for future generations." ・To allow visitors to experience the traditional culture of aborigines or indigenous people and the unique natural environment of Australia under the theme of handing down what aborigines or indigenous people learned from nature from the present to the next generation.
Cambodian Pavilion	Kingdom of Cambodia	・To place a scale replica of the remains of Angkor Wat and sculptures, introduce Cambodian culture, and express how the interaction takes place between historic culture and the potentiality of economic development and between nature including an enormous forest and the Cambodian people.
Singaporean Pavilion	Republic of Singapore	・Theme: Garden City ・To express "Blendings of City Environment and Garden City, Harmony of the Past and the Present, and Work and Leisure, and Interfusion of a Variety of Cultures." The pavilion houses a number of exhibition zones so that visitors can fully enjoy the attractive features of Singapore.

Name of the Pavilion	Participating Country / Organization	Concept / Theme, etc.
Thai Pavilion	Kingdom of Thailand	• Theme: “Art of Life” • To introduce landscapes in various parts of Thailand and the lives of Thai people living there, as well as the variety of their customs that differ from region to region.
New Zealand Pavilion	New Zealand	• Concept: New, Sea, Land, People • This is an experience-type pavilion which showcases four themes – “New,” “Sea,” “Land” and “People” - using a variety of imaging techniques.
Philippine Pavilion	Republic of the Philippines	• Concept: Usbong (Seeds of Life) • To introduce beautiful nature and rich culture with an exhibition having the motif of coconuts under the theme of Usbong (Seeds of Life) symbolized in coconuts, using multiple projectors.
Brunei Darussalam Pavilion	Brunei Darussalam	• Presentation of a country of petroleum and natural gas, located in the northwestern part of Borneo Island, facing the South China Sea.
Vietnam Pavilion	Socialist Republic of Vietnam	• Concept: Vietnam - Culture and Natural Identities • To introduce water and the living things, diverse ecosystems and lives of the Vietnamese people living side by side with nature, under the theme of “Vietnam - Culture and Natural Identities.”
Malaysian Pavilion	Malaysia	• Concept: "Truly Natural. Infinitely Harmonious" • To introduce the rich nature of Malaysia where primary tropical rainforests remain and many rare plants and animals have their habitat, such as the largest flower, “Rafflesia” and the smallest squirrel, the “Pigmy Squirrel” in the world.
Lao Pavilion	Lao People's Democratic Republic	• Concept: Development of Eco-communities • To introduce with various exhibits “The close relationship between the people of Laos and their natural environment,” “The fine craftsmanship of native architectural styles” and “The enormous potential the country as a whole has for sustainable development.”
Pacific Islands Pavilion	Joint Participation of 11 Countries (Note 2)	• Concept: The Beautiful Pacific • 11 countries scattered throughout the South Pacific are joined together to introduce the life and culture of its people, casting the spotlight on important changes occurring due to environmental abnormalities, and promoting the importance of environmental conservation on the global scale.

(Note 2) Countries providing exhibition in the Pacific Islands Pavilion are as follows:
Republic of Kiribati, Independent State of Samoa, Solomon Islands, Tuvalu, Kingdom of Tonga, Republic of Vanuatu, Papua New Guinea, Republic of Palau, Republic of the Fiji Islands, Republic of the Marshall Islands and Federated States of Micronesia

The following environmental considerations were taken into account in the creation of this pamphlet.

●Prepress and Platemaking

The information was directly transferred to aluminum plates (printing plates) using CTP (Computer To Plate) technology.

[Soy Inks]

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