Chapter 3

People and Systems for Shaping a New Era – and Building a Network

<Summary of Chapter 3>

This chapter discusses ways of cultivating people and devising systems for building a sustainable society in a new era.

Cultivating people and systems that facilitate environmental conservation and the creation of a network in which all actors of society are linked to each other will eventually lead to the realization of an environmentally advanced nation in a new era.

Section 1 People for Shaping a New Era

1. People Who Can Act with Environmental Consideration – Cultivating the Spirit of "Mottainai"

Today's environmental problems have two dimensions; they expand spatially on a global scale and extend in time over future generations. In view of the unprecedented nature of these problems, it is necessary to cultivate people with the ability to think independently of the causes of the problems and finding their solutions and address them on their own initiative. To this end, environmental education is of great importance.

In environmental education, building the capacity to act on one's own is as important as acquiring knowledge and deepening understanding. The aim of environmental education is to train people to be aware of the relationship between human beings and the environment and to be responsible for their own behavior, thus encouraging them to work toward creating a sustainable society. It is hoped that such people will carry out daily living and activities with environmental consideration as a responsible member of the family and local community, and take positive actions in dealing with environmental issues.

The expression *mottainai* does not simply mean to use less, but implies a feeling of regret that the intrinsic value of a thing or its function is not thoroughly used. Eliminating energy waste and using a thing to its fullest through the practice of "reduce, reuse, and recycle" is in line with the spirit of *mottainai*. Encouraging people to respect the spirit expressed in *mottainai* and to translate it into practice will lead to realizing a society in which environmental load is reduced while maintaining affluence.

2. Groundwork for Cultivating People

Lack of information on teaching methods and appropriate teaching materials is often pointed out by those providing environmental education. To promote environmental education even further, it will be necessary to establish concrete methods for implementation, train education providers, and develop information resources and bases for carrying out environmental education.

To promote environmental education, firstly, it is necessary to organize environmental education programs that facilitate concrete actions. It is desirable that environmental education programs are developed under the cooperation between home, schools, businesses, citizens' groups, and the government, systematically organized with clear objectives for each learning stage, incorporating elements of play and hands-on experience, according to themes and children's development stage and comprehension.

It is also vital to train experts and coordinators in charge of environmental education. In addition to scientific knowledge of the environment, teachers are required to have a fair attitude and the ability to make comprehensive value judgments based on broad knowledge.

Furthermore, it is necessary to establish and provide an information infrastructure and to make effective use of environmental learning bases.

Section 2 Systems for Shaping a New Era

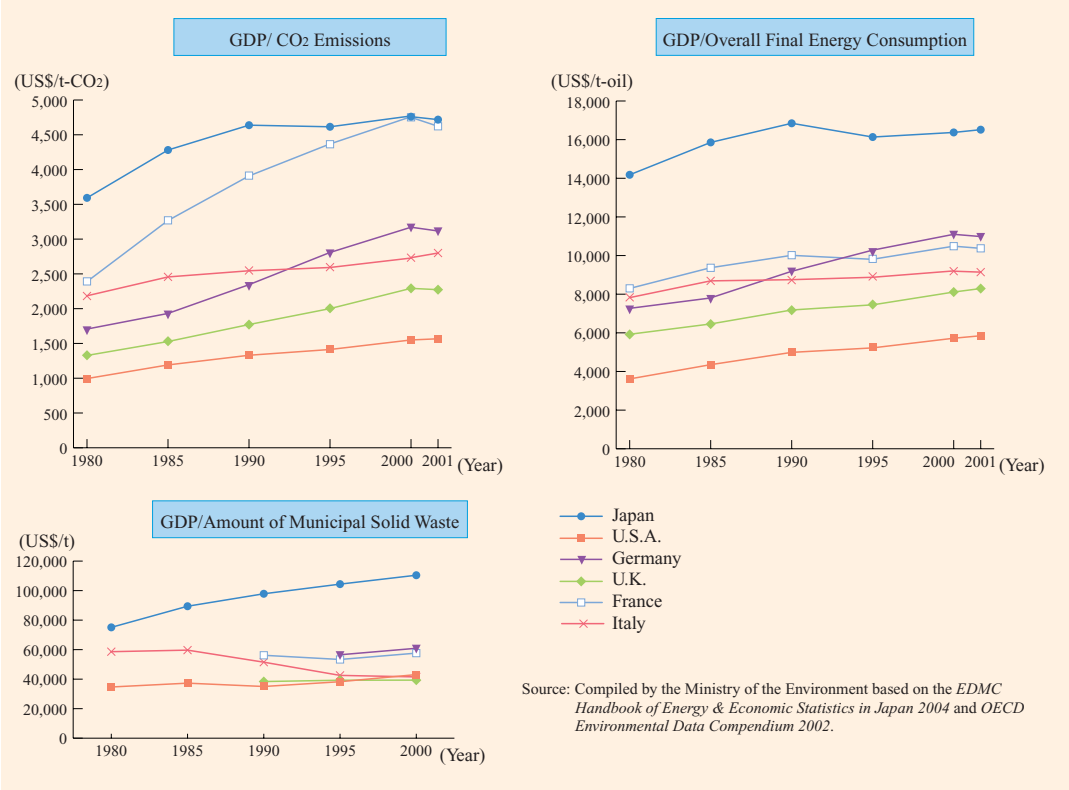
1. Environmental Policy for Shaping a New Era

(1) Policy Concepts for Shaping a New Era

A. Relationship between the Environment and Economy

The Basic Environment Plan emphasizes the importance of the idea of integrating the environment and economy in building a sustainable society. In an effort to maximize the efficiency of resources and energy use and reduce the environmental load per unit of economic activity, the concept of eco-efficiency, expressed in environmental load per unit of economic activity, has been brought forth.

International Comparison of Changes in Eco-efficiency



Source: Compiled by the Ministry of the Environment based on the *EDMC Handbook of Energy & Economic Statistics in Japan 2004* and *OECD Environmental Data Compendium 2002*.

It is also necessary to control generation of environmental load as much as possible throughout the entire product lifecycle, from extraction of raw materials, manufacturing, distribution and use, to recycling (proper disposal of wastes). For this purpose, the concept of "extended producer responsibility" has been introduced, positing that the producer has a specific responsibility, both physically and financially, for the proper recycling and disposal of its products, even after a product is used and disposed of. There is also the concept of "environmentally sensitive design (eco-design)" that aims to improve the eco-efficiency of the overall product lifecycle through product design, production technology and system management.

In addition, the concept of "dematerialization" calls for reducing resource consumption in economic activities by offering only the functions of a product, instead of marketing the product itself.

B. Relationship between the Environment and Society

Population growth and the expansion and sophistication of socio-economic activities are causing rapid increases in the consumption of energy and resources. It is necessary to examine social structures from the standpoint of sustainability. It is also required to incorporate environmental consideration into all aspects of society. The policy of "integration of the environment and society" can be approached, for example, through the relationship between

"environment and poverty" because environmental conservation helps to create a better society, or "environment and disaster prevention," which looks at environmental problems and social problems in an integrated manner and devises countermeasures accordingly.

C. Restoring the Environment

As attempts to restore natural environment lost in the past, efforts by citizens' groups to create biotopes, and nature restoration projects by ministries and agencies have begun in many parts of the nation. As for lakes and reservoirs, the bill for making partial amendment to the Law concerning Special Measures for the Preservation of Lake Water Quality was submitted to the 162nd Diet in order to promote implementation of measures for reducing pollution from urban areas and agricultural land and to adopt measures for the proper conservation of the lakeside water environment. Thus, improvement of the water environment is expected.

(2) Policy Measures for Shaping a New Era

Environmental problems are caused by complex factors, and they affect a wide area. Scientific uncertainty exists in explaining the mechanism and extent of environmental impact. Thus, decision-making principles become important.

One key principle of decision-making is environmental risk management. It forecasts the possibility and scale of impact on the environment based on scientific knowledge, assesses and judges the need and urgency of implementing measures, and implements the required measures. It is also essential to incorporate the principle of "precaution" in decision-making in cases where scientific uncertainty exists in the mechanism and extent of environmental impact.

(3) Viewpoints in Policy-Making for Shaping a New Era

As today's environmental problems are closely related to the economy and society, it is essential that all actors recognize their own responsibility towards the environment and act fairly according to each of their roles and positions. Making environmental policy decisions with the participation of citizens not only enables the selection of more appropriate policy measures, but also helps to raise the environmental awareness of citizens, thus realizing a society in which citizens voluntarily work towards environmental conservation.

Local viewpoint is also important. By conducting community level activity to understand the condition of local resources and promoting cooperation among local actors, all actors of the community can share a common direction or goal, resulting in enhanced awareness and capability for creating a better environment and a better community. Such enhanced awareness and capability of a community as a whole is called "local environmental preparedness," and it is important to take advantage of such powers in building sustainable communities.

It is also important to carry out regional environmental activity in Asia with both Japan's and global environmental conservation in perspective. As Japan has overcome serious pollution problems in the past and has been making pioneering efforts in realizing a virtuous circle for environment and economy, it should take the lead in promoting comprehensive and strategic environmental conservation in the Asian region.

2. Japan's Environmental Policy as a System

(1) Building a Low Carbon Society

Following the entry into force of the Kyoto Protocol in February 2005, the Kyoto Protocol Target Achievement Plan was formulated in April, based on the Climate Change Policy Law, establishing measures required for ensuring achievement of the 6% reduction commitment. The plan calls for fundamental re-examination of urban/regional structures and transport systems, thus incorporating the efficient use of energy in the socio-economic structures and systems. It also includes various efforts by each facility and actor aimed at overall reduction of CO_2 emitted in relation to their activities, as well as forest sink measures. In addition, cross-sectoral measures including dissemination of knowledge and promotion of people's movements are listed. The plan also proposes making use of the concept of policy mix under which serious comprehensive examination of environmental taxes is called for.

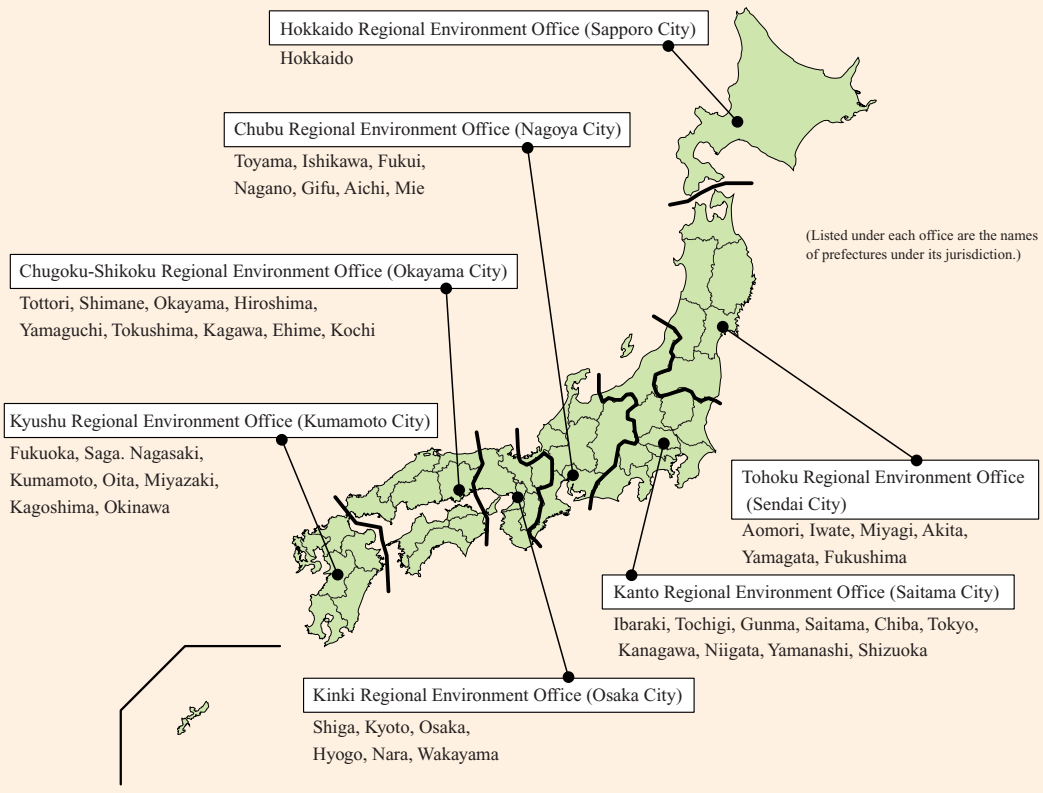
(2) Building a Sound Material-cycle Society

At the G8 Summit held in Sea Island, Georgia, U.S.A. in June 2004, Japan's Prime Minister Koizumi proposed the "3R Initiatives" aimed at building a sound material-cycle society through the 3Rs (reduce, reuse, and recycle), winning the consensus of heads of other nations. Based on this agreement, a ministerial meeting for launching the 3R Initiatives was held in Tokyo between April 28 and 30, 2005.

3. Environmental Administration through Cooperation between Central and Local Governments

In line with the recent moves toward administrative reform including the decentralization, systems in which central and local governments can jointly and positively tackle environmental problems are being established. These systems can help realize effective environmental administration at the local level. They also become a basis for creating a better environment, which in turn leads to a better community. For example, in FY 2005 the Ministry of the Environment instituted a system for central and local governments to prepare a plan to promote the creation of a sound material-cycle society, by exchanging opinions from the planning stage, and to pursue comprehensive and regional facility development. In addition, the Ministry of the Environment will open Regional Environment Offices in the seven regional blocks of the country in October 2005 in order to facilitate environmental administration that meets regional needs and conditions.

Location of the Regional Environment Offices and Their Jurisdictions



Note: When an area that should be under a single administration extends over the jurisdictional area of two or more Regional Environment Offices, or when recognized as necessary, the Minister of the Environment may grant an exception to the jurisdictional areas.
Source: Ministry of the Environment

Section 3　A Network Linking Actors

1. Environmental Information as a Base

Environmental information provides the recipient with an opportunity to become interested in and think about environmental issues, enhancing environmental awareness and triggering environmental conservation activities.

The act of disseminating environmental information itself helps to promote one's own environmental conservation activity. For example, when a business operator grasps the actual situation of the environmental load his business generates, he will be able to implement more effective environmental control. Moreover, by disclosing environmental information to the public, it becomes possible to evaluate one's company's environmental conservation activities by comparing them with other companies, serving as an incentive for further reduction of environmental load.

In addition, through two-way exchange of environmental information, mutual understanding is deepened, giving birth to better ideas for solutions. These solutions will have a greater environmental conservation impact than the one-way communication. Some companies set up venues for dialogue with the general public, using their environmental reports as a material.

All actors, including the government, businesses, and citizens' groups, are sending out various kinds of environmental information through white papers, pamphlets, and the Internet. Of the environmental information provided by public institutions, those available on the Internet are listed by category in the table below.

Environmental Information Available on the Internet

Category	Contents/URLs	Originator	Information for:		
			Search	Learning	Action
General	General environmental policy http://www.env.go.jp/en/	Ministry of the Environment	◎		
	General environmental policy http://www.meti.go.jp/english/index.html	Ministry of Economy, Trade and Industry	◎		
	Environmental Statistics http://www.env.go.jp/doc/toukei/ (Only in Japanese)	Ministry of the Environment	◎		
	General environmental information http://www.eic.or.jp/ (Only in Japanese)	National Institute for Environmental Studies	◎	◎	○
	General environmental information http://eco.goo.ne.jp/ (Only in Japanese)	Environmental goo	◎	◎	○
	Environmental partnership http://geic.hq.unu.edu/	Global Environment Information Centre	○		◎
Environmentally conscious lifestyle	Wa-no-kurashi http://www.wanokurashi.ne.jp/ (Only in Japanese)	Ministry of the Environment		○	◎
	Re-style http://www.re-style.jp/ (Only in Japanese)	Ministry of the Environment	○	◎	◎
	Green purchasing http://www.gpn.jp/English/index.html	Green Purchasing Network		○	◎
Environmental education	Information on environmental education http://www.eeel.jp/ (Only in Japanese)	Ministry of Education, Culture, Sports, Science and Technology, Ministry of the Environment	◎	◎	○
Business	Environmental report http://www.kankyohokoku.jp/y_eng.asp	Ministry of the Environment	◎		
Global warming	Global warming http://www.jccca.org/en/	Japan Center for Climate Change Actions (JCCCA)	○	◎	○
	Information on energy saving http://www.eccj.or.jp/index_e.html	Energy Conservation Center, Japan	○	◎	◎
	Information on new energy http://www.nedo.go.jp/english/index.html	New Energy and Industrial Technology Development Organization	◎		
Waste and recycling	Waste and recycling http://www.cjc.or.jp/ (Only in Japanese)	Clean Japan Center	◎	◎	
Air	Atmospheric environment and asthma http://www.erca.go.jp/english/index.html	Environmental Restoration and Conservation Agency	○	◎	
Natural environment	Internet Nature Institute http://www.sizenken.biodic.go.jp/	Ministry of the Environment	○	◎	

Notes:
Search: contains pages mainly for searching for relevant information
Learning: contains pages mainly for explaining related information in detail for learning and research
Action: contains pages mainly for disseminating information for environmental conservation activity at home and in the local community
Source: Ministry of the Environment

2. Building Environmental Partnerships

Environmental partnership refers to working as equals in activities through mutual cooperation and appropriate division of roles of each actor, under the common objective of solving environmental problems in a community or society. Each of these activities serves as the driving force for building an environmentally advanced nation.

In environmental partnerships, it is important for participating actors to form a relationship of "equals" based on appropriate division of roles, instead of providing one-way support or cooperation. To build environmental partnerships on equal terms, actors must share in advance the understanding of the objectives of working together and of its merits for each actor. Greater synergetic effects can be attained when actors recognize each other's functions and resources, fields of expertise, and differences in know-how, and take advantage of strengths and make up for limitations of different actors. In addition, before cooperating in activities with mutual respect, each actor must confirm its own objectives and philosophy and carry out substantial activities. Without conducting its own activities, it would be difficult for any actor to provide others the results and know-how, and further deepen a relationship based on mutual trust.

(1) Building the Foundation for Promoting Partnership Activities

For building better partnerships, provision and exchange of information, coordinators, and development of bases and venues are necessary to facilitate finding and matching partners and promoting communication for mutual understanding.

As a base facility for environmental partnerships, the Ministry of the Environment has been operating the Global Environment Information Centre since 1996 in cooperation with the United Nations University in Aoyama, Tokyo. In addition to this, regional Environmental Partnership Offices, regional bases for linking local bases with national ones, are being set up in Osaka, Hiroshima, Nagoya, and other major cities. Local base facilities do not necessarily have to be newly opened. It is possible to make use of existing educational facilities, such as schools, community centers, and environmental learning facilities already established in each community. In addition to these bases serving as venues, functional bases that link actors, adjusting the roles and methods of each actor, are also important. Transcending the positions and fields of participating actors and building trust, such bases are expected to play the role of "intermediary supporting organizations" for expanding opportunities of partnerships by exchanging and sharing information on actors' activities and environmental information, including resources and needs, and for facilitating their activities.

(2) Expanding Partnerships

Efforts to build partnerships have already begun throughout the country, taking advantage of tools shown above. Some organizations have successfully formed effective partnerships and are in process of further development.

In Ota Ward, Tokyo, "Eco-festa Wonderland" is held every year at a local elementary school as an event for raising environmental awareness. Held in cooperation with local schools, businesses, NPOs, and government agencies, this event is used as a venue for citizens to have fun learning about the environment through various environmental conservation activities introduced. They included presentations on environmental learning, eco cooking, and experiments on energy topics, undertaken by schools, companies, and citizens' groups. Taking advantage of the relationship built through this event, one major company participating in the event has begun to plan and implement an environmental education event in cooperation with a local NPO and government agencies. An event centering on a school has grown into a larger undertaking built on a partnership

Presentation on environmental learning
Photo: courtesy of Ota Ward, Tokyo

involving local government agencies, businesses, and citizens' groups.

It is hoped that environmental partnerships will expand throughout communities all over the country. Schools as the nucleus of local communities can be utilized for exchange among families and local residents as the bases of their environmental conservation activities.

Hands on training in composting
Photo: courtesy of Imari Hachigame Plan (NPO)

Imari Hachigame Plan ("Hachigame" is the local name for horseshoe crab in Imari region of Saga Prefecture) is a specified non-profit corporation founded in 1992 by the associations of local restaurants and hotels with the aim of utilizing their garbage and waste oil as resources. In the initial stage, it conducted surveys and research with the cooperation of Saga University, the local chambers of commerce, and various other institutions, and succeeded in installing an experimental composting plant in 2000. Groups participating in the plan are increasing yearly, with those who offer food waste expanding to general households, nursery schools, and many others throughout the community. The finished organic compost is offered to local farmers, and high value-added organic farm products made with the compost are consumed in local restaurants and at homes. (http://www6.ocn.ne.jp/ ~ hatigame/) (in Japanese only).

Environmental partnership creates cooperation and synergy among various actors and leads to the realization of a sustainable society. It invigorates citizens' activities through environmental conservation and serves as a driving force for revitalizing communities. One such attempt is in "community development centering on the environment." Also, by assessing local needs, making decisions by working together with citizens, and implementing and managing projects with citizens, it becomes possible not only for local governments to choose more appropriate environmental policy, but also for citizens to realize a society where they voluntarily undertake environmental conservation activities.

In the future, it is hoped that these activities initiated in Japan spread throughout the world, and that international partnership in, for example, policy recommendation and global-scale environmental cooperation become even more active, thus leading to greater development of activities and eventually to realization of a sustainable society the world over.

−Conclusion: From the New Basic Environment Plan to an Environmentally Advanced Nation−

With the entry into force of the Kyoto Protocol on February 16, 2005, Japan, as a member of the international community, now has the obligation to fulfill its reduction commitment. Although not an easy task, Japan must keep its commitment, as it is the first step towards a low carbon society. Moreover, even after the commitment period of the Kyoto Protocol is over, it is necessary to continue reducing greenhouse gases over a longer period to stop ever-progressing global warming. To that end, with the collective wisdom of humankind, technological innovation must be promoted and each one of us must go through a consciousness revolution in order to expedite socio-economic transformation to reduce greenhouse gases in all our activities.

Currently, the government is re-examining the Basic Environment Plan, a comprehensive long-term plan on environmental conservation for the entire government. The New Basic Environment Plan will encourage all actors to aim at cultivating people so that they will voluntarily reduce environmental load such as greenhouse gases in all situations, and at devising systems that will enable transformation of socio-economic systems to incorporate environmental considerations. In building an environmentally advanced country, it is important to form environment partnerships through mutual cooperation of all actors. It is equally important to realize a virtuous circle for environment and economy, which improves the environment by invigorating the economy. By demonstrating a model for growth based on a virtuous circle for environment and economy, Japan will be able to lead the world as an environmentally advanced nation. And all this begins with our consciousness and actions driven by a desire to conserve our environment.