Inaugural Project of IGES Kansai Research Center

International Forum 2001 on "Business and the Environment"

International Symposium on "Sustainable Management"

- Global Trends of Sustainable Management -

Introduction

International Forum 2001 on "Business and the Environment"

The Institute for Global Environmental Strategies (IGES) established the Kansai Research Center in June 2001 with strong support from the Hyogo Prefectural Government and with cooperation from businesses and organizations in the Kansai region (Kobe, Osaka, Kyoto, etc.). In cooperation with academic institutions and businesses in the Kansai region as well as domestic and international research institutions, researches, policy proposals and promotion activities based on the themes of "Industry and the Environment" have been implemented at the Kansai Research Center where IGES has made a base for the Kansai region. The first three years are devoted to the study of the Business and the Environment Project, in which environmental accounting and detailed methods of sustainable management such as environmental disclosure have been researched. In commemoration of the opening of the Kansai Research Center, an international symposium on "Sustainable Management" and a workshop on "Environmental Accounting" were held as the International Forum 2001 on "Business and the Environment". Experts from the Asia-Pacific and many regions of the world joined together to hold discussions on up-to-date information regarding corporate efforts towards sustainable development and future management strategies.

International Symposium on "Sustainable Management"

Recently, voluntary corporate activities such as the introduction of the ISO14000 series, environmental reporting, environmental accounting, and green purchasing are developing worldwide in western countries, Japan and Asia-Pacific region. With information and opinions by international panelists, this symposium aims at holding discussions on the content of "sustainable management," on the obstacles and the means to overcome them, by meanwhile revealing socioeconomic background of these voluntary corporate activities and consequent changes in business strategies.

Opening remarks

Akio Morishima
Chair, board of directors,
Institute for Global
Environmental Strategies
President, Central Environment Council

Toshizou Ido
Governor of Hyogo Prefecture

Nobutoshi Miyoshi
Diector of Environment and
Economy Division, Environmental
Policy Bureau, Ministry of the
Environment, Japan

Keynote speech

Akihiro Amano

Presentations

Martin Bennett

Kazuo Yamamoto

Panel discussion

Coordinator
Katsuhiko Kokubu

Martin Bennett

Saburo Kato

Byung-Wook Lee

Takashi Seo

Kazuo Yamamoto

Index

Program

Inaugural Project of IGES Kansai Research Center
International Forum 2001 on "Business and the Environment"

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International Symposium on "Sustainable Management"

- Global Trends of Sustainable Management -

Date:Wednesdy, September 26th, 2001
Place: Shin Kobe Oriental Hotel, Kobe, Japan

Program

▼13:00～13:20

Opening remarks

Akio Morishima Chair, board of directors, Institute for Global Environmental Strategies / President, Central Environment Council, Japan

Toshizo Ido Governor of Hyogo Prefecture

Nobutoshi Miyoshi Director of Environment and Economiy Division, Environmental Policy Bureau, Ministry of the Environment

▼13:20～13:50

Keynote speech

"The Building of an Environment-Conscious Society and Environmental Management"

Akihiro Amano Director, Kansai Research Center, IGES / Director, IGES / Professor of Economics, School of Policy Studies, Kwansei Gakuin University, Japan

▼13:50～14:50

Presentations: "Aspects of Sustainable Management in the World"

"Sustainable Management : a European Perspective"

Martin Bennett Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK, Chair of the Environmental Management Accounting Network - Europe (EMAN-EU)

"Business and Sustainable Management : Recent Trends"

Kazuo Yamamoto Adviser, IBM Japan, Ltd.

▼14:50～15:10

Coffee break

▼15:10～17:00

Panel discussion: "Global Trends of Sustainable Management"

Coordinator: **Katsuhiko Kokubu** Project Leader, Kansai Research Center, IGES, Professor of Accounting, Graduate School of Business Administration, Kobe University, Japan

Panelists : (in alphabetical order)

1. **Martin Bennett** Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK, Chair of the Environmental Management Accounting Network - Europe (EMAN-EU)(Presenter)
2. **Saburo Kato** Director, Research Institute for Environment and Society, Japan
3. **Byung-Wook Lee** Director, Environmental Management Center, POSCO Research Institute, Korea, Steering Committee Member of Environmental Management Accounting Network for Asia Pacific (EMAN-AP)
4. **Takashi Seo** General Manager, Department of Global Environment, The Yasuda Fire & Marine Insurance Corporation Ltd., Japan
5. **Kazuo Yamamoto** Adviser, IBM Japan, Ltd. (Presenter)

Profile

Keynote speech : "Building of an Environment-Conscious Society and Sustainable Management"

■ Akihiro Amano

Director, Kansai Research Center, IGES / Director, IGES / Professor of Economics, School of Policy Studies, Kwansei Gakuin University, Japan

Completed Graduate School, Kobe University, 1958. Ph.D. in Economics, University of Rochester, U.S.A., 1963. Ph.D. in Economics, Osaka University, 1966. Specializes in environmental economics. Former Associate Professor at Osaka University. Former Professor at Kobe University. Has served as member of councils for Economic Planning Agency, Environment Agency, Hyogo Prefecture, etc. Has extensive experience of research studies overseas. Awarded a Purple Ribbon Medal from Japanese Government, 2000. His publications include "Economics of Global Warming", "Policy Studies for Co-existence with the Environment: Introduction", and "Balance of Payments and Foreign Exchange Rates in Japan".

Presentations: "Aspects of Sustainable Management in the World"

Presentation1: "Sustainable Management: a European Perspective"

■ Martin Bennett

Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK / Chair of the Environmental Management Accounting Network-Europe (EMAN-EU).

He was previously in the accountancy profession with KPMG and BDO Binder Hamlyn, in commerce with Great Universal Stores, and in education with Nottingham Trent University and Ashridge Management College. His research interests include environmental accounting and environmental performance measurement in industry, and publications include Sustainable Measures: Evaluation and Reporting of Environmental and Social Performance; Eco-Management Accounting: report on the EU's 'Eco-Management as a Tool of Environmental Management' project; Eco-Management Accounting: Guidelines for Accountants; and Environment under the Spotlight: Current Practice and Future Trends in Environment-related Performance Measurement in Business, as well as several articles for academic and business journals. He has designed and delivered seminars and courses on these topics at Carnegie Mellon, Ghent, Budapest and Brunel universities, and has worked on environmental accounting projects for UNEP, UNIDO and the UN Division for Sustainable Development.

Presentation2:
"Business and Sustainable Management: Recent Trends"

■ Kazuo Yamamoto

Adviser, IBM Japan, Ltd.

Graduated Faculty of Electrical Engineering of the Kanto Gakuin University in 1963. Joined IBM Japan, Ltd. in 1969. Inaugurated as the Yasu plant manager in 1985 after taking charge of printed circuit board manufacturing engineering, semiconductor production, etc. After successively holding Director of Development and Manufacturing Operations (1988), Asia Pacific Director of Manufacturing & Supply Management (1989), and Managing Director of Manufacturing Operations (1994), he has become Senior Managing Director in charge of Storage Production in 1998. Has been in the present post since April, 2001 through the head of the Environmental Affairs Committee of IBM Japan, Ltd. Holding an additional post of the member of Environmental Affairs Executive Advisory Council of IBM head office. Book publication "Environment Management of IBM"(with Co-author, Toyokeizai Shinpo-sha, 2001).

Panel Discussion: "Global Trends of Sustainable Management"

Coordinator

■ Katsuhiko Kokubu

Project Leader, Business and the Environment Project Kansai Research Center, IGES / Professor of Social and Environmental Accounting, Graduate School of Business Administration, Kobe University, Japan / Steering Committee Member of Environmental Management Accounting Network - Asia Pacific (EMAN-AP)

Completed Ph.D. at Osaka City University. Formally appointed as Associate Professor at Osaka City University, Visiting Scholar at London School of Economics (LSE) and Associate Professor at Kobe University. Has been involved with many governmental projects on environmental accounting. Has served as member of the Study Group on Development of Environmental Accounting Systems and the Committee on the Revision of Environmental Reporting Guidelines, and an advisor of the Study Group on Corporate Environmental Accounting Practices (these three projects are led by Ministry of the Environment). Also he has been a Chairperson of the Environmental Accounting Committee of Japan Environmental Management Association for Industry led by Ministry of Economy, Trade and Industry. Currently appointed as Visiting Researcher at IGES, International Associate of the Centre for Social and Environmental Accounting Research at University of Glasgow, Director of Environmental Economics and Policy Association, Director of Corporate Social Accounting and Reporting Association. His publications include "Environmental Accounting" (Shinseisha, 2000), "Social and Environmental Accounting" (Chuokeizaisha, 1999), "Environmental Disclosure and Corporate Strategy" (Toyokeizai Shinpo-sha, 1998), and "Social Investment" (Nihonkeizai Hyoronsha, 1988).

Panelists (in alphabetical order)

■ Saburo Kato

Director, Research Institute for Environment and Society, Japan

After completed master course of Engineering Graduate School, University of Tokyo in 1966, joined the Ministry of Health and Welfare in the same year. Proceeded to the Air Quality Bureau, the Environment Agency in 1971, and attended the U.N. Conference on Human Environment next year. Since 1973 resided at Paris as first secretary specializing in OECD environment in Japan for three years. Took part in planning of decision of an action program to arrest global warming, the "Earth Summit", and an Asia-Pacific Environmental Conference, and Basic Environmental Act as Chief of Global Environment Department, Environment Agency in 1990. Retired from the Environment Agency and established Research Institute for Environment and Society in 1993 and became the President. This institute has become NPO, the Japan Association of Environment and Society for the 21st Century (JAES21). A visiting chief researcher of the Sumitomo Life Research Institute, a visiting professor of Tokyo University of Agriculture, etc. His publications include "Environmental Century", "Wise Recycling Q&A", "Tomorrow of Environment and Civilization".

■ Byung-Wook Lee

Director, Environmental Management Center, POSCO Research Institute, Korea / Steering Committee Member of Environmental Management Accounting Network - Asia Pacific (EMAN-AP)

Ph.D. in Environmental Management, Manchester School of Management, University of Manchester Institute of Science and Technology (UMIST), U.K.. After working as Planning Manager, ICI Korea Ltd., he has been in his present position. Visiting Professor, Graduate School of Environmental Studies, Seoul National University, a member of the Presidential Commission for Sustainable Development (PCSD), Director of the Korea Environmental Policy and Administration Society, Director of the Korean Society for Life Cycle Assessment, and Advisor to the Ministry of Environment and many other public institutions. His publications include "Environmental Management" (a textbook in Korea) and "Waste Costing for a Korean Steel Producer".

■ Takashi Seo

General Manager, Department of Global Environment, The Yasuda Fire & Marine Insurance Corporation Ltd., Japan

Graduated from Faculty of Economics, Tohoku University. In 1973, joined The Yasuda Fire & Marine Insurance Company Ltd. Moved to Secretary Office in 1988 and engaged in environmental affairs as a secretary of then President, Mr. Goto. Has been Manager of Planning and Development Department (1992), Manager of Department of Global Environment (1997), and Assistant General Manager of the same department (1998). Has been in his current position since July 1999. He has been also Managing Director of the Yasuda Kasai Environment Foundation since April 1999.

Opening remarks

Opening remarks 1

Akio Morishima
Chair, board of directors, Institute for Global Environmental Strategies (IGES)
President, Central Environment Council, Japan

Good afternoon, everybody. I'd like to thank Mr. Ido, Governor of Hyogo Prefecture, and everybody else for taking time out of their busy schedules to be with us here today. As we open the International Symposium on "Sustainable Management," I'd like to say a few words as an organizer.

Having received enthusiastic support of Hyogo Prefecture and reassuring support of businesses and many other related organizations in the Kansai area, we were able to open the Kansai Research Center in June this year. The Kansai Research Center was established in the IHD Center Building, at Kobe Eastern City Center as a symbol of reconstruction from the Great Hanshin-Awaji Earthquake. I would like to once again thank everyone for their cooperation in establishing the center.

The Institute for Global Environmental Strategies was established by recommendation of the Ad Hoc Commission on Global Environment in the Twenty-First Century to the then Prime Minister Murayama, submitted on the day of the Great Hanshin-Awaji Earthquake on January 17, 1995. That commission compiled a report that a research center for policy studies must be created as one of the foundations for sustainable development of the environment of Asia. As a unique research institution that had been lacking in Asia, it was established three years ago with the support of the government of Japan and Kanagawa Prefecture. This year, Hyogo Prefecture offered to help as well.

If you refer to the IGES pamphlet for details, you will find six projects carried out during the first period of three years. The objectives of IGES include strategic research, training programs, application of results to policy decisions and actions, and dissemination and exchange of information. We were able to put together the results of the projects conducted during these three years. We successfully held various symposiums and research gatherings both in Japan and overseas during that time. We also presented reports to international political conventions such as Eco Asia. We would like to extend our gratitude to everybody involved in enhancing IGES's recognition both in Japan and overseas in these three years. We owe this entirely to everybody's

support.

The second phase of the strategic project has started this year, and at the same time we succeeded in establishing the Kansai Research Center. At the Kansai Research Center, one of the six projects of this phase, Business and the Environment project, is being conducted with Professor Amano as the director and Professor Kokubu as a project leader.

Today's theme, "Sustainable Management," is a part of the activities of the Business and the Environment project. We are therefore thinking of a broad theme, "Business and the Environment," that considers impact of industry on the environment, influence of environmental problems on industry, and what industry should do to contribute to the preservation of environment. In establishing Kansai Research Center, we received a dedicated support from Hyogo Prefecture. We also received a great deal of cooperation from Kansai economic circles, academic circles and NGOs. With the Kansai Research Center as a sort of core, we would like to work together with businesses in the Kansai area to achieve environmental industry and environmental business management.

With "Business and the Environment" as a main theme, we are currently involved in concrete research themes such as "environmental accounting." Experts on environmental accounting primarily from the Asia-Pacific region will attend the international workshop tomorrow. More detailed research reports and exchange of information for the field of "environmental accounting" are scheduled. We hope you will also be able to take part in the workshop.

Always in rivalry with the Kanto area, as it seems, the Kansai area has been involved with environmental problems and seems to have high spirits and the energy to create a new industrial structure. We therefore hope the theme "Business and the Environment" can promote this initiative with your cooperation.

Taking this opportunity of the center establishment ceremony today, we would like to ask you to continue supporting the IGES, and at the same time, consult various things with the center. We would appreciate your continuous cooperation in sustainable development in the 21st century. Thank you very much.

Opening remarks 2

Toshizo Ido
Governor of Hyogo Prefecture

Good afternoon, everybody. It gives me great pleasure to congratulate on this forum to commemorate the opening of the Institute for Global Environmental Strategies' Kansai Research Center which began its operation this June.

We have just heard from Chair Morishima about prehistory up to the establishment of Kansai Research Center. When IGES was established, I conducted activities to invite the headquarters to Kobe New Eastern City Center where Kansai Research Center is currently located. The key things we talked about were the fact that Kobe has many research institutions and universities, and most of all, it is blessed with an abundance of environmental activities. I visited all those involved, including Professor Morishima, and asked for their cooperation. Unfortunately for us, the headquarters was established in Shonan International Village in Kanagawa Prefecture.

It was very comforting for me to know that IGES considered cooperation form Kansai area was indispensable in a number of senses, and they would undoubtedly consider its linkage with Kansai. Former Governor Kaihara definitely wanted to build the research center in Hyogo prefecture and it finally began operating in Kobe in June.

This is a forum commemorating the establishment of the Kansai Research Center, which holds "Business and the Environment" as a theme for the next three years. The program of the forum shows rich content suitable for its title.

In the Kansai area, there are various environmental research institutions and many businesses carrying out activities related to the environment. In this region, we are blessed with many fields for application of strategic researches. If you take Hyogo Prefecture for example, environment-related businesses in Hyogo Prefecture account for ten percent of the total sales of environment-related industry for the entire country. In many senses, we hold a great deal of expectations for the activities of the Kansai Research Center.

Hyogo Prefecture also has experienced many environmental problems. In 1967, the Public Nuisance Countermeasures Basic Law was created by the

national government, and the Environment Agency was established in 1971. Hyogo Prefecture became the first prefecture in the nation to promulgate anti-pollution ordinance in 1965, six years before the establishment of the Environmental Agency. While coming up with and implementing countermeasures against sources of pollution, Hyogo Prefecture did its best to promote environmental conservation policies such as preservation of the Seto Inland Sea. The most recent and crucial experience came six years ago when the Great Hanshin-Awaji Earthquake occurred. Although it was in a state of emergency, we experienced having to dispose of masses of rubble while allowing problems with the environment to remain.

I should have mentioned it earlier, but let me express my sincere sorrow and condolences to the people who became victims of or were harmed by the coordinated terrorist attacks of September 11, and I pray for the swift recovery at the sites of the attacks. When I saw the news broadcasts of the victims buried under the rubble, it was an exact replica of our area when the earthquake occurred six years ago. I was therefore overtaken by a sense that this was not something happening to strangers. I express my sincere condolences once again.

Having experienced environmental problems caused by the Great Hanshin-Awaji Earthquake, we have entered the 21st century, so-called "century of the environment". We can hardly imagine how greater is the importance of each of our activities to the global environment going to be. Every time I hear news reports that global warming caused by carbon dioxide is growing worse, I am overcome with a feeling that something must be done. In this sense, together with the residents of Hyogo Prefecture, we are planning to call for an "eco fund" to support use of renewable energy for example, in hope of moving forward.

I truly wish that IGES Kansai Research Center will continue endeavoring to produce good results in the Kansai area as well as in Hyogo, where it has accumulated the experiences in pollution and environmental conservation. By building a strong linkage among the entire Kansai area, I really hope the center will perform productive researches, surveys and activities. I also ask for your guidance and cooperation in this regard.

Finally, I pray that this forum, which is to be held today and tomorrow, is a huge success, and that it provides an opportunity for a great leap forward in terms of the environment of the 21st century. Thank you very much.

Opening remarks 3

Nobutoshi Miyoshi
Director of Environment and Economy Division,
Environmental Policy Bureau, Ministry of the Environment, Japan

First I'd like to thank everybody for their continuous understanding and generous cooperation for the environmental administration.

As you already know, today's environmental problems such as global warming and large quantities of waste are produced in conjunction with everyday living and conventional business activities. Structural reform from the standpoint of the environment will be required to solve these problems. Voluntary and thorough environmental conservation initiatives by the various components of society are indispensable. Especially businesses, which are responsible for principal economic activities, must take effective measures for the environmental conservation.

We at the Environment and Economy Division are responsible for measures more deeply related to business than any other division of the Ministry of the Environment. We promote economic measures such as environmental tax, corporate behavior concerned with environmental conservation such as environmental accounting, which will be the main theme for tomorrow, and environmental reporting, and promoting measures that aim to integrate environment and economy such as green procurement, eco-labels in order to disseminate the idea of environmental conservation.

For example, in Japan, the number of businesses that engage in environmental reporting and environmental accounting as an environmental communication tool between society and business is increasing year by year. In a survey we conducted in 2000, we found that more than 400 companies published environmental reports and more than 300 companies had introduced a system of environmental accounting. The number of these companies has shown a tendency to continue to grow, and we sense that there is increasing social interest in such activities. The recognition that providing environment-friendly products and services is indispensable has also seems to

have caught on with business management.

It is a great pleasure that we have such a large number of participants in this forum to be held today and tomorrow with “Business and the Environment” as a theme. In this forum, having invited distinguished guests from Japan, the Asia-Pacific region and other nations of the world, corporate initiatives geared toward sustainable growth and future management strategy will be discussed. As a person in a position to promote environmental measures, I am encouraged by the fact that this shows growing concern of corporations for the environment, more than ever.

IGES Kansai Research Center, the organizer of the forum, is going to continues its activities with “Business and the Environment” as a theme. We would like to seek closer cooperation for obtaining better results, both for IGES Kansai Research Center and for measures of the Ministry of the Environment.

I hope that all of you participating in the forum today will deepen your understanding of environmental problems and measures for solving them and continue to be involved with environmental conservation activities. That will contribute to solve the serious environmental problems we are facing today.

We at the Ministry of the environment will continue studying such measures for improving reliability and comparability of environmental reports and environmental accounting in order to help corporations with conducting environmental conservation activities.

As a tool for supporting your efforts, we are passing out environmental report guidelines and environmental accounting guidebooks created by the Ministry of the Environment. Please take them with you when you leave and use them for your future reference.

Finally, I would like to thank everyone involved with the event, the Institute for Global Environmental Strategies, Hyogo Prefecture, International Center for the Environmental Management of Enclosed Coastal Seas and the Hyogo Environmental Advancement Association. I hope that the forum holds great significance for all of you. Thank you very much.

Keynote speech

"Building of an Environment-Conscious Society and Sustainable Management"

Akihiro Amano
Director, Kansai Research Center, IGES/Director, IGES
Institute for Global Environmental Strategies
Professor of Economics, School of Policy Studies,
Kwansei Gakuin University, Japan

Contents

"Building of an Environment-Conscious Society and Sustainable Management"

Akihiro Amano
Director, Kansai Research Center, IGES/Director, IGES / Professor of Economics, School of Policy Studies, Kwansei Gakuin University, Japan

Honorable guests, Dear members of our supporting institutions, Ladies and Gentlemen! It is a great pleasure for me to have an opportunity of making the address at this international symposium, a commemorative event for our institution. The main theme of our research in the first three-year period is Business and the Environment, meaning that we must address a set of pressing policy issues that arise at the combined phase of two complex systems, the eco-system and the human, socio-economic system.

1. Two Major Trends: Deterioration of global environmental resources; and globalization of economic activities; and Three Sub-Trends: Environmental resources bearing economic values; shift in environmental policy measures; and transformation of sustainable management

For some time, we have been proceeding in two major trends: one is the long-term problem of the degradation of environmental resources in various media and eco-systems, and the other is the globalization of economic activities. These two mega-trends have been inspiring some clear and interesting sub-trends, and I would like to focus on three of them.

First, following the degradation of environmental resources, those resources, which have been freely available for a long time, are now bearing economic values. Clean air and water around us that were once quite abundant now have price tags in our daily lives. More recently, even the stratospheric atmosphere is going to carry a user fee such as carbon taxes and GHG emission-permit prices. Rapid increase in the world population, modernization of production and consumption patterns worldwide through economic globalization, and delays in human responses to the worsening environment are projected to strengthen this trend. The increasing scarcity of environ-

mental resources complicates matters because it involves the problem of allocating so far undistributed property rights among world peoples. However, it is fairly certain that rising scarcity will raise current and future costs and prices of those resources, and that people and organizations must base their decisions on this fact. This can have a tremendous change in the current economic and management systems.

Second, we have witnessed in the past ten years or so a clear shift of environmental policy measures in developed countries. (This is also true to some extent in developing countries as well. (World Bank (2000).) In most countries, environmental policies first took the form of direct control (or command-and-control) measures. These countries have successfully controlled industrial pollutions through these measures to protect health and safety of people. However, these measures have limitations with respect to such problems as municipal wastes, non-point source hazardous materials, and greenhouse gases due to high implementation costs. To address this situation, economic measures such as environmental taxes and charges and emissions trading have been devised to alter the behavior of a large number of people and organizations in the direction of reducing environmental pressures. Also, so-called information measures like Pollutant Release and Transfer Registers, Environmental Management and Audit System are being developed with similar objectives. These new measures involve the elements of decentralized, voluntary, and participatory characters as contrasted with those of centralized and coercive characters of direct regulations. (Cf., e.g., Kettl (1998) and Berkhout et al. (2001).)

Another important feature of these indirect measures is that they enhance economic efficiency through encouraging more efficient use of environmental resources. This is important because as a corollary to the previous statement, rising environmental pressures will necessitate the society to look for the ways and means to reduce policy implementation costs and make the system more efficient. I therefore, expect that environmental policies would be formulated more in terms of packages including economic and information measures as well as direct regulations.

Third, business management itself has been rapidly transforming. Initially, greening firms primarily meant compliance with environmental standards and

nothing more. Now, we have a long list of objectives including (a) more ambitious environmental targets (reductions of environmental damage costs), (b) reduction of abatement costs, (c) capturing market opportunities emerging from changes toward more environmental-conscious society, and (d) development of new management tools and business models to reform internal structure of organizations including value-chain innovations.

Economic globalization has, of course, intensified competition among private firms. It has also promoted the competition among nations that attempt to encourage inflows of economic activities via high mobility direct- and portfolio-investments. As the speed of environmental degradation increases, environmental regulation needs to rely more heavily on producers' and consumers' active participation. This necessarily leads to the tendency on the part of regulators to avoid interventions that cause higher business costs or adverse effects on competitiveness.

On the business side, as the seriousness of global environmental degradation has increasingly been recognized, business leaders have begun to shift their strategies from compliance-driven to market-capturing ones that entail forward looking decisions to attain more efficient utilization of environmental resources in line with their rising scarcity, or to attain eco-efficiency in short.

2. Puzzles and Paradoxes in Transition

I personally believe that these three tendencies will continue for some time in the future. To recapitulate, they are: (a) transformation of environmental resources into public economic resources, (b) shifts of environmental policies toward policy-packages involving more elements of information-intensive and participatory measures, and (c) eco-efficiency oriented business strategies. At present, however, the full implications and systemic significances are yet difficult to evaluate, and certain puzzles and paradoxes are recurrently mentioned.

For example, Allen White of Tellus Institute states:

> "A Survey of voluntary corporate disclosure practices reveals remarkable progress in the last decade but also the emergence of a troubling paradox. The very growth of such disclosure, which is embodied in hundreds of

environmental and sustainability reports, has led to an enormous volume of inconsistent and unverified information. If the information of interest to stakeholders is not presented in a coherent, uniform framework, the resulting confusion and frustration may well stall the momentum toward greater disclosure achieved during this decade." (White (1999, web-site version, p. 5.))

One way of coping with this type of paradox might be standardization. Various attempts have been pursued nationally and internationally. However, there are many kinds of stakeholders who have different objectives and interests: managers, banking and insurance corporations, fund managers, regulators, environmentalist groups, neighboring residents, citizens in general, researchers, and so on (Berkhout et al. (2001).) It would be much more difficult to fully satisfy the needs of various stakeholders than to prepare a report fully complying with a set of guidelines, because the necessary information in the former case could well contain mutually conflicting requirements. Ultimately, the resolution depends on the relative speeds of increase in the pressure on the environment on the one hand, and of improvement in the over all eco-efficiency on the other.

Stefan Schaltegger and Roger Burritt made a similar point in their co-authored book from a somewhat different angle:

> "A key paradox for management seeking to anticipate the importance of environmental opportunities and constraints for their company is that if they establish eco-efficiency-oriented information, they not only create more information and knowledge for their own and their stakeholders' benefit, but they also generate more knowledge about their own lack of knowledge." (Schaltegger and Burritt (2000, p. 408.)

In fact, this paradox is the driving force for research activities in social as well as natural science studies on the environment. It will also stimulate "social learning and innovation" that can help decelerate the speed of global environmental degradation. (Metz et al. (2001), p. 8 and pp. 635-650.)

3. Relation between Sustainable Management and Environmental Performance

Let me finally discuss one problem, which has attracted interests recently.

We can find a set of contrasting views regarding a controversial question: whether high environmental performance of a corporation is correlated with high economic performance.

One view is presented by Borghini et al. (2000). The study is based on Environmental Reports Monitoring of FEEM (Fondazione Eni Enrico Mattei). The study used the data from environmental reports of 22 corporations from three sectors (petroleum, natural gas, and chemicals) during the period from 1993 to 1996. It examined the statistical significance of the association between the quality of environmental information in the report, on the one hand, and environmental performance of the reporting corporation on the other. The quality of environmental information is measured by the evaluation score developed by FEEM, which is in turn based on the degree of conformity with the FEM (Forum on Environmental Reporting) guidelines. The corporate environmental performance is measured by the volume of emissions of SOx and NOx per unit of output of the reporting firms. They found a statistically significant positive association. That is, corporations with high information quality tend to exhibit low emission intensity. This study also concludes that the increase in information diffusion and quality varies substantially according to the sector, country, corporate dimensions, etc., but that voluntary environmental information produced by firms is increasingly becoming more accurate.

Another view is represented in a recently released final report of MEPI (2001) and an associated paper by Berkhout et al. (2001). This is a result of a large-scale joint research by seven European institutes commissioned by the EC Environment and the Climate Research Programme. The final report presents many interesting analytical results based on a database collected from six countries (Austria, Belgium, Germany, Italy, Netherlands, and UK), six sectors (electricity generation, pulp and paper, printing, fertilizers, textiles, and computer manufacturing) with physical and management information data. In relation to the topic under discussion, the report concludes the following: they do not find that those companies with a registered/certified EMS perform significantly better than those without. In some cases, they found, registered companies appear to perform worse than those without an EMS. The only one exception was found in fertilizer production. The report attributes the reason for such an unexpected result to such factors as the time

lag in obtaining environmental performance benefits and to a "catching-up effects" in which companies perceiving their poor performance seek to implement an EMS to reach the best practice frontier. This led them to conclude that more evidence is needed before giving favorable regulatory relief for certified firms. The need for a better information base is also underscored for evaluating the impacts of voluntary and information-based policy instruments.

Irrespective of whether positive or negative association is found significant, the two studies derived a common conclusion that environmental performance varies widely depending on sectors, countries, and corporate dimensions. Although not mentioned so far, similar puzzles and variations have also been found in relation to the link between environmental performance and financial performance. Apart from the introduction of EMS or compliance with reporting guidelines, some researchers consider it important that decision-making on environmental management be in the hands of senior management rather than of middle managers. (Cramer (2000.) In passing, Dr. de Janosi, a member of the IGES board of directors, made the same comment at an informal meeting preparing for the establishment of our institution.)

The current situation as depicted so far can generate various interesting research questions such as:

- To what extent will environmental information disclosure go, or should go?
- To what extent do preventive measures really benefit companies?
- Will total cost assessment technique become widespread?
- How far can we pursue the economic valuation of environmental benefits?
- Are market-based incentives and voluntary programs sufficient?
- How do we share responsibilities among market participants, and among market, government, and the civil society?
- Who determines the target levels of environmental protection, and how?

(For these questions, refer to the papers cited above, Macve (2000), and Wubben (2000).)

In the first research period of three years, we decided to proceed with three sub-topics: environmental management accounting, environmental information disclosure, and monetary valuation of environmental benefits. We

take note that our research should be pursued with these larger questions in mind. I hope that our research center will become a real center of social learning and innovation with this international symposium as a start. Thank you.

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Presentations
Aspects of Sustainable Management in the World

Presentation 1
"Sustainable Management: a European Perspective"

Martin Bennett
Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK / Chair of the Environmental Management Accounting Network-Europe (EMAN-EU)

Contents

"Sustainable Management: a European Perspective"

Martin Bennett
Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK / Chair of the Environmental Management Accounting Network-Europe (EMAN-EU)

I should first like to thank IGES and its sponsors, the Hyogo Prefecture and the Ministry of the Environment, for organizing this symposium, and also thank Professor Amano and Professor Kokubu for the invitation to speak here and Mr. Yoshida for his help with all the administrative arrangements. It is a great honor to be invited to speak at this inaugural event of IGES at Kansai Research Center, and as the Chairman of the Environmental Management Accounting Network (EMAN) in Europe I am also looking forward to attending tomorrow the first workshop of EMAN's new Asia-Pacific section. We in EMAN-Europe are running our own conference in the United Kingdom next February, on the theme of Environmental Management Accounting and Government Policy, and if anyone is interested in presenting a paper there or simply attending, I would be very pleased to speak with you afterwards.

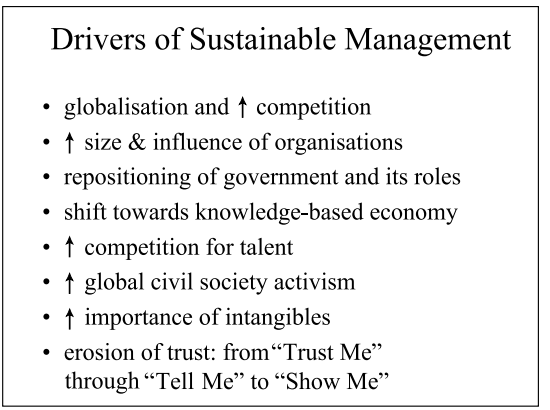
1. Introduction

No doubt like many of you my background is in environmental management, in particular environmental accounting, but the focus in Europe has relatively recently, in the past two or three years, moved strongly towards positioning this in the broader context of sustainable management. My presentation will be on sustainable management from a European perspective in the specific context of a particular project, the SIGMA Project, which is currently in progress in the UK and which aims to develop practical methods to support companies in implementing sustainable management. I will use this project as a stimulus to identify some issues about sustainable management generally, and to prompt discussion on what this means and how best to achieve it. One aspect that may be particularly relevant for this symposium as an international gathering is the extent to which the most effective approaches to sustainable management may vary between different companies and different societies, depending on their own cultures and business environments.

The terms "sustainability" and "sustainable management" are still only

relatively recent in business. There was a brief interest in social accounting in the 1970's but this was limited and only a minority interest, and it fell away after a few years when the 1980 recession forced companies to concentrate more on their economic performances. Concern for the environment has become an increasingly important issue for companies during the 1990s, and has proved more durable. However this has been limited to the environment until recently when it has begun to be recognized that environmental concern, although essential, is not sufficient on its own. This is firstly because social sustainability is an important consideration in its own right for many companies, and also because the issues of environmental and social performance are unavoidably linked, since many of the major environmental issues have their roots in social phenomena and cannot be addressed successfully without taking these into account too.

Professor Amano referred to several drivers which are encouraging companies to become interested. One of the most significant of these is the trend to economic globalization, which is both making the business environment more competitive and is also attracting a backlash from some activists. One consequence of this is the increasing power of multinational corporations relative to governments, so that the role of government is tending to become more to set the conditions within which companies can operate rather than to attempt to control directly companies' behaviour. The shift towards a knowledge-based economy is increasing the importance of intangible assets, which now represent the majority of the market value of most large companies. This is also increasing their demand for staff with the relevant talents to support their businesses, who themselves are becoming more discriminating in their choice of employers. Not only employees but stakeholders generally are becoming more sceptical and demanding of companies, so that we have moved from a "Trust Me" society when most



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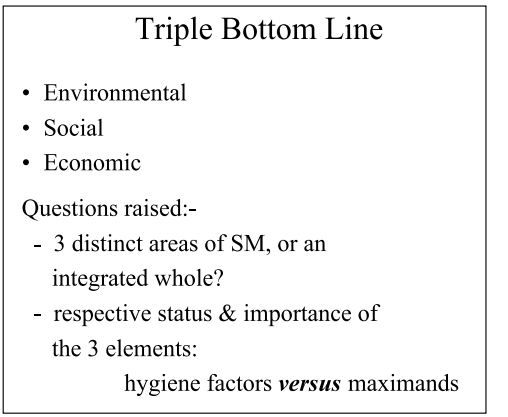
stakeholders might usually have been ready to accept what companies tell them, not only to "Tell Me" where they expect companies to be accountable through disclosure, but also to be able to provide evidence of this - "Show Me".

These factors are helping to persuade many companies of the need for change, but there is as yet little clear concept of what that change might be and how best to achieve it.

Triple Bottom Line

The "triple bottom line" has become popular as a term to summarise the three aspects of sustainability - environmental, social and economic. The analogy has been made of a three-legged table, for which all three legs have to be strong enough for the table as a whole to be in balance. By analogy, an organisation has to achieve all three aspects of sustainability in order to achieve overall sustainability.



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Environmental sustainability can be defined at different levels of scale - global, regional, and local. In the long-term, the global factors are likely to be particularly important, although it is difficult in practice to relate these to their implications for an individual company. On social sustainability, it has always been recognised that no company or other organisation can exist for long without at least the passive support of its key stakeholders - those who are in a position to cause problems if they were to withdraw that support.

Economic sustainability has two distinct implications. First, a company has to be economically sustainable in itself - a company which over the long-term does not earn enough revenues to cover its costs and show a profit for its investors will not be able to continue in business. The second aspect relates

to how far an individual company's contribution relates to the wider prosperity of the community and society in which it is located.

However this raises questions about how these three aspects relate to each other. Firstly, are they each clearly distinct from each other, so that each is to be pursued as an objective in its own right, separate from the others? Or should they be considered together, so that above-average performance in one aspect can compensate for below-average performance in another? And what is their relative importance? Are they all equally important, so that each company should aim to optimise its performance in all aspects? Or are one or two of them only hygiene factors where a merely satisfactory level of performance is adequate, so that the company can then concentrate on optimising its performance in only the other aspects?

2. The SIGMA Project

The idea of the SIGMA project ("Sustainability - Integrated Guidelines for Management") came from the British Standards Institute (BSI). It was the BSI who developed the environmental management standard systems standard BS 7750, which provided the basis from which the International Standards Organisation developed ISO 14000. The project, which is still continuing, is led by BSI with two other organisations, the Institute for Social and Ethical Accountability and Forum for the Future, and is supported financially by the UK government and the twenty companies and other organisations who are participating. At present its scope is restricted to the UK, although the materials are accessible to anyone interested and the World Business Council for Sustainable Development are planning to extend it more widely internationally.

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One stimulus for SIGMA was the feedback received from several companies

who expressed an interest in the principle of sustainability and sustainable management, but were unclear on the specific actions that they could adopt in practice in order to implement this. Many had already implemented ISO 14001 and were looking for ways to build on this, so that one concept initially prompting the project was to attempt to develop along similar lines a sustainability management systems standard (although whether this is necessarily still the most appropriate concept to pursue is now under debate).

SIGMA's main aim is to develop practical tools which companies can adopt in order to support the implementation of sustainable management. These tools, which are brought together in the SIGMA Guidelines, are still evolving, although several are already being tested in the participating companies. The project started with a review of current practice and the definition of a set of principles and a strategic management framework to guide the development of the tools, and has then moved to testing these in use. Based on this, the feasibility of the original concept, of developing a standardised approach such as a sustainability management systems standard, can be evaluated.

Research Themes and Guidelines

The area of sustainable management as a whole is divided here into six broad themes, the first three of which relate to the three aspects of the "triple bottom line". There are also separate studies on supply chain strategy, which was considered significant enough to deserve its own study, and on learning and innovation, since it was expected that achieving sustainable management would require the ability to devise and implement innovative new methods. The final heading of "linkages and integration" refers to the need to co-ordinate and integrate developments between each of the other five themes.

SIGMA: Research Themes

- Economic Sustainability
- Environmental Sustainability
- Social Sustainability
- Supply Chain Strategy and Evaluation
- Innovation, Learning and Cultural Change

and

- Linkages and Integration

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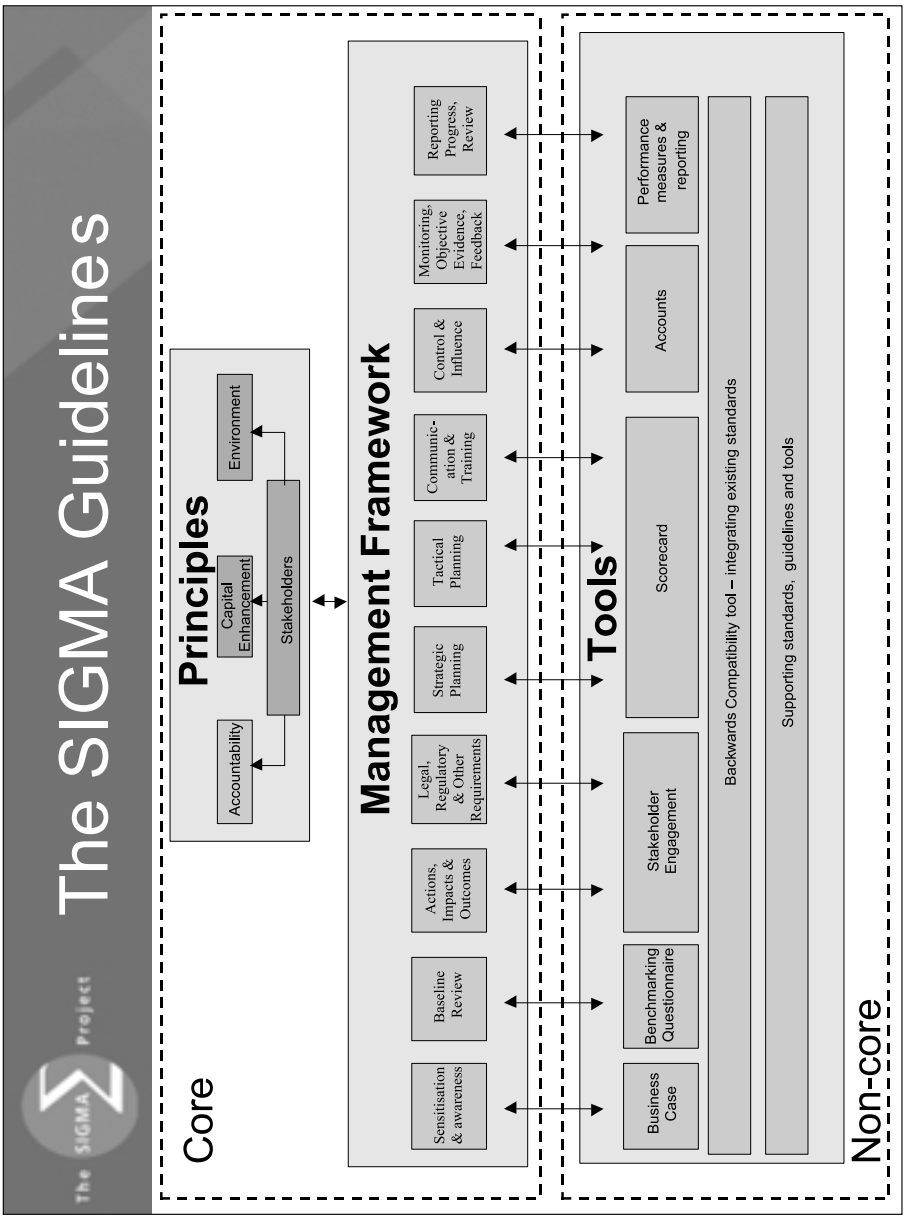

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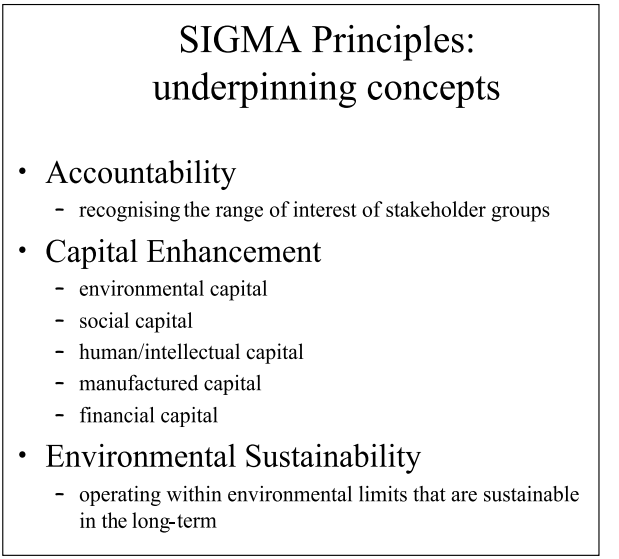
The graphic model [**Slide 5**] provides an overview of how the different elements in SIGMA fit together, in three levels: Principles, Management Framework, and Tools. The Principles and the Management Framework are

considered to be core, since they are universally relevant. The various tools are optional means to achieve this, from which each company can select whatever it considers to be appropriate to its own circumstances.



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The Principles are based on three fundamental concepts: accountability, capital enhancement, and environmental sustainability.

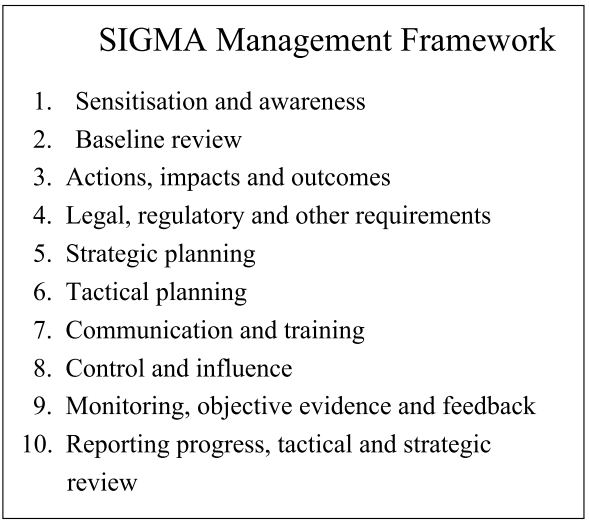
"Accountability" means that sustainable organisations will recognise that their activities do not exist in a vacuum, and that a range of stakeholders will both affect them and be affected by them. They recognise both that legitimate stakeholders have a right to relevant information, and also that successful organisations will be those who have a good relationship with their stakeholders through ongoing dialogue.

The term "capital enhancement" refers to a concept with which businesspeople are familiar, but is here not restricted only to financial capital. Also relevant are other types of resources and sources of value that can also be thought of as stocks of capital, to be protected and if possible increased over time - environmental, social, intellectual, and manufactured (or physical) forms of capital.

"Environmental" sustainability means that organisations who depend for their continued existence on the destructive consumption of non-renewable natural resources, or who generate wastes of sufficient volume or toxicity to cause problems in disposing of them, can continue only if they are either allowed to continue to damage the natural environment and its inhabitants, or by

fundamentally changing the way they do business.

The Management Framework aims to set out the process by which companies can implement sustainable management. This is based on the well-established Plan-Do-Check-Act principle and is no more than standard good management practice, starting with first developing awareness and identifying the organisation's present position, and going through to monitoring and reporting results in order to inform the next cycle.



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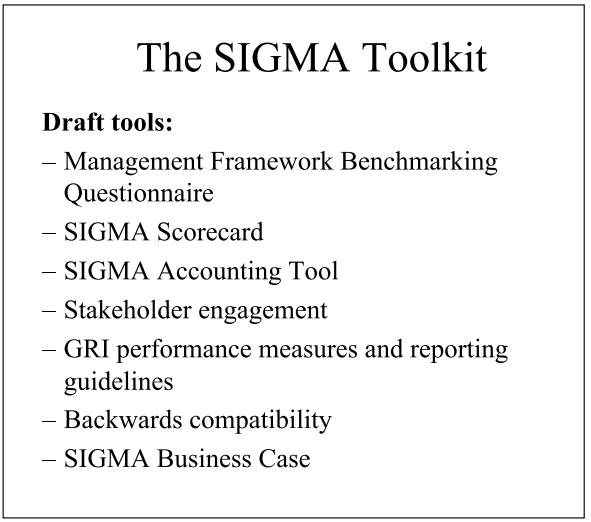
The purpose of the project is to support the collection of relevant existing management tools, and development of new tools, to support companies. Those for which a particular demand has been expressed by companies are an assessment tool, an auditing and verification tool, and a means by which to integrate the social and environmental into the financial. A number of tools have already been assembled to provide a toolkit from which



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each company can select what it considers most appropriate for itself. These include a Benchmarking Questionnaire, a Scorecard, and an Accounting Tool.

A further principle is "backwards compatibility", which means that whatever companies might do should so far as possible aim to be compatible with their existing systems, so that sustainable management can evolve from current practice rather than replace it. The SIGMA project aims to be an evolutionary approach which seeks ways to achieve sustainability within existing structures, rather than requiring more fundamental and radical change.

3. Environmental Sustainability

Having summarised briefly the project's aims and content, I shall now go on to report some of its findings to date and to use these as a prompt to identify and consider some of the issues raised, starting with environmental sustainability.

The difficulty faced in trying to apply this concept at the level of the individual company is that as a concept, environmental sustainability is valid only at the level of the eco-system as a whole. This means that the most that can be said for any individual company is that firstly, it may be more sustainable than other companies in its sector, and secondly that its own performance shows an improvement over time. However it is difficult to define what level of its performance might be sustainable in absolute terms, independent of the environmental impacts of other companies and of consumers. The conclusion that can be drawn from this is that it is unrealistic to attempt to define sustainable outputs at company-level, and that it may be more effective to focus instead on the processes that a company might adopt in order to move towards environmental sustainability even if the precise destination is unknown.

Balanced scorecard and similar models are often found popular and effective. One reason is that these are widely recognised amongst managers and in many companies they have already been adopted as a means to measure and manage performance generally, so that this offers a way in which environmental management can be related to the mainstream of the business. However, they do raise issues concerning the relative importance of different aspects of performance, and how far it may be acceptable to use above-

average performance in one area to justify below-average performance in another.

Although one motive behind SIGMA was to investigate the potential to develop a sustainability management system, research amongst companies found mixed feelings about the effectiveness even of established environmental management systems such as ISO 14000 and EMAS. These were firstly criticised by some as frequently tending to become merely bureaucratic and procedural, and not guaranteed to lead to positive outcomes. Secondly and more fundamentally, some considered that present economies and societies are so far away from sustainability that mere incremental change is insufficient, and the EMS principle of continuous improvement might actually inhibit more radical change and fail to encourage innovation. However an opposing view to this is that the problem is not with environmental management systems in themselves, but with how they are often applied; that they at least stimulate an interest in environmental management amongst those who might otherwise not have considered this; and that the criticism that they may discourage radical change reflects a mistaken understanding of the original concept of kaizen, which was not restricted only to continuous incremental improvement but was intended also to extend to occasional radical step changes.

Further findings from the research were that managers' compensation is only rarely based on their environmental performance, which perhaps suggests that some companies are not really as committed as may sometimes be claimed; and a diversity of opinion on how best to achieve change. Some considered that an evolutionary approach could be effective, whereas others took the more cynical view that people and organisations usually need some major stimulus through a crisis in order to persuade them to consider fundamental change. If the latter, this prompts the question of how best people can be persuaded to behave as if some crisis were actually occurring, if possible before this becomes reality in fact?

4. Social Sustainability

SIGMA's research here found that although there are several standards and guidelines on social sustainability, many of these cover only a part of the

whole picture, and that although there is substantial overlap between them they generally make little attempt to cross-reference each other.

The main difference between standards is the relative emphasis placed by each on substance and process respectively. Substantive standards are those which are concerned with how companies should actually behave, for example in their treatment of their workers and the conditions that they should insist on from their suppliers. Process-oriented standards are those such as ISO 14001 which offer guidance to companies on how they should manage themselves, rather than on what they should do.

It was decided that in order to be pragmatic it is unrealistic to attempt any substantive standard, since there is no universal consensus on what types of corporate behaviour might be considered to be socially sustainable in all possible situations. This raises the further question of whether this lack of consensus is only temporary, and so may be resolved after the issue has been more widely debated for longer; or alternatively whether it is incapable of ever being resolved, if social sustainability depends on the social and ethical norms of each particular society and stakeholders. However if the latter is the case, it does call into doubt what meaning if any can be attached to the term "social sustainability" other than the need (which has always been recognised) for companies to be sensitive to their key stakeholders - those whose goodwill is important to their success and prosperity.

Because of this difficulty of attempting any substantive definition of sustainability, SIGMA decided to concentrate instead on the processes - the actions and procedures that are available for companies to adopt, in order to be able to achieve whatever social sustainability is decided to mean in each case. There are several standards available to help to guide this, but they vary in focus and most are only partial in their coverage. These standards can vary in several ways:

- to what extent each aims to be substantive or process-oriented
- the degree of formality
- the degree of detail.

Perhaps surprisingly, it was found that most standards have little to say on stakeholder dialogue and often did not identify any stakeholder group other

than the organisation's own staff; and that many are incomplete in respect of both economic sustainability and supplier relationships. The profusion and variety of standards and approaches is itself a barrier to their adoption, since this presents companies with a wider range of choice than is helpful and a company may be reluctant to adopt one particular standard and then discover only subsequently either that this inappropriate for their own purposes, or that it is not then adopted by enough other companies to support comparisons and benchmarking .

In summary, there is no single generally accepted definition of social sustainability, and the choice of approach represents a balance or compromise between on the one hand certainty on the action that is appropriate, against on the other hand the degree of consensus that there is likely to be around that action. Substantive definitions may be clear on what should be done, but no single definition is likely to command general support. Process-oriented definitions are less likely to attract opposition, but do not help companies to answer the question of what they should actually be aiming to do.

This leaves several issues for each company to find its own answers to, hopefully with the help of continuing research. Firstly, how best to identify which of the many potential stakeholders to include in dialogue, and the appropriate balance between them - bluntly, which stakeholders should be treated as being the most important and what are the criteria for determining this? What does good quality dialogue actually represent, what boundaries if any should be placed around what is discussed, and how can the benefits be evaluated against the costs of the exercise to support a business case? How can appropriate substantive performance be determined for each company in its own situation, and in particular for a multinational company in each of the several countries in which it operates? And how should a company aim to deal with stakeholders who are fundamentally opposed to what the company is doing and unlikely to be amenable to persuasion, reason, or even hard facts? - should it attempt to accommodate them and compromise, or accept that some confrontation may be inevitable and attempt to anticipate this? And most fundamentally, should a company see itself as only the result of the interplay between its various stakeholders, so that the task of social sustainability becomes essentially only that of discovering what key stakeholders are seeking from it and complying with this, or should it (like

companies such as Body Shop) define itself by its adoption of a set of values which then identify to the outside world the essence of what it sets out to be?

5. Economic Sustainability

Since the most basic objective of any private-sector profit-seeking company is economic performance, it may seem surprising that the SIGMA research amongst companies found that economic sustainability was considered to be "the most elusive component". There are two possible explanations for this. Firstly, for several years there have been criticisms that conventional accounting and financial management techniques are failing to provide adequate measures of companies' economic performance, and to give direction to management. Secondly, that these conventional accounting and financial management techniques do not aim in the first place to do more than measure the success of each company as an entity in itself, and are therefore not capable of measuring the impact on the wider society outside the company's own boundaries.

Companies are not encouraged by their general perception that good environmental and social performance, which may often seem costly, does not necessarily always lead to improved economic performance. The pursuit of economic sustainability is also hampered since the responsibility for this in a company may often be fragmented across several different functions.

Economic sustainability can be defined in two distinct ways - both for the company itself as an entity, and for the society in which it exists. The term can be found being used in either meaning, which is unhelpful since they clearly have different implications. The sustainability of the entity is clearly important to its own stakeholders, although even here this is not necessarily an absolute priority for all stakeholders. Many investors may be prepared to accept a certain level of risk so long as this is compensated by the prospect of above-average returns and therefore to accept the risk that a company may fail, since they can minimise the risk in their portfolio as a whole through diversification. For the staff of those companies, however, who are not able to diversify their employment risk in the same way, the failure of the company that employs them is likely to be a much more serious concern.
However the failure of an individual company is not necessarily a problem for

the society and economy in which it is located. It can be argued that a healthy economy is one in which it is possible to start up new ventures easily, and then to find out in practice whether they have the potential to be a success. If not, it may be best for all concerned to let them fail so that their stakeholders can move on to try something else which may be more productive and successful. This is an area where significant international differences are apparent, with the USA in particular seemingly ready to tolerate a relatively high rate of start-ups and failures as its way of achieving a high-performing economy; whereas some other countries are more concerned to avoid the social, economic and sometimes political disruption that this can often involve.

Even from the limited perspective of the company itself, however, there is scope to improve how we define and measure economic sustainability. Economic performance is sometimes equated with financial performance as indicated by the traditional indicators of return and risk from companies' accounting statements, but although these concepts are related they should be distinguished. Conventional financial measures such as profit tend to look backwards and to report past transactions, and have been accused of encouraging short-term attitudes to business. The economic concept of value on the other hand is based on expectations of future income and risks, and usually assumes a long-term future for the company unless there is a positive reason to assume otherwise.

Future income will depend on what is likely to happen outside the company in its business environment, which includes the effects of pressures from government and other stakeholders on environmental and social performance. This could hold the key to one of the most hopeful directions in which sustainable management can go, since it offers a way to integrate the other two legs of the triple bottom line - if the risks and returns which are driven by environmental and social performance can be estimated in terms of their possible effects on the company's overall value.

The research found little communication between companies and their investors on their environmental and social activities, and the significance of these. This is probably not surprising but it is still disappointing since in many countries investors are the single most powerful group of stakeholders in terms of their influence on companies. If companies genuinely believe that

their economic and social performance is important as a part of their sustainability as entities, then this will be important to their investors too; but this needs to be communicated and explained in terms which investors can relate to, as the potential impacts on the values of their investments. This will require more than the traditional accounting tools. There are already some tools in use which have the potential to measure this in several areas of business such as brands valuation, the measurement of intellectual capital, and full cost accounting, although there is still debate over how relevant and reliable these are.

However this does mean that a framework is already available within which it may be possible to position the environmental and social aspects of sustainability as part of the measurement of the economic sustainability of the company. Investors are aware that an increasing proportion of the values of their investments is represented by intangible assets, including those related to the reputation of the company and its ability to work together with a wide range of stakeholders, and that this demands different indicators than the traditional ones - strategic management accounting, to measure how actions within a company support its strategy and generate value for investors, by either increasing returns or reducing risks. What is needed is a method through which environmental and social performance can be expressed in similar terms to intangible assets such as brands and human capital.

6. International and Cultural Differences to Sustainable Management

This perspective, of seeking to position the environmental and social aspects of sustainability within a context of economic valuation which indicates economic sustainability, is grounded in a particular cultural background. It assumes not only a market economy, but also one in which investors are the most influential stakeholder group in practice as well as theory, and are not themselves excessively constrained by inappropriate forms of government regulation. In this context the role of government becomes less one of attempting to exert direct influence and control over companies' behaviour, than of creating a business environment in which companies are encouraged to behave in desirable rather than undesirable ways. This does not exclude traditional command-and-control regulation on areas like environmental

legislation, but goes beyond it to the use of economic instruments as a policy tool, and to assisting business through educational and research programmes to follow progressive management practices including the introduction of appropriate tools such as environmental management accounting.

There may be other ways too in which international and cultural differences mean that different approaches are needed in different companies and societies, so that although we all aim to move in the same direction, the means of achieving this may vary. These may include the degree of reliance on analytical approaches and formal quantitative systems of measuring performance and how these are applied in practice ("managing companies through the numbers"). In this international gathering, it would be interesting to explore further the range of approaches to management which are represented here.

7. Conclusion

That concludes what I would like to offer to this symposium. I hope that it has opened some issues and raised some questions, and will stimulate some debate. My thanks for your patience in listening, to Professor Amano and all at Kansai Research Centre for their hospitality, and my best wishes to you all for the future.

NB: the SIGMA project website can be found at http://www.projectsigma.com

Presentations
Aspects of Sustainable Management in the World

Presentation 2

"Business and Sustainable Management: Recent Trends"

Kazuo Yamamoto
Adviser, IBM Japan, Ltd.

Contents

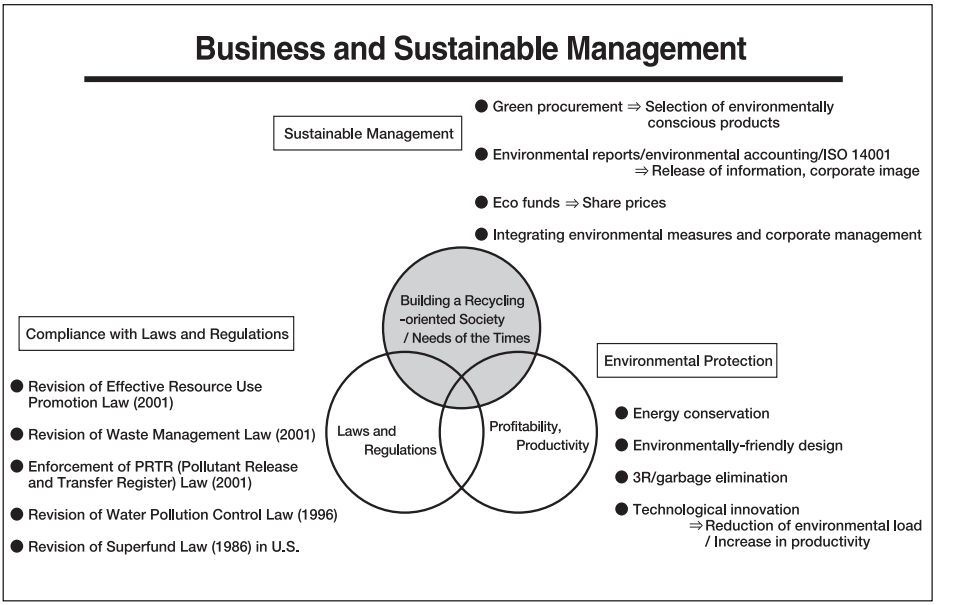
“Business and Sustainable Management: Recent Trends”

Kazuo Yamamoto
Advisor, IBM Japan, Ltd.

I am Yamamoto introduced just now.
I would like to talk about what our company thinks or regards as future challenge in everyday environmental activities under the theme “Business and Sustainable Management: Recent Trends”.

1. Business and Sustainable Management

Companies essentially make business activities for pursuing profits and address the development of profitable products or improvement in productivity. Furthermore, companies must deal with problems plaguing the global environment as good corporate citizen. However, as we promote business activities, the loads on environment increase. I think that it is actually a difficult problem for corporations how to manage this antithetical theme. [**Slide 1**] gives an outline about the recent trends of business and sustainable management we are seeing.



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1.1. Working towards “Compliance with Laws and Regulations” - “Environmental Protection” - “Sustainable Management”

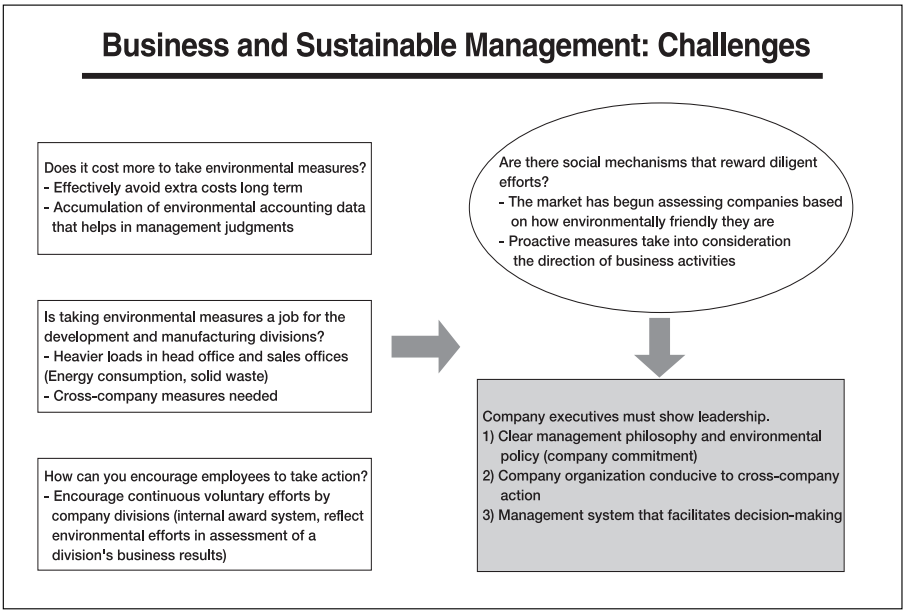
One approach is to at least comply with laws and regulations properly, and other approach is to work toward reduction in environment impact and improvement in productivity even further. I think these approaches are fundamentally indivisible, but if I daresay, the former can be referred to as a “regulatory compliance typed” management and latter “environmental protection typed” management. Whereas nowadays, especially in some industries such as office automation equipment, personal computer, and container/package, the following idea has been widespread; unless they incorporate environmental measures into business management and combine them, they will fall in business or fall behind in market competition. In other words, the idea of integrating environmental measures into basic business and corporate management, so-called philosophy of sustainable management has progressed.

Green procurement means that we select products which are provided while taking the environment into account, and adequate information disclosure by environmental report, environmental accounting, etc. has a substantial effect on corporate image. On the other hand, the incorporation of stock names into eco funds influences directly upon stock prices of the companies. Companies have to address actively such new trends toward the promotion of a recycling-oriented society and meet the needs of the times.

1.2. Integration of environmental measures and corporate management

As to integrating environmental measures into corporate management, we often hear such comment as “I agree with the plan in general, but when carrying out actual operations, it does not work. How can we solve various problems?” We also conduct such discussion and we are sometimes asked for advice from stakeholders. [**Slide 2**] shows about what are inhibiting factors for sustainable management and how corporations should consider and address major inhibiting factors. The most prominent inhibiting factor is that extra costs are required for sustainable management and companies can’t afford to pay the costs at present. Even if they invest environmental

measures, the investment won't contribute sales amount directly. Environmental staff is usually positioned staff in headquarters for managing divisions under division system or company system, so they can't go forward sustainable management without producing recognizable advantageous effect.



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Seen from the figures published in the environmental report for last two years in worldwide IBM, investment amount of environmental costs was 10 billion yen a year while so-called saving amount was about 20 billion yen, that is, advantageous effect is 1 vs. 2.

Investment amount into capital assets for the future or in the short term was about between 5 to 10 billion yen a year, with some variation by year. The net total sum of these environmental costs and investment into capital assets ranges from about 15 billion yen to a little less than 20 billion yen per year, while saving amount is slightly over 20 billion yen. One of features of our measures is apparently incorporating avoidance effect into saving effect.

For example, at about 1980, we had a very serious problem of the penetration of toxic substance into soil and groundwater especially in the U.S. divisions.

In those days, all of the divisions in IBM transferred underground tanks to the ground with a heavy investment in order easily to detect possible accident or the like. In case of leakage, the tanks were provided with leakproof walls at their bottom, and the pipes on ceiling were formed as double container and provided with trays for receiving the leak below. Further, we added further investments to dig 10 to 40 wells for subsurface surveillance in order to monitor groundwater regularly.

Last year 58 environmental accidents occurred all over the world. 10 of these accidents can be prevented by said double container, and in 1999, 11 out of 71 accidents can be also avoided by double container. 20 years has passed since 1980, the above-mentioned measures now produce significant effects against accident. We identify such effects in environmental accounting from a long-term viewpoint.

Next, sales offices and head office tend to deny all responsibility by thinking that plants or manufacturing divisions should take charge of environmental measures. There was such tendency in IBM Japan itself six or seven years ago. In fact, however, it's very different. Considering, for example, the environment impact of electric power, solid waste products and so on, in the case of IBM Japan, environmental impact in head office, sales offices in Tokyo and Osaka accounts for 55% of the total environmental loads. Environmental loads in head office and sales offices are indeed heavier than that in development and manufacturing divisions such as Fujisawa Plant, Yasu Plant in Shiga prefecture, and Tokyo Research Laboratory in Yamato of Kanagawa prefecture. Since the finding, our head office and sales offices have also dealt with environmental measures in earnest and now we carry out company-wide environmental activities.

With regard to the voluntary corporate activities about environmental measures, it is usually hard to continue. Sometimes we are asked how can you encourage employees to take action. We adopt an award system and incorporate environmental activities and the results into performance evaluation of division chief. Some companies may be reluctant to carry out environmental activities because they think that there is no social mechanism that reward diligent efforts. As I said earlier referring to the first slide about sustainable management, nowadays the market and consumers have begun to

assess companies based on the attitude and action toward environment. We as a company need to address environmental measures positively while linking to ongoing business projects.

But, I believe the most important thing is that company executives themselves must show leadership, otherwise employees cannot take any action. So, I always think that company executives have to take the following three actions.

Firstly, as top management, they must show a strong commitment to environmental measures, that is, make management philosophy and environmental policy known to employees and the public. Secondly, they must build the secure organization for sustainable management in view of all operations of development divisions and sales offices at home and abroad. Finally, all employees have to join together to achieve the above-mentioned commitment and for that reason, it is necessary to provide a management system that facilities decision-making. These three are indispensable actions.

Environmental measures such as energy conservation and recycling can produce good results in a relatively short period, but investment from a long-term prospective can produce a substantial avoidance effect in the future. Therefore, strategic planning is very important for companies.

2. Case Example in IBM

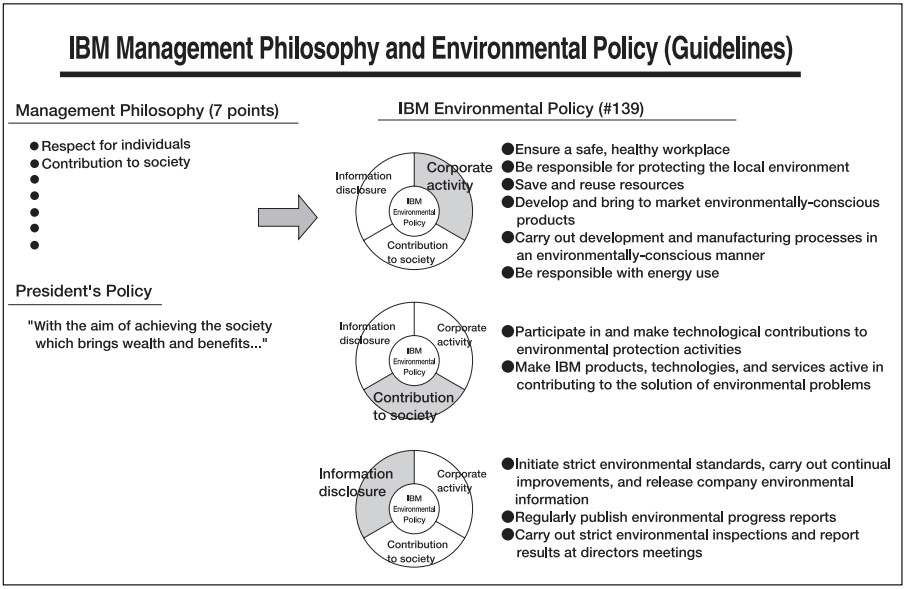
With respect to the above-mentioned three actions, I'd like to explain our approach briefly.

2.1. Management Philosophy and Environmental Policy

I would like to talk about the first action, or management philosophy and environmental policy. Our seven management philosophies include respect for individuals. The concept underlying this philosophy is consideration and respect for mankind. Contribution to society is one of the philosophies since establishment and incorporated into the environment policy. [**Slide 3**]

At inauguration of the Chairman of IBM Japan, the present President declared a vision for the 21st century. The vision is that as one of the leaders in

communication industry we develop “the network society - a group that works to bring prosperity and benefits to people and the world” through the creation of new value.”



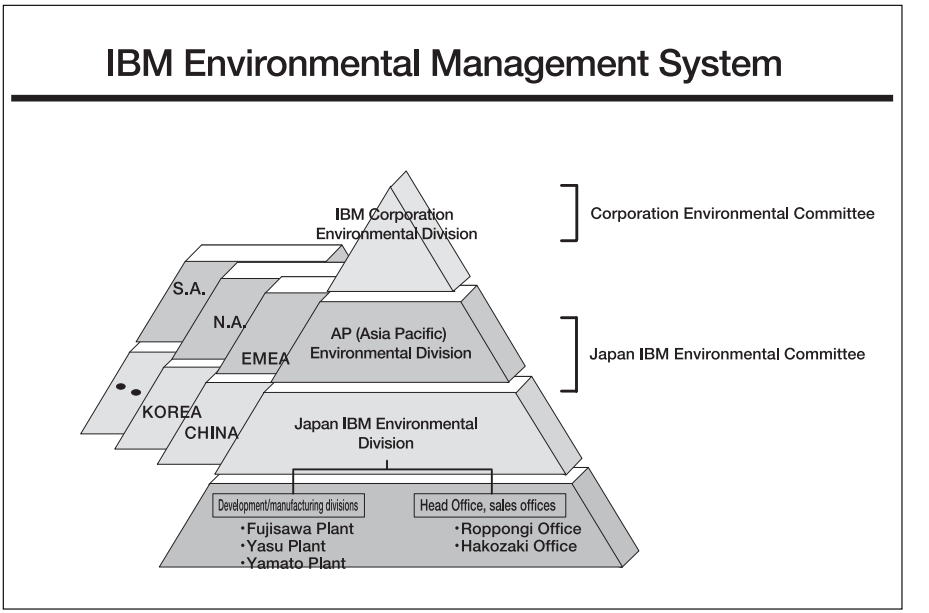
(Slide 3)

In 1967, chairman at the time declared the IBM’s future policy for the safety of product and safety and sanitation of workplace. That is, he announced it as a form of corporate policy as long ago as 1967. After that, the policy was revised with the change of the times, taking account of pollution, energy, recently information disclosure, and it is now referred as to corporate policy 139, which has 11 provisions or action agendas and these are generally classified into three categories.

The first category consists of 6 items including the reduction in environmental impact in everyday business activities, environmentally conscious product design, or build-up of environmentally conscious manufacturing/production process. The second category consists of social commitment to global environmental problems and the third category consists of 3 items relating to information disclosure.

Next, I would like to talk about company organization [**Slide 4**]. IBM head

office located in the suburbs of New York is not so big organization, but has Vice-President and task force in charge of environment. This corporate environmental division is at the top of all IBM organizations and responsible for worldwide environmental activities. There are subordinate organizations in four regions – Asia-Pacific, Europe/Middle East/Africa, North America and South America. Asia-Pacific region includes Japan, China, Korea, Singapore, and Southeast Asia countries and Japan IBM environmental division presides over environmental management of Asia-Pacific region and manages the other Asia countries. Each country has its own promoting organization at each development/manufacturing division or head office/sales office. These staff communicate with each other under the common environmental policy and environmental management system in order to address the problems in each area.

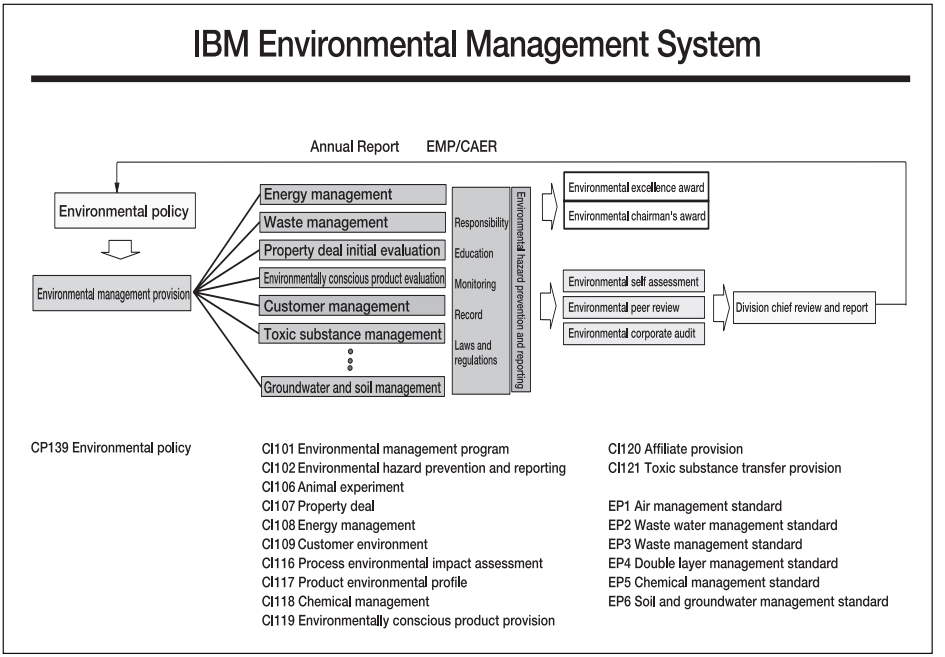


(Slide 4)

2.2. Environmental Management System

The environmental management system provides 12 provisions including environmental policy, energy management, waste management, property deal initial evaluation management, and 6 standards including air management

standard, waste water management standard on universal basis. Further, it comprises self-assessment and internal auditing system, which is divided into 3 steps [**Slide 5**].



(Slide 5)

In the first step, self-assessment, administrators of divisions check whether their divisions comply with the universal management provisions or standards twice a year in spring and autumn. The second step is peer review that means internal auditing performed between each division. For example, when our plant in Thailand is audited mutually, staff of Singapore plant, Yasu Plant in Shiga prefecture, Fujisawa Plant in Kanagawa prefecture, or headquarter at New York make a team with staff in Thailand plant to check compliance with the standards, thereby working hard together.

The third step is very strict corporate auditing, which means the internal auditing conducted by corporation without any notice. Environmental experts check whether divisions perform environmental management properly in the light of provisions and standards, or they comply with domestic laws for 4 weeks. This auditing is so strict that failure to conform can result in recall of the person in charge or executive officer.

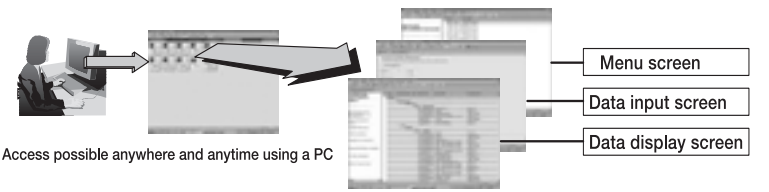
2.3. Internal Award System

On the other hand, there is an award system of environment excellence award that adopts carrot-and-stick approach. CEO himself gives the award to employees or teams that contribute so much to the implementation of environmental policy once a year. In the past, about 7 pieces of award were granted a year, and IBM Japan received this award many times. The cash prize is U.S.$35,000 to 50,000 and this very attractive incentive is provided for 11 consecutive years. In one word, I believe that it is exactly through carrot-and-stick management system.

2.4. Environmental Information Management System

As another support for management system, we, as is normal in computer company, make use of environmental information management system a part of computerization. [**Slide 6**] We compile environmental data of major

Environmental Information Management System (IT example)



No	Database name	Content	No	Database name	Content
1	Master Data	-Input of basic data (area name, country name, site name, etc.) -Guide for input method	6	Water	-Industrial waste water information -Groundwater quality monitoring situation -Purification situation -Consumed amount and reduction in water
2	General Site Information	-Site information (personnel, mission, etc.) -EMS information (environmental aspect, program, management review, etc.)	7	Secondary Containment	-Installation situation of chemical tank and secondary containment
3	Toxic Chemical Inventory	-Toxic chemical inventory information (emission, transfer, recycle, intermediate disposal, etc.)	8	Energy	-Amount and cost of electric usage -Power saving program and performance
4	Air	-Information on chemical emission into air -Consumed quantity and inventory information on ozone depleting and greenhouse substances -Usage information on refrigerant CFC and HCFC	9	Cost	-Environmental capital investment cost -Environmental cost -Environmental income and reduction or avoidance of environmental cost
5	Waste Management	-Waste information (emission quantity, recycling quantity, etc.) -PCB storage situation -Toxic and product waste agency	10	Regulatory Activity	-Environmental official survey and result -Environmental authorization and conformance situation

Environmental Master Plan (EMP) : by development/manufacturing division 28 places
CTRY Annual Env. Report (CAER) : by country (headquarter/sales division) 15 places

(Slide 6)

divisions in Japan in 10 common databases every year, and store toxic chemical data in the third database of toxic chemical inventory and environmental accounting data in the ninth database of costs. In Environmental Master Plan (EMP), which is referred as to in our company's term, each division has files of 28 development/manufacturing divisions in U.S., Europe, Asia, South America and Japan.

In addition, Country Annual Environmental Report (CAER) that we call is environmental data of sales offices and head office by country. For example in Japan, we store data of sales office and mainly headquarter of IBM Japan, as well as files of 15 major countries in the world. I think that such data storage serves so much for environmental report, environmental accounting, in-company investment decision, and business judgment.

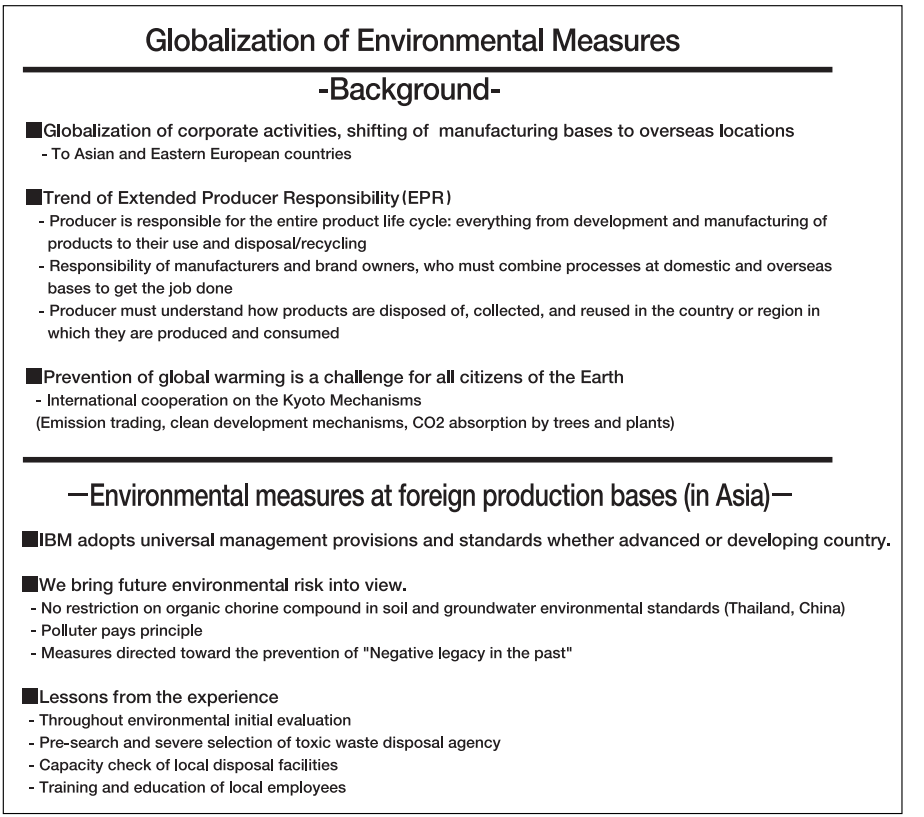
3. Future Problems

I have described briefly about our approach, and when we consider business and sustainable management, it will be increasingly important for us to address environmental measures from a global viewpoint. As stated thus far, globalization of company has progressed. Manufacturing bases have expanded to Southeast Asia, China and Eastern Europe countries. We have to recognize that the expansion of manufacturing base implies transfer of environmental impact. [**Table**]

There is another trend of extended producer responsibility. Producer tends to be responsible for the after-use stage in addition to the use stage (development, manufacturing and usage) of product. As you know, such movement has already become active in consumer electronics industry and recycling of packages, and when it expands to all industries, all trades according to the worldwide trend, we must direct our attention overseas. In the case that manufacturing bases and consumption places are transferred, producer must understand the actual situation on the scene and deal with it properly.

And, there is the Kyoto Mechanism. As a matter of course, emission trading or clean development mechanism cannot be carried out by only one country. It should be noted that such country as Japan need to corporate with neighbor

countries, U.S., Canada, Australia, or people in the world.



Table

I would like to discuss a few problems from our experiences in manufacturing activities in Asia. For example in Thailand and China, as to the pollution of soil and groundwater that is an important issue among advanced countries, heavy metal is regulated but volatile organic chlorine compound is not controlled. To cite instances, although PCB as very effective insurant, trichloetylene as very effective and convenient detergent, and asbestos as excellent heat insulating material were effective in earlier days, they must be now disposed with the utmost attention as environmental toxic substances, and in fact we don't know endocrine disrupter very well. For this reason, I think environment should be managed by the most strict regulation or standard at the present moment. In the absence of standards, if we take halfway measures, we probably will turn a blind eye for future trouble.

In addition, we are preparing the construction of new plant in Shanghai, China, but we have not found the disposal agency that can meet our disposal standards among the existing 25 agencies. We have not started operations yet, so the future challenge is to hold consultations on disposal standards and address their requirements. Moreover, there is only one government-authorized waste disposal agency in Thailand. From the standpoint of company, this presents a serious problem, because if the agency stops operations due to accident or the like, we have no alternative to rely on. We have no other choice than to store wastes and it is economically undesired situation. So, we wish to improve the present situation in some way and provide technical supports, if necessary.

As the process of globalization goes forward, what remains to be done is we take actions as a company while keeping a lookout on the situation in Japan as well as neighboring countries.
Then, let me finish my presentation.
Thank you very much.

Questions

○ Roger Burrit

Thank you very much. Roger Burritt from the Australian National University. I just wonder if I could ask two questions. You said that environmental evaluation is included in measures of divisional performance. Is that in all divisions in IBM, or just in environmental divisions? For example, could somebody loose their job because they haven't performed satisfactorily at the environmental level, or do they just loose their job sometimes because they don't perform well at the economic level? That's the first question. The second question relates to extended producer responsibility, and I just wonder, you have environmental divisions in IBM, but you also have production divisions - are there any problems in the interrelationship between the environmental divisions and the production divisions when it comes to extended producer responsibility. Thank you.

○ Yamamoto

For the first question about division performance, it is included in all product divisions. At the same time, it is also included in measures of Corporate Environmental affairs function. I talked about our self-assessment and

corporate audit. Corporate audit covers not only environmental affairs, but all other important management aspects. Currently we have 24 items as corporate audit items, like inventory control, account management and so forth. So, environmental affairs management by division is one of our corporate audit items. Since all the manufacturing sites directly report to the product division, once a factory fails to comply the environmental criteria or systems, in some cases we replace those plant managers to the better ones. This directly effects to the performance of division president or management level in between division president and plant manager. Does this answer your question?

○ Burrit

Yes, thank you. I am just trying to find out if whether the divisional manager could actually lose their job as well because of poor environmental performance in a division.

○ Yamamoto

The second question is whether there are any conflicts between the environmental management affairs organization and production organization. The answer is no, because all production divisions in environmental affairs management eventually receive a functional guidance from the corporate environmental organizations. So, it is a sort of matrix management, as long as the environmental management is concerned. Production divisions manage daily operation based on IBM environmental management system and control criteria commonly used worldwide.

International Symposium on "Sustainable Management"
Global Trends of Sustainable Management
Panel discussion

Coordinator:

Katsuhiko Kokubu (Project Leader, Business and the Environment Project Kansai Research Center, IGES / Professor of Social and Environmental Accounting, Graduate School of Business Administration, Kobe University, Japan / Steering Committee Member of Environmental Management Accounting Network - Asia Pacific (EMAN-AP))

Panelists:

Martin Bennett (Principal Lecturer in Financial Management at Gloucestershire Business School, Cheltenham and Gloucester College of Higher Education, UK / Chair of the Environmental Management Accounting Network-Europe (EMAN-EU))

Saburo Kato (Director, Research Institute for Environment and Society, Japan)

Byung-Wook Lee (Director, Environmental Management Center, POSCO Research Institute, Korea / Steering Committee Member of Environmental Management Accounting Network - Asia Pacific (EMAN-AP))

Takashi Seo (General Manager, Department of Global Environment, The Yasuda Fire & Marine Insurance Corporation Ltd., Japan)

Kazuo Yamamoto (Adviser, IBM Japan, Ltd.)

1. Presentations

Panel Discussion

Introduction

○ Kokubu

Now, following keynote speech and two presentations, we start panel discussion under the theme of "Global Trends of Sustainable Management".

Firstly, I would like to explain briefly the purpose and point of this panel discussion.

The theme of this symposium is "Sustainable Management" and the theme of this panel discussion is "Global Trends of Sustainable Management", but the term "kankyo keiei (sustainable management)" has become to be used as a generic term in Japan quite recently. If my memory serves, the concept has become widespread rapidly for last two years.

There is no English term, however, that can represent the accurate meaning of this term "kankyo keiei" in Japanese. Two possible English translations are "sustainable management (used herein)" and "environmental management". Interrelationship between three terms, two translations and "kankyo keiei" in Japanese, may be critical in considering the global trends of sustainable management. The term "environmental management" places emphasis on a specific, technical, systematic aspect such as environmental management system in plant, while the term "sustainable management" implies management with environmental, social and economic aspects, geared toward broader sustainability, as reported by Mr. Martin Bennett.

Probably, the meaning "kankyo keiei" in Japanese is somewhere in between environmental management and sustainable management, and includes the idea of bringing environmental viewpoint into the whole business management, not plant or division level. But maybe we have

various views on specific contents. That is exactly what I'd like to discuss from now on.

In this discussion, we would like to discuss the concept of "kankyo keiei", which encompasses the concepts of environmental management and sustainable management, including both broader definition and the narrower definition of that term.

Up to now, Mr. Martin Bennett described European trends and Mr. Yamamoto made a presentation from a viewpoint of global manufacturing company. And, Prof. Amano made a keynote speech about sustainable management including policy issues.

From now on, Mr. Lee will make a presentation. Mr. Lee studies environmental management in Asia, especially Korea. Next, Mr. Seo will talk about sustainable management from a financial viewpoint, because the finance is having increasing importance to environment as mentioned in each of the presentations, and, in addition to corporation and government, citizen, NGO and NPO play a critical role in environment. So, Mr. Kato, who is deeply involved in corporate sustainable management, will make a presentation from the standpoint of NPO.

Mr. Lee, Mr. Seo and Mr. Kato, in this order, will give their opinions concerning kankyo keiei, environmental management, or sustainable management, for about 10 minutes, respectively.
First, Mr. Lee, please give a presentation.

1. Presentations

1.1 Presentation 1

"Environmental Management in Korea - Government Policies & Industrial Practices"

Byung-Wook Lee
Director, Environmental Management Center,
POSCO Research Institute, Korea /
Steering Committee Member of Environmental Management
Accounting Network - Asia Pacific (EMAN-AP)

Contents

"Environmental Management in Korea - Government Policies & Industrial Practices"

Byung-Wook Lee
Director, Environmental Management Center,
POSCO Research Institute, Korea

It is an honor to have this opportunity to present a brief on environmental management in Korea. Actually in Korea we have two kinds of different concepts; environmental management and stable management. Normally, we are using the word, sustainable at the industry level, not in the corporate level, but from this symposium, we are thinking about more extended concept in business management. Actually, at the moment, at the country-level, we are developing some strategies towards sustainable industry in the industrial structure and industrial operations.

1. Milestones in Environmental Management in Korea

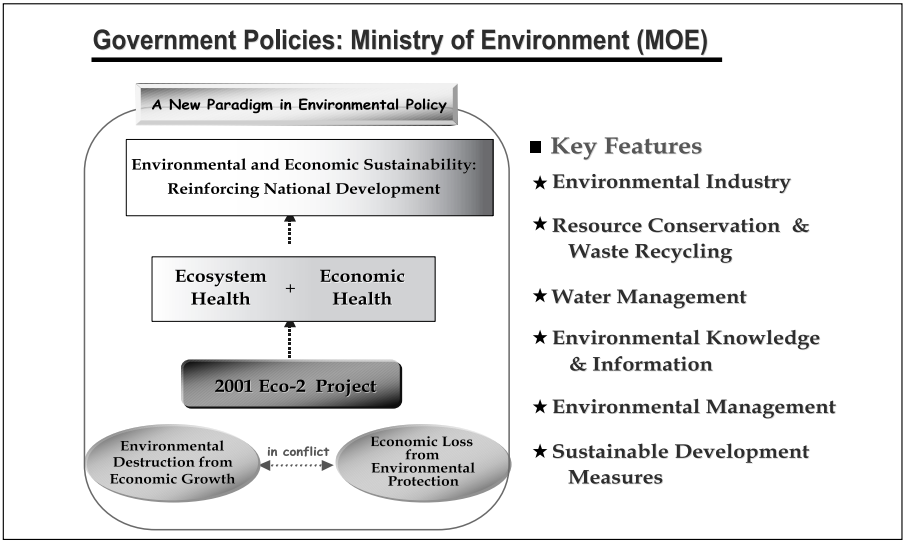
There are some milestones in environmental management in Korea. Since 1992, the Rio Summit, we have been doing a lot of work in terms of environmental management. (**Slide 1**) At first, I can say that there are many of Korean business circles. It is supported by four or five different industrial associations, including the Korean Chamber of Commerce and Industry and FKI and so on. Secondly, you can say another event from private sectors. The Samsung group established the Samsung Global Environmental Center in 1993. The country was involved in working and we got quite a unique scheme from the Ministry of the Environment. The name is the Environmentally Friendly Company Schemes. Now, over 100 companies are subsidized from the Ministry. Also, the Ministry of Commerce and Industry and Energy developed an act with quite a long name, "The Promotion Act for Conversion to Environmentally Friendly Industrial Structures". The act is actually in two points; one is the promotion of cleaner production. Next one is the present guidelines on Environmental Management from the Chambers of Commerce and Industry 97. The next one is, there is one study group about sustainable management led by me since 1999. Another charter from industry was raised in 2000, with five industrial associations lead by FKI. Quite recently the FKI -

the Federation of Korean Industries- are trying to launch quite an interesting organization, which means the KBCSD, it is the Korean version of the WBCSD, we are working for launching the organization.

(Slide 1)

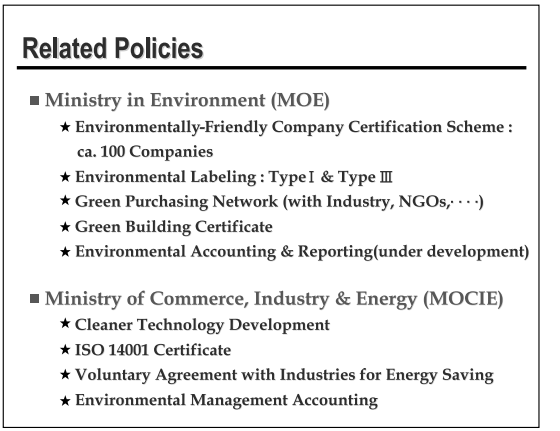
2. Government Policies

I'd like to briefly introduce the policy from the Korean Government. (**Slide 2**) The Ministry of Environment started a new millennium project, the so-called Eco II Project. It is aimed to harmonize ecological sustainability and economy. There are some special projects under the name of the Eco II Project. The first one is to promote environmental industry and the second is resource conservation and waste recycling, water management and knowledge partnership and information transfer. And also environmental management is one issue of the ECO II Project. Finally, there are sustainable development measures like sustainable indicators and so on. As for the environment, as I had said from before, which is quite unique, the scheme of environment friendly company schemes. (**Slide 3**) It is quite similar to ISO 14001, and also we are introducing environmental labeling Type I and Type III. We are doing



(Slide 2)

pilot study for Type III labeling. Also we have green policies of that like Japan. And also, the green building certificate is now ongoing. Moreover, the Ministry of Environment is trying to develop environmental accounting guidelines and reporting guidelines, it is under development at the moment. On the other hand, MOCIE, the Ministry of Commerce, Industry and Energy is supporting and promote technology development, and the ISO 14001 Certificate. We also have an agreement with the industries for energy saving.

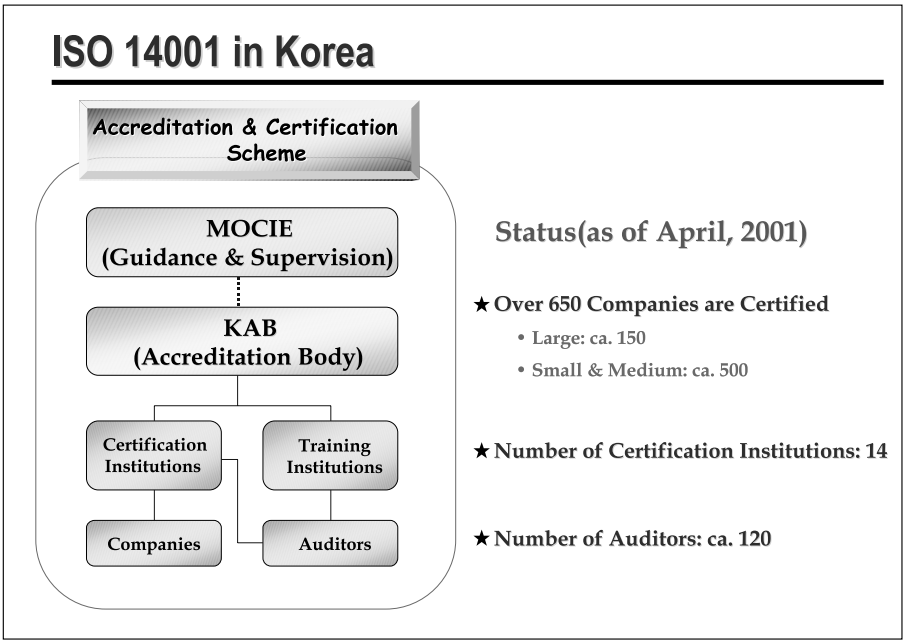


(Slide 3)

3. ISO 14001 in Korea

Now we are starting to launch another special project for environmental management accounting project from this October. It is quite similar with the

Japanese systems, to the certificates of ISO 14001. (**Slide 4**) Under the supervision of MOCIE, we have KAB, Korean Accreditation Board, like the JAB in Japan. Over 650 companies are supported under the ISO 14001. There are about 150 large companies, 500 small and medium companies.



(Slide 4)

4. Private Sector's Responses

In private sectors, there is some movement. (**Slide 5**) In the case of the Korean Chamber of Commerce and Industry, it introduced principles and guidelines in 1997. There is a Committee of the Environment and Safety, they have about 28 members and all of them are experts from industries, and they also have environmental management centers to disseminate the information and knowledge into the industry level. The FKI is actively moving into this area. They have established the Committee of Environment three years ago, all of them are the members at the CEO level, chairman, president, or something like that. Now they are expanding the members. They issued the Charter in 2000, and hold the CEO Environmental Academy twice. We got about 30 or 40 attendants every event in 2000. They are trying to launch the KBSD this October. We have a lot of practice in the business sector (**Slide 6**).

I would like to brief about the activities mainly on the ISO 14001, clean development production, life cycle assessment for environment, etc. We are doing some studies and reaction on climate changes, like mechanism and trading. We are trying to introduce some green policy at the company level, and in environmental accounting and reporting. Also, environmental marketing is a little bit of a new challenge in companies, to compare each other and some materials.

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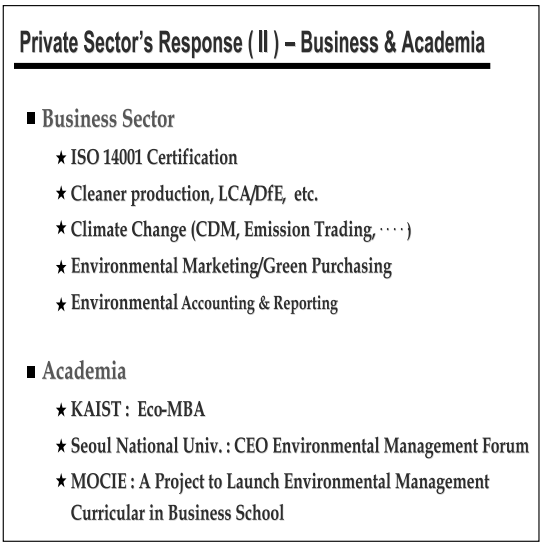


(Slide 6)

In addition, academia is now moving to advanced issues and KAIST has already launched Eco-MBA, Masters of Business Administration. They have to graduate from 2 years of school and we launched another program at the Seoul National University, aiming at CEOs for the Environmental Management Forum. This year, we just finished this course, there were about 40 CEOs from industry, government, Congress and some NGOs. We discussed a lot of issues following the year, and we finalizing the course at the Seoul National University. From this October, the Minister of Commerce and Industry and Energy launched 4 different kinds of projects. One is how to develop the environmental accounting at the business schools, so we are

trying to develop the program and some materials to teach, and some curriculum. After that, we are trying to dispatch a package to many universities in Korea, and we are going to establish a research society for environmental management.

Now, we are doing a lot of work in this sector's issues, and also we are trying to develop the contributive industrial strategy towards this sustainable development. It is quite closely related to the next year. This is the situation in Korea. Thank you very much.

1.2. Presentation 2:

“Eco Funds and Assessment of Sustainable Management”

Takashi Seo
General Manager, Department of Global Environment,
The Yasuda Fire & Marine Insurance Corporation Ltd., Japan

Contents

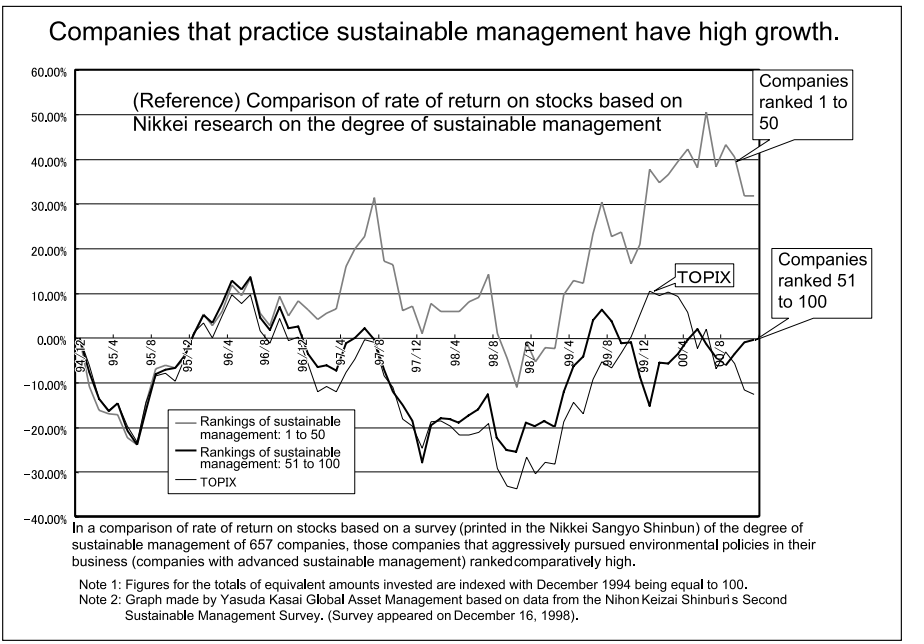
“Eco Funds and Assessment of Sustainable Management”

Takashi Seo
General Manager, Department of Global Environment,
The Yasuda Fire & Marine Insurance Corporation Ltd., Japan

My name is Takashi Seo from The Yasuda Fire & Marine Insurance Co., Ltd. Your cooperation is greatly appreciated.
I would like to talk about the actual situation and problems in assessment of sustainable management from the standpoint of a businessman that develops and sells eco funds.

1. Companies that practice sustainable management have high growth.

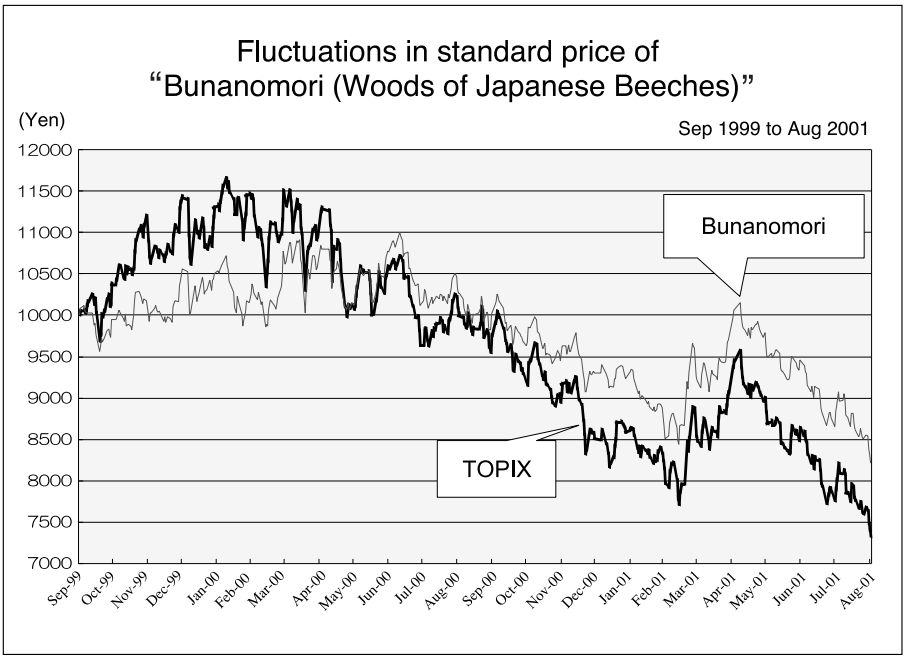
We put eco-fund under the nickname of “Buna no Mori” on the market in September 1999. In developing the eco fund, we set up a hypothesis that companies practicing sustainable management will grow in value for medium and long term. **Slide 1** gave support to this hypothesis.



(Slide 1)

First, based on the data from Nihon Keizai Shimbun's annual sustainable management survey in 1998, top 400 companies are ranked 1 to 50 and 51 to 100, and the stock prices of these two groups are compared for certain period, using TOPIX (Tokyo Stock Exchange Stock Price Index) in December 1994 as reference value. As shown in the graph, companies ranked 1 to 50 have the highest growth, followed by companies 51 to 100, TOPIX, and then 101 and below. Only from the above-mentioned result, we cannot conclude that companies which practice sustainable management have higher stock price than companies which don't so, but the result provided a powerful support to us.

Slide 2 shows the performance our eco-fund "Buna no Mori" from the release to now. For a certain time after start of selling, the eco-fund continued to show lower performance than TOPIX, but recently it has achieved a performance exceeding TOPIX.



(Slide 2)

As you know, due to the present stagnation of Japanese stock market, I'm sorry to say that gain or appraisal gain for the investors has not generated so far even if the fund outperform TOPIX. According to the current data,

however, this fund as a whole outperformed the benchmark TOPIX.
Without monitoring in the medium and long term, we cannot arrive at a conclusion that companies which practice sustainable management have high growth. The current state is as above-mentioned.

In Japan, 11 kinds of so-called eco-funds, or funds referred to as SRI (socially responsible investment) funds are sold at the present, and new funds have gone on the market since 1999 and market of eco-fund is gradually expanding.

In **Slide 3**, the fund "Asu no Hane" developed by Asahi Life Asset Management Co., Ltd and Globe (A) and (B) developed by Nikko Asset Management Co., Ltd are not eco-funds so as to assess sustainable management from only environmental aspect. These funds can be identified as more socially responsible investment by focusing on triple bottom line to some degree, as explained by Mr. Bennett. Other funds are developed to simply assess sustainable management from environmental aspect.

SRI Funds sold in Japan

Fund name	Date of issue	Total net assets as of end of August 2001 (Units: 100 million yen)
1. Nikko Eco Fund (Nikko Asset Management)	Aug. 99	729.1
2. Bunanomori (Yasuda Kasai Global)	Sep. 99	86.4
3. Eco Fund (DLIBJ Asset Manamement)	Oct. 99	94.8
4. Eco Hakase (Eco Professor) (UBS Asset Management)	Oct. 99	56.4
5. Midori no Tsubasa (Green Wings) (Partners Asset Management)	Jan. 00	44.8
6. Asu no Hane (Wings of Tomorrow) (Asahi Life Asset Management)	Sep. 00	82.6
7. Umi to Sora (Sea and Sky) (Mitsui Marine Asset Management)	Oct. 00	12.4
8. Globe (A) (Nikko Asset Management)	Nov. 00	46.6
9. Globe (B) (Nikko Asset Management)	Nov. 00	26.0
10. Mrs. Green (A) (Daiwa SB Investments)	Jun. 01	88.0
11. Mrs. Green (B) (Daiwa SB Investments)	Jun. 01	150.0

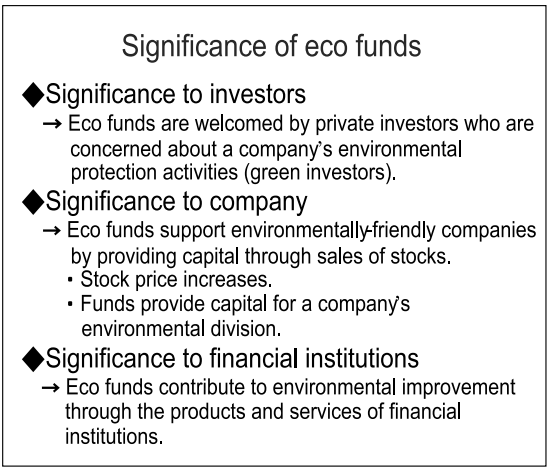
Total value of net assets: 141.7 billion yen

(Slide 3)

As a unique feature of Japanese eco-funds, total value of net assets reached to 140 billion yen in such a short period of 2 years. This noteworthy phenomenon cannot be found in other countries. In other words, eco-funds had a good sale, so I'd like to describe the significance of eco-funds from different three points of view.

2. Significance of eco-funds

Significance to investors comes first. It means there are great many so-called green investors who are concerned about a company's environmental protection activities, and actually this eco-fund had a past record of sales exceeding 200 billion yen during initial phase. Now, total assets have stabilized at the current value. Of course, declining stock prices led to the reduction in total assets, but it's a fact that cancellation occurred in succession. At the beginning of sales, general investors sought higher yield and bought eco-funds. After a while, such general investors were screened out to some extent, so remaining investors are probably almost green investors.

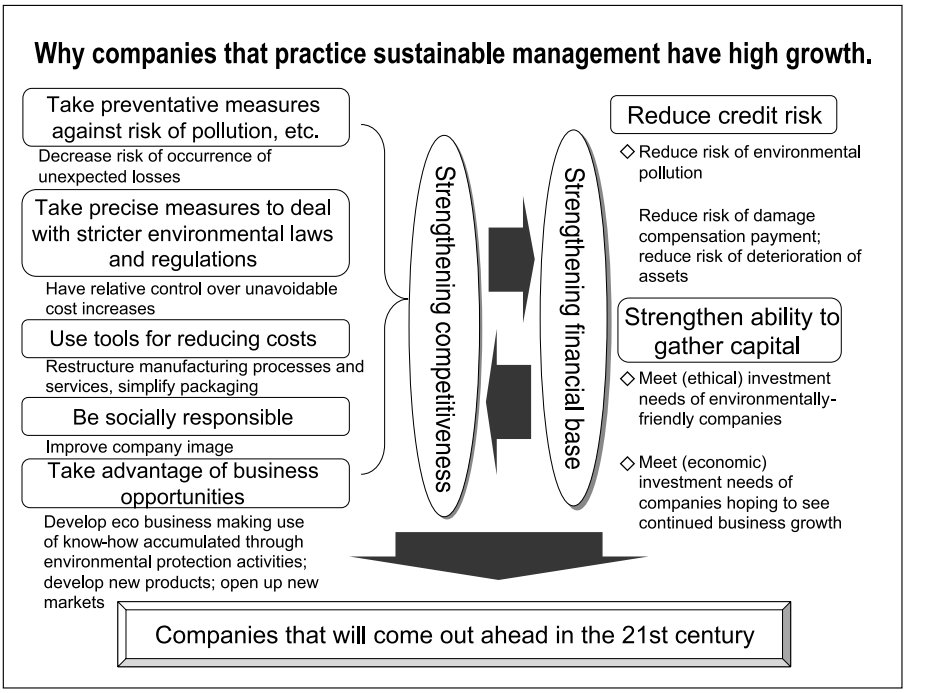


Significance to company comes second. As Mr. Yamamoto stated earlier, I think that a company's stock price is increased through sales of stocks, and therefore eco-funds are regarded as means for supporting environmentally friendly companies. We are salesmen of eco-funds as well as staff of a company's environmental division, so we can understand the feelings of persons in charge of environment very well.

Third comes significance to financial institutions. It is conventionally said that financial institutions are far behind in dealing with environment. Today's panelist, Mr. Saburo Kato always gives to our company or financial institutions harsh words. Under such circumstances, we have created these products and contributed to environmental matters through our business. It's so significant.

3. Why do companies that practice sustainable management have high growth?

Why do companies that practice sustainable management have high growth? (**Slide 4**). As Mr. Yamamoto also pointed out, it is because a company's competitiveness is strengthened in various ways by addressing environment. Specifically, environmental pollution, in particular soil pollution has now come under close scrutiny and it is significant to take preventative measures against risk of pollution. Moreover environmental laws and regulations have been gradually improved with stricter provisions and it is also important to take precise measures to deal with stricter laws and regulations. Furthermore, environmental measures serve as tools for reducing costs. To be socially responsible for environment conservation can improve corporate image, thereby building up clientele, and new market will be opened up through the development of new products such as low pollution car, energy-saving white goods and so on. All of these things lead to strengthening corporate competitiveness, resulting in strengthening financial basis of company, for

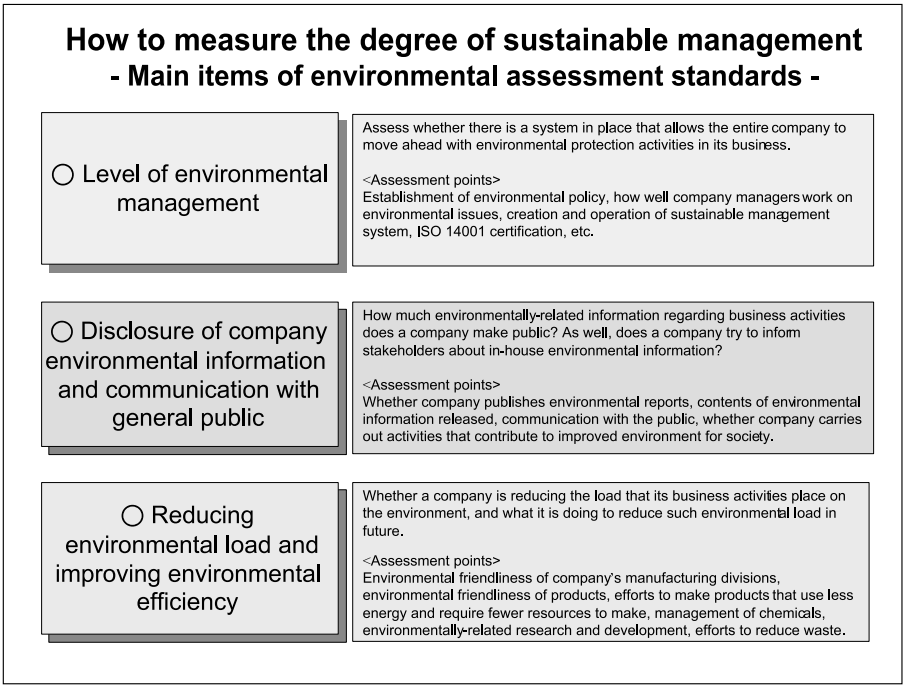


(Slide 4)

example, reducing credit risk and strengthening ability to gather capital. This in turn enhances company competitiveness again. That's virtuous circle. In conclusion, ideally speaking, companies will come out ahead in the 21st century by practicing sustainable management.

4. How to measure the degree of sustainable management

Then, how do we measure the degree of sustainable management? All companies that sell eco-funds do not adopt the same method. We assess sustainable management from three viewpoints as below. (**Slide 5**)



(Slide 5)

(1) Three assessment points

The first point is level of environmental management in a company. It includes establishment of environmental policy, how well top management works on environmental issues, whether a company obtains ISO 14001 certification or not, etc.

The second point is disclosure of company environmental information or communication with general public. It includes whether a company publishes environmental reports, adopts environmental accounting, or seeks to communicate with society.

The third point is reducing environmental load, improving environmental efficiency, that is, what a company is doing to reduce environmental loads which occur with business activities. The assessment point includes environmental friendliness in the manufacturing process, usage process of products and how to dispose wastes.

We measure the degree of sustainable management from these three assessment points in proportions of 30%, 30%, and 40% in this order. But, as companies have progressed in environmental measures year by year, each company has its own standards for environment and company's management shows an understanding very well, so with respect to the level of environmental management, all companies get good marks and have little difference. I think assessment standards are developed and reinforced as the progression of corporate environmental measures, so it is a big problem how the standards will be further developed. I will explain this matter later.

(2) Assessment process

Next, I'd like to explain about assessment process. Firstly, we examine company's released environmental information such as environmental reports, media reports, etc.

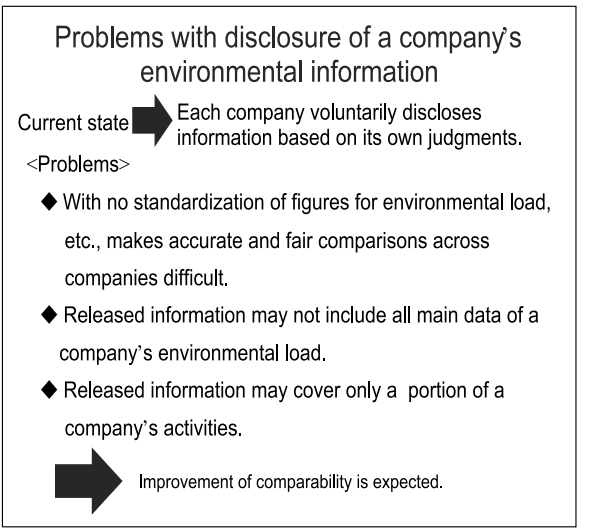
Secondly, we send questionnaire to companies and assess the answers. I'm afraid that a lot of similar questionnaires sent from various eco-fund sales agencies invite frowns of disgust, but many companies cooperate with us even in busy schedule.

Thirdly, we visit companies and ask about details. Without this process, it seems difficult to grab accurate facts.

5. What remains to be done.

(1) Problems with release of a company's environmental information

One of the current problems with release of a company's environmental information is that uniformity in data does not exist. When examining a company's environmental reports from year to year, we can keep track of the historical transition of the company's environmental activities. When examining the reports of companies A, B, and C, respectively, however, it is very difficult accurately and fairly to make comparisons across companies, for example, company A is superior to company B or company B is better than company C. Furthermore, There is a possibility that released information does not include all of data. The released information is limited to a certain extent and only covers a portion of a company's activities. **(Slide 6)**



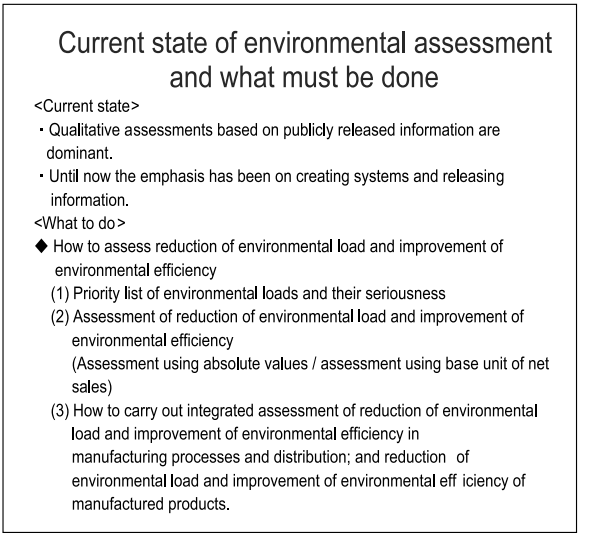
(Slide 6)

(2) State of environmental assessment and problems

Thus, as a matter of fact, our assessments are mainly qualitative ones that give added weight to level of environmental management or publicly released information. For the future, we must address the third point of how to assess company's performance. The main problems are as follows. Which item of various environmental loads is significant for the company? Are reductions in environmental load and improvement in environmental efficiency assessed by using absolute values or basic unit, or their combination? How does the integrated assessment of reduction in environmental load and improvement in

environmental efficiency carried out in the whole process including manufacturing, delivery and usage?

Of course, as weighting varies depending on type of industry, it becomes necessary to make assessments according to the type of industry without applying a uniform judgment standard.



(Slide 7)

As to hearing, we wish to avoid one-way argument and continue dialogue with companies in order to establish the standards for more sophisticated environmental assessment that corresponds to each company or its characteristics. (**Slide 7**)

Thank you for your kind attention.

1.3. Presentation 3:

“Sustainable Management”

Saburo Kato
Director, Research Institute for Environment and Society, Japan

Contents

1. Basic awareness about global environment
2. Basic awareness about sustainable management
3. Elements of sustainable management
4. Sustainable management of small and medium-sized companies

“Sustainable Management”

Saburo Kato
Director, Research Institute for Environment and Society, Japan

I would like to express my opinion about sustainable management.
I have engaged in pollution and environment-related issues for about 40 years, but I’m not a specialist in business management, so I cannot do a commentary from the viewpoint of expert. But, for last 8 years, I have associated with many companies in various ways as a member of NGO. I want to talk about what I have felt based on such experience.

1. Basic awareness about global environment

First, I will speak of my current awareness about global environmental issues. I would like company, government, community and consumers to share a common basic understanding that I will outline below.

As you know, the amount of human activities has increased explosively. Population, and quantity of consumed energy and resource have also rapidly increased. I think that the critical limit of environmental carrying capacity has been eventually reached.

Although Mr. Amano said “environmental resources have deteriorated” earlier in this symposium, I think that situation becomes worse and close to limit rather than deterioration. Does a limit exist? Has the limit of environmental carrying capacity been actually reached? Is there still an adequate margin? Various discussions are likely to take place but the idea of limit is obviously supported by the fact that environment is going from bad to worse around the world. CO2 concentration has been increasing every year and especially for the last 30 years, and global temperature has also continued to rise. Depletion of ozone has never stopped. Loss of biodiversity and global desertification are progressing. Also at local level, waste problem, endocrine disrupter problem by chemicals, and the like have occurred. It may be an exaggeration to say that we human society run short of environmental carrying capacity in every way at the end of 20th century, but environmental capacity has indeed almost depleted. Moreover, 126 million people live in

Japan, and more than 6 billion people have to live in the world. A lot of companies must continue to operate and pay salaries to the employees.

2. Basic awareness about sustainable management

Companies must continue to perform a certain level of business activities under very strict environmental regulations, so they are obliged to maintain a balance between management and environmental conservation. During the era when there was no environmental regulation, companies forged ahead to product development for mass production and mass consumption at high-speed as if running on immense wild land, but such era has ended at last. Companies require wisdom for surviving under the strict environmental regulations, and I think that the wisdom is management technique, that is, sustainable management.

This applies to not only company but also government, community, consumer and each individual. It is my basic stance or awareness about sustainable management.

Next, I would like to talk what we think about sustainable management. In the environmental NPO "The Japan Association of Environment and Society for the 21st Century (JAES21)" that I preside over, we made environmental reports with NEC corporation for last two years and will do so next year. We drew up plans, prepared table of contents and texts for at least two environmental reports with NEC as an environmental NPO.

This year, NEC, in common with many other companies tried to heighten awareness of sustainable management and clarify the concept of sustainable management to some extent. Due to our concern about sustainable management from the standpoint of environmental NPO in addition to the NEC's demand, we repeatedly argue over the definition or main concept of sustainable management and formed a conclusion with much effort. Because of the corporate character of NEC, it focuses on information technology as follows.

"Management that gives thorough consideration to environment, minimizes environmental load, and maximizes resource efficiency in all business sectors

with an emphasis on IT, as well as evolves a company toward contribution to the formation of a sustainable recycling-oriented society and high corporate value through the provision of solutions to customers"

It seems that this brief statement is self-explanatory, but I regard "in all business sectors" as the most important phrase. As Mr. Yamamoto stated, in most companies, top management such as President or Vice-president used to concentrate attention on financial affairs, not environmental issues and delegate these issues to environmental division. In fact, I often heard businessmen say about ten years ago, "I was appointed as an environment division manager. That is to say, I went off the fast track to promotion". President or Vice-president left subordinates up to environmental measures. However, nowadays financial, personnel, public relations and all other divisions, not to mention President, have to cope with environment measures across the company. As earlier said, if companies must survive under the situation in which environmental carrying capacity has already become full, environmental measures are naturally considered as one of the greatest matters in management to be addressed by all sectors. The era when environmental measures were left to only environmental division has already past.

Other key phrases in this definition are "contribution to the formation of a sustainable recycling-oriented society", which may be referred as to "sustainable society", "corporate value" as mentioned by Mr. Seo, and "management that evolves a company" that achieves in keeping of certain degree of stock price and high social appreciation.

3. Elements of sustainable management

Relatively recently, Sumitomo-Life Research Institute, Inc. (SLRI) where I worked as a visiting researcher conducted a research on what Japanese large companies think about sustainable management in commission of National Institute for Environmental Studies. In the planning and evaluation of this research, we received cooperation from Prof. Kokubu.

As the research results are published in a detailed report, please see them later. Examining the target 600 companies that address environmental issues

with great effort, we found that many companies thought environmental measures as a matter of high priority for surviving in 21st century. The companies acknowledge their responsibilities for environmental loads incurred by their main business activities, and further recognize the importance of maintaining so-called triple bottom line - three aspects of sustainability; environmental, social and economic. On the other hand, since environmental risks have a damaging effect on management, the companies regard environmental measures as a part of managerial crisis management. We received such answers from many of the target companies.

Specifically, they adopt the following measures: acquisition of ISO certification, issuance of environmental reports, environmentally-conscious product design in the case of manufactures, implementation of green purchase, consideration for logistics, environmentally-conscious plants and shops by use of solar system and the like, partnership with NGOs or NPOs and introduction of environmental accounting.

4. Sustainable management of small and medium-sized companies

To add another point, honestly speaking, sustainable management is practiced mainly at larger companies in Japan. As far as I know, however, some small and medium-sized companies raise awareness of environmental problems and try to take measures. Likewise as in NEC, I am working with an industrial waste disposal firm in Kansai region to help drawing-up of environmental reports. Even the company with less than 100 employees can issue highly valued, excellent environmental reports.

In order to promote the trend, award system as in IBM may be an effective method. But, I think it is the most available to use the taxation system among public policy, for example, the introduction of environmental tax. There is a need to establish official mechanism which stimulates corporate differentiation. Furthermore, eco-funds act as an important role, as pointed out by Mr. Seo. I hear that a few environmental rating agencies will be founded in the near future, and if such rating agencies or organizations, whether being NPO or academic society, become to assess the rights and wrongs objectively, sustainable management in Japan will rapidly progress.

2. Discussion

○ Kokubu
Thank you very much.
The presentation by Mr. Kato concludes a series of 6 presentations beginning from Prof. Amano. I believe that the broadest discussion on sustainable management has been conducted.

From now on, we'd like to debate, focusing on specific problems. I hope to discuss the solutions to them as well, but within a limited amount of time, it may be impossible. Sustainable management encompasses really broad concept. In order to achieve sustainable management or sustainable society, although to say is one thing, to practice is another, it is necessary to discuss promoting factors as concretely as possible.

Accordingly, as to sustainable management that we have discussed so far, please point out some of promoting factors or inhibiting factors.
I wish Mr. Yamamoto to begin.

2.1. Promoting factors and inhibiting factors of sustainable management

○ Yamamoto
I would like to talk about what companies can implement on their own as promoting factors and government or market can support.

2.1.1. Promoting factors of sustainable management

(1) Corporate efforts: "Executive's commitment", "Mechanism for continual efforts" and "In-company consensus"

As stated earlier, I think that what companies can implement on their own is, among others, executive's commitment to environmental measures. Without executive's support, all of the employees can hardly work together.

Also, companies must consider and have a mechanism for continuing

voluntary efforts. As I mentioned award system, it is also necessary to stimulate the development of material or technique for reduction in environmental load within the company.

Furthermore, companies must build a consensus that environmental measures improve corporate competitiveness and enables its survival in 21st century, and to foster the consensus is indispensable to promote sustainable management. Companies should have a consensus that even if extra costs occur in the short run, there is no loss in the long run. Moreover, companies should have a sense of crisis — unless profitable mechanisms such as eco-business, recycling, reuse and so on are established, main business may lose competitiveness. For companies, a common understanding that environmental measures have an advantageous influence on their business activities is an important promoting factor.

(2) Supports from the government: "Development of legal system", "Taxation system" and "Urban regeneration such as eco-town"

In administrative aspect, I am amazed at the development of Japanese legal system for the last few years, with the view towards the formation of recycling-oriented society. Green purchase law, home appliances recycling law, etc. are main promoting factors.
As Mr. Kato pointed out, how to develop taxation system remains to be done.

Currently there are 14 eco-town projects that Ministry of Economy, Trade and Industry takes a leading part. Recently I have studied especially the example of Kitakyushu city, wherein citizens, companies and city government work together to regenerate a city of massive and heavy industrial pollution into an environmental futuristic city with IT-society. I think it's so brilliant. The trinity approach by citizens, companies and government can further promote urban regenerating activities.

(3) Supports from the market: "Eco-fund" and "Environmental rating"

In addition, as Mr. Seo stated earlier, eco-fund or environmental rating is considered as one of the primary promoting factors, wherein the market supports companies that practice environmental measures.

(4) Inhibiting factors: Indefiniteness of injured party and offending party

The flip side of promoting factor as above-mentioned is inhibiting factors. What I feel recently is that we can't run a fine line between injured party and offending party in environmental issues. For example in the case of carbon dioxide, indeed companies are sources of CO2, but employees working there also generate CO2 by driving a car, using household electronics and so on. So, many management executives think that there's no point in practicing environmental measures on their own. All of us must act our part as producer, consumer, citizen or government staff. Therefore, we manage to clear up this problem.

○ Kokubu

We heard Mr. Yamamoto's opinion from the viewpoint of companies and government. From the standpoint of companies, what is required are a system in which top management of companies can continually make commitments to environmental issues and a consensus that environmental measures will enhance corporate competitiveness. In other words, environmental measures in general business as well as eco-business are payable.

As for environmental measures by the government, development of legal system, taxation system and eco-town were listed.

According to Mr. Yamamoto, globalization of environmental issues, and indefiniteness of injured party and offending party have an influence upon the awareness toward environment, thereby resulting in inhibiting factors.
Then, I would like to ask Mr. Bennett.

2.1.2. Characteristics of Sustainable Management

○ Bennett

Thank you. The fundamental issue must be how can we encourage sustainable management to be seen as an integral aspect of good management generally, rather than being something separate which is simply added onto companies' mainstream activities. As Mr. Yamamoto has emphasized, the

first key factor is to get the support of senior management, which requires that we first identify what is likely to attract and influence those senior managers in the first place to become interested in sustainable management. Is there in fact anything uniquely distinctive about sustainable management, or is it synonymous with good business management practice? Even if there is no fundamental difference in kind, there are at least substantial differences in emphasis with conventional management practice.

Firstly, sustainable management requires that a company be ready to take a long-term perspective, and to have the tools available to support this. Mr. Yamamoto also pointed out that there may often be some short-term benefits which can be achieved relatively easily through, for example, waste minimization and energy efficiency schemes. However once these "low-hanging fruit" have been harvested, only diminishing returns are likely to be available from this source so that further gains will require more work and expertise. In many cases there may be opportunities for further benefits to be realized in the long-term which have implications for long-term sustainability of the company, but which may in the short-term mean increased costs and therefore lower profits.

Secondly, it implies a readiness by a company to look outwards at its business environment and at the sort of factors that are likely to influence its performance in the long-term future, through its relationships with its various stakeholders - customers, investors, suppliers, staff, local communities, and governments - all the parties that, without their goodwill, could potentially cause a problem to that company. This requires some specific competences, and the ability to recognize what is going on outside the company's own boundaries and to devise ways to deal with this.

Perhaps crucially, it requires a shift in mind-set and attitude generally not only within industry but within society at large. This is recognition that as a global society, we may be reaching maturity in the same sense that an industry sector, once it has become established and then exhausted its potential for growth, will become a mature sector. In a global sense this implies a need to recognize that we can no longer afford to treat the natural environment as if it were an infinite source of resources and recipient for wastes. The period of this type of growth has ended, and we need to find other ways to develop and

continue to evolve.

In any situation there are two requirements before effective action is possible, and both are needed: firstly the motivation, the wish to act, and secondly is the capability, the ability to act. Motivation will be encouraged by pressures on companies from both governments and other stakeholders directly, and secondly from the marketplace. Pressure from investors is likely to be particularly persuasive to companies, and I was very encouraged by Mr. Seo's report on the funds that he is managing and their success in terms not only of their investment performances but also of their attractiveness to investors, as evidenced by the volume of funds that they have attracted. The main responsibility will continue to be government's, to set the context in which businesses can operate, through a number of different policy methods. These will continue to include regulation, but increasingly we need to look also towards government's potential influence on market prices through taxation and other financial instruments. These are a way of sending to industry clear signals that some types of resources are likely to become relatively increasingly expensive in future. Customers can also be a strong pressure to influence companies, provided that they are supported with adequate disclosure of information in order to form judgments. This needs not all be negative pressure on those companies, since it can include encouragement and some positive recognition including through certification programs and awards which recognize the companies and the individuals within them who are helping to make these changes.

Capability comprises both receptiveness and reaction. Receptiveness is the ability both to scan the wider business environment and recognize developments in it and their potential significance, and also to be receptive to internal signals such as opportunities for cost savings which may become apparent through monitoring environmental-related costs and benefits over time.

The "Environmental Financial Statement" which Baxter International produces annually as a subset of their income statement (profit and loss account) provides one method in which environmental costs and benefits can be identified and reported on an ongoing basis, and to communicate through the company that there may exist a significant potential to realize substantial

benefits through positive environment-related and sustainability-related actions.

The ability to react requires that management has the appropriate skills and tools that it can call as needed in order to determine the most appropriate action in a particular situation and to implement this. These may be tools of environmental accounting, of managing people and of appraising managers' performances, and of managing purchasing and supply functions. These tools do not necessarily need to be in use continuously, but the relevant people in the company should be aware of them and able to access them as and when necessary. It also crucially requires that the appropriate information is available and is both relevant and reliable; and that as Mr. Seo pointed out, it is also both comparable in order to be able to benefit from making comparisons and benchmarking against other companies, and complete in that it reflects all the key aspects of performance.

There may be a new role for legislation here, which aims not so much to try to control what companies do, but to ensure that they produce the information that can help to guide future behavior across industry. Awareness of good practice elsewhere through the dissemination of good-practice case studies is another route, and as Dr. Lee was pointing out is happening in Korea there can be a role here for each of industry associations, Chambers of Commerce and academia.

Ultimately, what this all implies is a recognition that if the environment and the condition of our society matter, then it will be those companies that can best recognize and manage this who will be most likely also to be successful in conventional business terms in the future, which requires the relevant competences. As Mr. Kato said, 10 years ago if you were transferred to the Environment Division of your company, this was the company's polite way of telling you that your career was over! However, if the ability to deal with changes in the outside world and environment and society do matter to companies, one would expect to see the opposite becoming the case; but this also demands the ability to be able to explain this case and to persuade others in the company of it. This comes back to the need for more integration and to be able to express social and environmental management in mainstream business terms, in particular in financial terms of what it means to the

company's overall value.

This needs to be part of everyone's job, so it is important that environmental and social management is not isolated in an organizational ghetto which is separate from the company's main business of producing products and selling them to customers to make a profit. This is analogous to quality management and customer satisfaction - if one asks whose responsibility these are, the answer should be "everyone's" since these are fundamental to the ability to produce products and sell them profitably into the long-term. We need to encourage a similar perception of environmental and social performance.

○ Kokubu

Mr. Bennett indicated many things. One important thing that I would like to highlight is the time period. The sustainable management differs from general management in time period, that is, whether it is farsighted or short sighted. For business management, as Mr. Yamamoto said, it is very important the environmental measures can be beneficial and profitable to corporation business in long-term.

Another important point is information disclosure to stakeholders outside of companies or management of stakeholders. By changing the minds of the stakeholders, the company's environmental measures can be led to a positive factor in the future. Mr. Benett further pointed out that the government can also play a role; and various measures and methodologies are necessary within a company. He also discussed about the motivation and capabilities.

Mr. Yamamoto and Mr. Bennett indicated many issues about promoting factors and inhibiting factors.

Next, I would like to ask Mr. Lee, Mr. Seo and Mr. Kato to dig down this issue highlighting out of what you have just heard from their comments from the point of your own background like Korean academic society, the financial world, or NPO. Mr. Lee, please.

2.1.3. Required points to promote sustainable management

○ Lee

I just want to point out 2 or 3 three points to promote environmental management or sustainable management. I think that at the country level, the important thing is how to change the industrial structure in the long-term. In the case of sustainable management or sustainable business levels, I mean in that case, we need to solve the resource problem and pollution problems. For that, we should change our existing business portfolio into more sustainable ones. Another one is business internal change like eco-efficiency that kind of tools can be utilized in the second case. So, there are two kinds of approach can be used of the future sustainability.

Based on this concept, the important thing is top management commitments as many presenters have said. Based on my experience, we had a couple of opportunities to make some presentations, teach and discuss with CEOs, but the final question is what are the tools. What and How can I use? Therefore, in order to solve these issues, we need some experience of benchmarking and research. For that purpose, I would like to say that the academia should to develop the theoretical framework and experience and benchmarking materials or whatever. As far as I know, even in Korea and Japan, there are not so many activities in academia, and we need that kind of effort in terms of academia and some associations.

Finally, I would like to raise one issue, which is how to promote the small and medium enterprises? In Korean now, we are developing one policy measure, using the chain concepts. The government cannot support directly to all small and medium enterprises, some key players, some big companies have quite a close relationship with large members of the suppliers. If the key players can do some roles in the middle of that, the result will give some impact in many ranges of small and medium companies. In this case, the government can support the money and resources. So, that kind of mechanism can be applied in the industrial sustainability. The key player can adopt the green policy and some measures. That is one of the concepts to expand our concepts to small and medium enterprises. Thank you very much.

○ Kokubu

I think there were three points in what Mr. Lee said.
First point is the industrial structure, that is, how business portfolio can be changed. If time allows, I would like to ask Mr. Yamamoto to discuss this point later on. Basically, companies have just been making things and selling the products and this system has given impact to the environment. So we should consider providing service, not only products. What we are providing is service. I think that the new concept is close to leasing, and the computer industry is related to this kind of new structure.

Also next was regard to how top management can make commitment, how they take actions, and how the academic society can play a role in providing the tool for the top management to make commitment. We researchers are deeply involved in it.

The third point was with regard to small and medium-sized companies. With regard to supply chain management, as said by Mr. Bennett, even if the impact of the environment by one company is reduced, if the impact is just shifted to another upstream company, there is no reduction in global environmental load. Supply chain does not consist of only large companies, if anything, what we are supplied by the suppliers are assembled at the assembly manufactures and provided as products, so supply chain management is very important in terms of small and medium sized companies as well as environmental loads.

Next, I would like to ask Mr. Seo to make a point.

2.1.4. Company staff required environmental awareness

○ Seo

Environment has become main stream of business beyond energy saving or social action

As Mr. Yamamoto talked about top management, mechanism and consensus, I think employees are very important in connection with the third point, consensus within a company. Financial institutions kept distance from environment before, as employees thought that their business doesn't place

much load on the environment and have nothing to do with it.

But, under the present situation, as for insurance industry, a wide range of companies is taking more environmental risks. Non-life insurance companies make a business of dealing with risks, so we have a chance of developing new insurance products, or we directly connect environment with business as the above-mentioned eco-fund. So, we have progressed from energy saving, recourse saving and social commitment to become involved with environment in main business, which is an enormous progress. Under such situation, employees have become to consider environmental issues as their own problems, fostered a consensus that environment is beneficial and profitable for their company and addressed environmental problems.

10 years have passed since The Yasuda Fire & Marine Insurance Co., Ltd started to address environmental problems, and as late as recently, employees have become to work with an awareness of the environmental protection. As the highest priority, of course, top management must take the leadership and next employees also must commit to environmental activities within the company, for example, acquisition of ISO.

Employees are also citizens, so when they are awaken to the environment, they practice eco-life in their home. In that sense, it is very important how companies carry forward environmental education of employees.
Basically, each of the employees has to handle things as practical matters. In the case of our company, all employees have not reached at the same awareness level yet, but I think that about half of them have fostered a consensus. If financial institutions awaken to the environment, environmental measures at the business side are likely to advance rapidly.

○ Kokubu
I think that Mr. Seo pointed out the importance of employees' awareness. I myself have discussed with various people from different corporations, and a lot of employees have joined a company as they are environmentally friendly. And if such persons are excellent ones, more environmentally conscious company can recruit qualified staff, so corporate environmental measures will affect a long-term profitability. Then, I would like to ask Mr. Kato.

2.1.5. Environmental measures are not a cost factor.

○ Kato

I would like to focus on one inhibiting factor. It is an "old fashioned" perspective of regarding environmental measures as mere a cost factor. Why I say "old-fashioned" is because I used to take charge of pollution administration and probably the first official for automobile exhaust emission. 35 years ago, when Environment Agency was nowhere to be seen, I was responsible for automobile exhaust gas regulations at pollution department of Health and Welfare Ministry.

The Japanese automobile industry at the time, as typified by Toyota, Nissan or the like is "thin industry" according to Ministry of International Trade and Industry, and I still vividly remember the conversation of those days, "It's ridiculous to call for antipollution measures to such thin industry. What do you think? Are you an antinationalist?"

It means environmental measure is a cost factor, what is even worse, wrong conduct that makes a mess of Japanese economy. Even now, after 35 years of those days, many people consider that environmental measure is mere a cost factor.

On March 29 of this year, President Bush declared that U.S. would withdraw from Kyoto Protocol because global warming measures were against the interest of U.S. It may be impolite to say that President Bush considers environmental measures as mere a cost factor, but I am so shocked at the President's remark.

I've met various people during 8 years' NGO activities and to my regret, when the business becomes dull, many people give up environmental measures for economic reasons.

Whether environmental measures improve the economy or not? It has been much discussed among economists, and also in the recently issued booklet of Environmental Economics Association, leading economists argue over the problem. Maybe Prof. Amano and Prof. Kokubu took part in such discussion. I don't understand technical issues very much, but from about 40 years'

experience in antipollution activity, I never think environmental measures as mere a cost factor. To see the existing Japanese automobile industry, antipollution measures at the time were, without question, proper choice. Environmental capacity has already become full, and nevertheless if company, citizen, country and community, all of them want to maintain the present situation, they mustn't consider environmental measures as mere cost factor.

One problem is lack of information. People who think that environmental measure is mere a cost factor are generally too ignorant about the influences of past environmental activities on macro economy as well as micro economy. So, I would like every company member, from top management to lowly employee, to study the meaning of environmental measures, ecological ethics, environmental loads and so extensively in term of economics and business administration.

In connection with it, NGO can play some roles. In approaching to a company, we are often turned off by saying "You are god of poverty. Don't come in such bad times" and when we ask them to become a member of our NGO, they probably answer that it's impossible in tight economic times. As the phrase goes, poverty dulls the wit. Environmental NGO has considerable wisdom and information and can think up an idea that elite businessmen can hardly imagine. So, companies must think in this way: god of wealth, not god of poverty, comes to us, and we have now a tough time because traditional approaches were wrong, please provide any new idea, we are anxious to be a member to obtain new ideas from you, which elite in our company can hardly imagine. Why do they think so? Why do they send us away as if god of poverty? I think as the proverb says, poverty dulls wit.

The problem lies in the fact that top management loses ethics and there is no taxation system for supporting corporate ethics. It is necessary to apprise top management and companies that practice proper environmental measures on one hand, to punish or impose burdens on companies that generate more environmental loads on the other hand. We should abandon the old-fashioned idea that environmental measure is mere a cost factor in 21st century, or environmental management will not progress smoothly.

○ Kokubu

Finally, Mr. Kato talked about that we shouldn't think environmental measures as a cost factor.

We have come to a very interesting discussion now, and in the interest of time, I would like to focus on some of the points. I would like to ask a question to the panelists and cover two questions to Mr. Yamamoto and one question to Prof. Amano from the floor, and I will present these questions later.

First of all, as Mr. Kato pointed out, environmental measures are considered as a cost factor and companies cannot take any environmental measures because it is expensive,. There are possible two solutions for that.

One is reform of taxation system as Mr. Kato said. Taxation system can provide incentives and disincentives, but in view of today's theme of environmental management we will not discuss them. Another possibility is that we go beyond the taxation system and consider whether the environmental measures are a cost factor or not in the real accounting sense. Mr. Bennett is an authority of the environmental management accounting. From the viewpoint of environmental management accounting, could you comment on whether the environmental measures are a cost factor or not?

○ Bennett

It is not possible to generalize universally and say that environmental measures will always be either a net cost or a net benefit. Some positive actions can clearly create net benefits relatively easily through environmental audits, and there are several cases to evidence this in the areas that we might expect such as resources efficiency. Further net benefits may also be available but be more difficult to prove without some more sophisticated environmental management accounting techniques, such as the re-design of processes and products and perhaps their re-engineering based on a life-cycle analysis. Changes such as these may incur initial costs to achieve them which in conventional accounting have to be written off and therefore reduce profits in the short-term, even though they may lead to increases in value in the longer-term.

After this there may still be actions that a company could take which would improve the environment or society, but which will damage its own results in both the short-term and long-term - in other words, where there is a mismatch between the external costs to environment and society, and the company's own internal costs. Some of these discrepancies may be resolved purely within the market-place in the long-term - for example, market prices of non-renewable natural resources may increase beyond general inflation due to shortages, so that a company which has anticipated this and reduced its dependence will enjoy a competitive advantage over less far-sighted competitors. However in most cases addressing this requires government action, through green taxes or other types of instruments, in order to create a context in which the corporate behavior that is environmentally responsible is also that which is financially profitable - in other words, to "internalize" those costs which are presently only external.

○ Kokubu

Thank you very much on this point. Are there any comments from the panelists at this point?

○ Yamamoto

I become aware of the importance of management concept from what Mr. Kato said. I think, for example, how to improve safety and hygiene of workplace in a company for employees will progress to a broader environmental concept.

As to whether environmental measures are considered as a cost factor or not, environmental measures never generate extra costs on a long-term basis as I mentioned. In the case of Green Purchase Act, however, question of cost-up cannot become a subject of discussion. Without environmental measures, companies cannot operate a business in the market or not qualified for the bid.

Showing an example of the respect for human friendly, in the U.S., Rehabilitation Act mainly for disabled person was established in June. According to the act, unless information equipment manufactures provide products that both disabled person and healthy person working in federal agencies can use in similar way, they are not allowed to tender bids. For

example, we usually open a personal computer with both hands, but potential bidding companies must devise a method of opening it with one hand.

In the process of formation of recycling-oriented society, as companies cannot survive without environmental measures, the measures are not considered as a cost factor. What government can do is the reform of taxation system.

○ Kokubu
Mr. Bennett talked about energy efficiency and reengineering as financial benefits at the short-term to the long-term basis.

Mr. Yamamoto said that this is a matter of the company's survival, and there are some regulations in the background. Mr. Seo, the support from the financial market is also important. What would you recommend?

○ Seo
Some financial institutions become aware of the issues, but no financial institutions actually include environmental measures in conditionality of financing and give preferential treatment. Indeed financial industry is far behind in environmental measures than other industries, but it is going through some changes as mentioned earlier. Some financial institutions endorsed voluntary environmental codes of conduct such as the United Nations Environment Programme (UNEP) Financial Institution Initiative as bank. In this sense, financial institutions no longer implement joint action as in former days, but they still are very sensitive about the movement of peer, so will go forward environmental measures at high speed.

2.2. For the future sustainable management

○ Kokubu
We would like to discuss a little bit more, but in the interest of time, move to another subject.

There are two questions to Mr. Yamamoto's presentation as said earlier and I would like to ask him some questions which can be considered as an extension to the discussion.

To promote environmental management globally, IBM is using a universal united scheme, but each country has its own legal system. Laws in the United States don't apply in Japan though Rehabilitation Act is not necessarily related to environment. Mr. Yamamoto, how are you faced with a legal system in different countries? Do you apply with the most stringent legal requirements in the world? This is the first question.

As another question, IBM handles green procurement, environmental reports, ISO14001, eco-funds and the like, but especially, are eco-funds working as an environmental incentive? If so, I would like you to report the results and specific measures applied by IBM.

○ Yamamoto

I would like to answer to the first question as to how to handle country-by-country legal framework. We set our management standards and regulation values in accordance with the most stringent requirements in laws and regulations in the world as the universal united scheme. The pollution of soil and groundwater is restricted most strictly in Super Fund Act in the U.S. The act provides cleanup liability for pollution as polluter and also as landowner. We establish standards in accordance with the strictest global standards. To cite an instance in Japan, with regard to soil and groundwater pollution, the standards of local government may be stricter than those of national government. Shiga prefecture with Lake Biwa established strict controls over phosphorus earliest in Japan, and therefore IBM has such local standards and national standards as well as company's standards. On average, IBM's corporate standards are stricter than Japanese reference values by about one order.

Next, I would like to answer whether eco-funds are working as an environmental incentive in IBM. As said earlier, in 1967 we declared an environmental policy and since then we have addressed environmental measures taking account of global mechanism and tools, so eco-fund is relatively recent approach. So, at the beginning, we didn't clearly recognize eco-funds as an environmental factor, but it's a fact that we handle eco-funds and environmental rating as supports from market, as mentioned earlier.

○ Kokubu

As for other questions that we couldn't discuss, please refer to Mr. Yamamoto's book, "Environmental Management of IBM".

I would like to request each panelist to give us some final remarks, but before that, there are questions to Mr. Amano which raise a very important problem. I don't mean that each panelist has to answer this, but I think that this is an extremely important issue that we have to continuously think about.

"In Mr. Amano's lecture, there is a report that EMS accreditation or certification companies are not always better in environmental performance compared to other companies, while there is another report that the companies who do well in environmental information disclosure are good in environmental performance. So, introduction of EMS or information disclosure does not necessarily lead to the improvement of actual environmental performance, this is the question. It is pointed out that ISO 14001 or EMS is a management system issue, not performance." This point should be asked directly to Mr. Amano, but in the interest of time and place, I just wanted to raise this question here as the introduction to you.

We would like to invite each panelist to make final remarks. Finally if each panelist would like to add one more with your presentation, we would like to invite you to make final remarks.

○ Bennett

Thank you. I would firstly like again to thank you again for organizing today's symposium, which I have found very impressive as an event and in terms of what has been achieved in a relatively short time.

One final thought - financial people talk in terms of returns and risks, and much of what we have discussed today can be positioned in those terms. The factors which influence business returns and risks - the value drivers - can change over time, and our interest in sustainable management reflects an expectation that one of the main drivers of future value will be environmental and social management and performance. Although the fundamental influences on long-term value drivers may persist over a long period, they are often not generally perceived as such until some incident makes them

generally apparent - for example the Brent Spar controversy in bringing end-of-life disposal issues to the headlines, and Three Mile Island and Chernobyl in making evident the risks that had always been present in the use of nuclear power as a source of energy. In a different context, the events of 11 September dramatically and brutally made evident the risks that had been there for a long time - between the 10 and 12 September there was no significant change in the real underlying risk, but an immense change in perceptions of it.

Even though corporate managements and the public generally may not always be receptive to arguments for sustainable management, this may change suddenly and unpredictably. Our responsibility is both to encourage managements to be more far-sighted and to be able to anticipate rather than merely react to problems, and ourselves to be ready for when events mean that the techniques of sustainability management become generally recognized as important to companies success and therefore in high demand.

○ Kato

I would like to say two matters. As to the question to Prof. Amano stated earlier, because environmental activities such as environmental management, reporting and so on have just started, findings are sometimes positive and sometimes negative. However, companies which properly perform environmental reporting will certainly improve environmental performance, after building up their experience more 3 to 5 years. So, in my interpretation, findings vary from case to case for no other reason but lack of experience.

In addition, today we have discussed environmental management, but I hope that the term "environmental management" will disappear soon. Desirably, all management becomes environmental management, and it means that management as discussed in this symposium will be achieved and the term "environmental management" will disappear. Unless all of large, small and medium-sized companies perform environmental management without delay, global environment will be actually destructed. If so, economy and management will be all screwed up, so paradoxically speaking, I hope that the term "environmental management" will disappear soon.

○ Lee

Just my final point is to how to cooperate with each other in terms of global or regional countries. I would like to invite you to a meeting next year in Seoul or some other some city in Korea, so please give me some help based on the experience of this kind of organizing. Exactly one year later, I'd like to hold this kind of symposium or workshop in Korea. Thank you very much.

○ Seo

Firstly, I would like to talk about sustainable management which mentioned by Prof. Kokubu from the viewpoint of environmental department of corporation. Corporations tend to be assessed environmentally as well as socially, so I realize that companies must address social aspect in addition to environmental measures in the future.

In addressing social matters, the key point is that personnel or other departments have to cope with them precisely and disclose information, so one more task is required to bring together these activities. Engagement of top management will become increasingly important. Now we must fully recognize that companies are assessed environmentally as well as socially and have to meet with each requirement.

○ Yamamoto

To add one with my presentation, I agree to Mr. Lee's opinion that for example academians of Japan and Korea should exchange and share information on environmental management tools and sustainable management for small and medium-sized companies more actively.

When we produce products in China, Thailand or so on, it is also important to request to or consult with the government of the partner country and do information exchange. Probably information such as purpose of legal revision in Japan is exchanged between both governments. Globalization of environmental issues is rapidly progressing, however, so we must direct our attention to also foreign countries. In order to exchange information with foreign countries, especially Southeast Asian countries neighboring to Japan more often, interchanges among academians and government-to-government approach are required. I hope to help positively such exchanges as a person from a company, if necessary.

○ Kokubu

Thank you very much.

Environment management and environmental accounting mainly in the Asia-Pacific regions are going to be more discussed in tomorrow's workshop, wherein EMAN-AP will be established. We invite the government people, company people, academians and visitors as well to have a place where much discussion can be conducted.

In Europe, there is a network known as EMAN-Europe being initiated by Mr. Bennett. Would you please give us announcements regarding the next conference, Mr. Bennett?

○ Bennett

Thanks - yes, I should like to mention again that the next EMAN-Europe conference will be on 11-12 February in the U.K. The main theme is "Environmental Management Accounting and Governmental Policy", although papers are welcome on other topics too. I look forward to seeing again at the conference as many of you as possible who are able to join us there. Thank you.

○ Kokubu

Thank you very much. In Europe and Japan, there is going to be continuous discussion regarding environmental management and this is actually the end of the panel discussion. Thank you very much for your active discussion.

Institute for Global Environmental Strategies(IGES)

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