

Executive Summary

This year's annual report analyzes what sustainability is and what well-being is, and discusses about wisdom, rules and actions for coexisting with the Earth. We believe that this report provides an important answer to the question of how we can achieve sustainability of the Earth beyond the conflicts between individual countries. And in this report, we also show an important direction of what role Japan has to play in this time.

◇ In ancient times, the global environmental impact caused by human activities might not exceed the capacity of natural process called regeneration and self-purification. We can assume that it was a "primitive sustainable society." In this "primitive sustainable society," human impact were enough small within the environmental capacity, with various forms of wisdom, including local knowledge, traditional rules and religious taboos even though these were unscientific.

As the time passed, humans have overcome the various problems for social and economic development through the progress in technology and systems. However, the technological and systematic changes were so tremendous that humans could not accumulate and utilize the wisdom for achieving environmental sustainability. For instance, the industrial revolution has introduced mass production and mass consumption due to mass wasting, leading to a new problem.

In a modern society, mainly in developed nations, there has been a remarkable increase of economic wealth and more people are materially satisfied, while economic inequality are growing and quite a few people struggle with poverty. From the global perspective, we can not achieve wisdom or moral standard for sustainability, therefore human activities are unsustainable.

Without preserving natural resources and energy, and without putting them stably into economic and social activities, the economy and society can not be stabilized, and human can not achieved social, economic and environmental sustainability. Therefore it is the task for all humans to use natural resources and energy efficiently, conserving the Earth's environment within the capacity of the Earth's regeneration and self-purification.

Under such circumstances, global concerns are about the issue that the limited resources and energy might not be able to support human life and economic activities because of rapid growth of world population.

As seen above, in ancient times, human impact to the Earth was within environmental capacity. However, from the view point of modern society, especially for the people of developed nations, the "primitive sustainable society" might be considered inconvenient and disadvan-

tageous. We feel yearning for returning to such a sustainable society, but at the same time, we disappointingly know the difficulty to find the pass to follow, the strategies to launch, or the rules to adopt, because of the gap between the primitive society and modern society.

Feeling such stagnation, people seem to seek hints for changing the current situation by applying past times to modern times. They try to analyze human history through which human has straggled and overcome numerous difficulties. Recent best-selling books shows the trend that people tend to read books about the human history of long time scale: thousands to tens of thousands years.

◇ What should we do in order to get rid of unsustainable development and to achieve the sustainability?

Firstly, we should understand the capacity of the Earth. Secondary, we should accumulate the knowledge of the ecosystems. And then, we should integrate the human wisdoms.

We would face depletion of resources and energy at a speed and on a scale that we have not ever experienced, because the environmental impact caused by human activities is much larger than nature's regeneration and self-purification.

The ecosystem services support our human lives. It is also important for wildlife to preserve wide range of habitats and connectivity of the ecosystems; wild animals migrate beyond national borders and regardless of administrative boundaries. The original functions of the ecosystems are given only if enough range of habitats and connectivity of the ecosystems are preserved. However, serious fragmentation of ecosystems caused by human activities has been reported in all around the world. It is necessary to establish regional and global cooperation and to set targets for achieving sustainability.

We need to integrate the wisdom of the world. For this purpose, various efforts are taken to develop better indicators for measuring sustainability or human well-being, adding orthodox indicators for measuring economic growth like GDP. Then we must establish rules and take actions as quickly as possible with scientific certainty. These efforts lead to improve indicators for measuring sustainability or happiness of people, with which we can evaluate human from various perspectives, despite using a single standard.

◇ We need fair rules and effective actions which based on scientific knowledge as soon as possible. However, there are significant gaps between developed countries, which have already obtained the fruits of economic development, and developing countries, which

assert the right to obtain the same fruits. In addition, the strong market mechanism sometimes causes undesirable choices from a long-term perspective or ethical values. These are the obstacle for establishing international rules.

Action should be with wisdom, thus rules are necessary. Every stakeholder should follow the rules, and free riders are not to be allowed. We should establish such global system.

In that sense, we could obtain the significant results in the COP10 of the Convention on Biological Diversity that was held in October 2010 in Nagoya. Individual countries overcame differences of viewpoints in access to genetic resources and sharing of their benefits, and took a step forward, despite the worries about coming to close without agreement during the negotiation. It was particularly notable that the proposal by the president of the COP10, Minister of the Environment Matsumoto, played an important role toward agreement.

◇ Japan has the highest life expectancy in the world, which might be the ideal for many countries. Japan has also one of the lowest birth rates and highest aging rates in the world. These facts show that Japanese society as a whole should be toward a mature stage. The mature stage does not mean the road to social and economic stagnation, but growth and development. If so, what is the growth and development in the mature society?

Nobody would doubt that clean environment is one of the most important essences of modern quality of life even though happiness and well-being are different by individuals, by regions and by countries. This report tries to show that clean environment plays an extremely large role for achieving well-being, and that we can achieve fulfillment and spend peaceful time through daily activities and amenity that contribute to keep the environment clean. In other words, human well-being or happiness depends on how individuals can spend peaceful time and full lives in clean environment.

◇ Through the discussion about the Earth's sustainability for handing over human well-being to the future as long as possible, we found the difficulty such as international concern about current conflicts over limited resources.

However, we found one piece of good news lying right under our feet. In Japan, there are signs towards society of dematerialization that does not excessively rely on limited resources. The data of recent material flow in Japan shows that the amount of natural resource is declining. Cyclical use of resources is also advancing. In degree of contribution to GDP growth, the service industries have surpassed the durable and non-durable goods industries that rely on many materials.

These trends of improving resource productivity should be further promoted, and suggest that it is possible to change the industrial structure without

economic impact, setting aside the evaluation of the change itself.

In this regard, Japan's developed technologies and systems would contribute to achieving the Earth's sustainability through replacing old technologies and systems on a global scale, with which energy and resource efficiency will be improved and impact on the environment will be lower. For this purpose, the government should also make its utmost efforts. We believe that it will benefit not only Japan itself, but also humans and the Earth.

Japan has one more competitive edge. It is the Japanese ethical viewpoint to nature. Up to today, economic and social activities tend to follow the direction of developed countries especially in Western, which seems to be based on the viewpoint of nature as object to conquer. On the other hand, Japanese traditionally think nature being coexisting with human. We believe this ethical sense lead to success of COP10 and has enough power to gain the support of international society.

The time has come to integrate our wisdom, launch the rules and take actions for achieving coexistence with the Earth.

◇ On March 11, 2011 Japan was struck by an massive earthquake and tsunami. The Tohoku and Kanto regions suffered enormous damages beyond description.

Local society has been destroyed by the power of nature, though they had always respected nature's blessings. A nuclear power plant that was built with sophisticated technologies also faced a serious accident and caused significant environmental damages.

"Even so, the sea is my life." This is the word of fishermen who suffer from the disaster. We must live together with the nature that blesses human beings but also occasionally bares its fangs. Now the wisdom is needed strongly.

The hearts of people around the world have deeply been moved, because people helped each other and did everything they can to survive in the disaster areas. Japanese were also moved by the warm support by countries around the globe. The profound sorrow and courage of the people affected by the disaster may have brought together the hearts of people who had tended to be separated in modern society. The feelings for people facing hardship generated various forms of support and also momentum for people to cooperate with conserving electricity despite inconvenience themselves.

It will be our national commitment to achieve the restoration and the recovery from this massive disaster. There are also voices raised saying such efforts should make a good start for finding a new form for Japan. Throughout the history of Japan we have faced giant disasters, but each time we stood up and created an better life. We must also stand up from this great disaster again and pass our life on to the future. The disaster areas will recover through people's cohesion and

wisdom, and we will rebuild the regions that are safe, secure and sustainable in the future. That could also be the first step for Japan to a sustainable society and

coexistence with nature.

Now Japan must take up the challenge and prove ourselves.