



Secretariat of the Convention on Biological Diversity



**Statement by the Executive Secretary
Mr. Ahmed Djoghla**

on
“Biological Diversity, Well-being and Sustainable Society”

at the
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Ladies and Gentlemen,

As the Japanese proverb goes *Tsuru wa sennen, kame wa mannen* (tsu-ru wah sen-nen, ka-may wah man-nen), “Cranes live one thousand years, turtles live for 10 thousand year”, I would like to add that although human beings may only live a 100 years, the prosperity of humans is passed on from generation to generation, like thousands of years in the lives of Tsuru or Kame.

Another one goes *Mitsu tubu ni tane*, as I learned that the ancient Japanese farmers were disciplined to sow three seeds at every single planting; one is for a bird in the sky, one is for a worm in the ground, and the last one is for humans to harvest.

These two proverbs from our host, Japan, illustrate the challenges of “Global Ecosystems and Human Well-being”, which is the theme of this afternoon session.

Allow me therefore to congratulate Professor Ichiro Kanazawa, the President of the Science Council of Japan, for the unique contribution made during the last five years by the International Conference on Science and Technology for Sustainability and for the theme selected for this year’s sixth edition. I also would like to convey to him my deep gratitude for the honour bestowed on me to address this prestigious gathering on a theme which is at the heart of the operations of the United Nations Convention on Biological Diversity. Indeed, each of the last five conference themes is an area that both influence and is influenced by the conservation of biodiversity: Energy; Asian Megacities; Dynamism in Asia; Global Innovation Ecosystem; and International Cooperation for Development. I thank you for your important work. Domo arigato.

Indeed, more than ever before, human-beings are confronted with the unprecedented challenge of redefining our relation with Nature and living in harmony with Nature. This is what the United Nations Convention for Life on Earth is about.

Biological diversity is the result of billions of years of complex evolution, shaped by natural processes. It comprises the totality and variety of life forms on Earth. It forms the web of life of which we are an integral part and upon which we so fully depend. Ecosystems provide the essential requirements for life. They underpin human well-being which is defined by the *Oxford Dictionary* as good health, happiness, and prosperity - none of which would be possible without biological diversity.

Nature has been shaping this planet so much longer than humans have. We, human beings, are only one among millions of species. Together we make up the delicately balanced system we call Earth. This balance depends on the interaction between humans and Nature. Unfortunately, we humans are over-stepping these critical boundaries by over-using and abusing Nature. Now, this delicate balance is under threat, thus jeopardizing the very existence of life on Earth and the very existence of mankind. As Holmes Rolston III, father of environmental ethics, declared, “there is something ungodly about an ethic by which the late-coming *Homo sapiens* arrogantly regards the welfare of one’s own species as absolute, with the welfare of all the other five million species sacrificed to that.”

During the past 50 years, humans have altered ecosystems more rapidly and extensively than in any other period in human history. Pressure from human activities on the natural functioning of the planet has reached such an extent that the ability of ecosystems to meet the needs of future generations is now seriously—perhaps irreversibly—jeopardized. The findings of the Millennium Ecosystem Assessment—a study conducted over four years by more than 1,395 experts from over 95 countries—demonstrates that some 60 per cent of the ecosystem services are being degraded as a result of human activity.

Since the end of the Second World War, more land has been converted to agricultural use than in the two previous centuries. Never since human beings first appeared on Earth has anthropogenic change to our planet’s natural functioning been as destructive as it has been over the last half-century, resulting in an unparalleled extinction of biodiversity on Earth. Over the past hundred years, humans have increased species-extinction rates by as much as 1,000 times. Twenty per cent of known bird species have already disappeared. Forty-one per cent of mammals are in decline and 28 per cent are under direct threat. Until recently, forests covered 47 per cent of the Earth’s land surface. Since then, they have totally disappeared in 25 countries and, in a further 29 countries, 90 per cent of forest cover has been lost.

Last May, WWF released its Living Planet Index, a unique measure of the state of the world's biodiversity. It tracks nearly 4,000 animal populations and shows a frightening overall decline of 27 per cent. It shows also that populations of tropical terrestrial species appear to have declined by 46 per cent. Indeed, 80 per cent of the biodiversity of our planet is located in tropical forests and yet 13 million hectares of forest are lost every year.

Furthermore, WWF Living Planet Report confirms that we are using the planet's resources faster than they can be renewed. The latest data available indicates that humanity's ecological footprint, our impact upon the planet, has more than tripled since 1961. Our footprint now exceeds the world's ability to regenerate by about 25 percent. Humankind is now consuming more natural resources than can be naturally replaced. In short, we are living beyond the means and capacities of our planet.

While, on average, half-a-hectare of productive ecosystems is necessary to sustain the needs of a resident of a developing country, more than five hectares are needed to satisfy the ever-growing consumption requirements of citizens of the world's richest countries. This sobering statement has been confirmed by the fourth edition of the Global Environmental Outlook (GEO4), recently released by the United Nations Environment Programme (UNEP). It demonstrates that "Humanity's footprint is 21.9 hectares per person while the Earth's biological capacity is, on average, only 15.7 hectares per person."

Yet despite this clear over-use and our understanding of minimum requirements, over the last fifty years, two thirds of croplands have been degraded. At the international conference EUROSOL 2008, held last month in Vienna, it was stated that an area of about the size of a village of soil disappears every day in Europe. In Austria, about 12 to 15 hectares of agricultural land are being erased from the map every day. At the same time, 20 to 25 per cent of the bread produced in Vienna is thrown in the garbage. This corresponds to the total bread consumption of Graz, the second largest city of Austria. Every day, Germany transforms about 110 to 120 hectares of land into streets, houses and other buildings. In France, every year 60,000 hectares of agricultural land are lost owing to urbanization. Meanwhile, the need for agricultural soil is increasing due to the rising population by about 85 million annually. As the Food and Agriculture Organization of the United Nations (FAO) has pointed out on a number of occasions, in 2050 the world will have to feed 9 billion people, which represents an increase of 50 per cent over today's global population.

Indeed, we human beings are faced with the unprecedented challenge of feeding a growing human population in a more and more urbanized world and in a warmer planet. According to the Intergovernmental Panel on Climate Change (IPCC), up to 30 per cent of all known species may disappear before the end of this century owing to climate change. Indeed, climate change has become one of the root causes of the loss of biodiversity.

It is for this reason that, at the Arthur M. Sackler Colloquia of the National Academy of Sciences of the United States of America, held last month, two biologists of the University of Stanford in California have argued that humanity is in the midst of the sixth global extinction of species. They stated that "the future of biodiversity for the 10 million of years to come will be determined in the fifty to one hundred years to come by the activities of one single specie: *Homo sapiens*".

The unprecedented loss of biodiversity has also tremendous financial implications. Indeed, the cost of these losses has been evaluated by the lead author of the study *The Economics of Ecosystems and Biodiversity*, Mr. Pavan Sukhdev, at 3.1 trillion dollars a year, or 6 per cent of overall gross national product. The loss of biodiversity is also contributing to aggravating poverty in the world. In fact, the world's poor, particularly in rural areas, depend on biological resources for as much as 90 per cent of their needs. Worldwide, forests provide an estimated 1.6 billion people with everyday necessities. In low-income countries where natural capital accounts for 26 per cent of their wealth, the loss of species represents a loss of livelihoods. Indeed, as Dr. Gro Harlem Brundtland pointed out: "You cannot tackle hunger, disease, and poverty unless you can also provide people with a healthy ecosystem in which their economies can grow."

Unfortunately, the latest report from the World Bank said that more people were living in extreme poverty in developing countries than previously thought. The report reminds us that 1.4 billion people, a quarter of the developing world, are living in extreme poverty. Indeed, half of the people in Sub-Saharan

Africa were living below the poverty line in 2005, the same proportion as in 1981. With the intervening population growth, it means that about 380 million people lived under the poverty line in 2005 compared to 200 million in 1981. Overall, numbers are worsening rather than improving.

While there are many reasons for this, the two biologists from Stanford University highlight that “the idea that the economic growth is delinked from the health of our planet and that mankind can expand the world economy for ever is a dangerous illusion”.

This dangerous illusion is at the origin of the unprecedented loss of biodiversity. Therefore, the current biodiversity crisis is a societal crisis. The biodiversity loss is not only a scientific question, but also a question of changing the way we live. It calls for a paradigm shift in our relation with Nature and the acknowledgment that natural resources are not infinite. We need to be guided and inspired by the wisdom of the indigenous people of North America: “Treat the Earth well: it was not given to you by your parents, it was loaned to you by your children”. Indeed, “we do not inherit the Earth from our ancestors, we borrow it from our children”.

The attention given by Japan to children and their exposure to Nature is integral to the country’s deeply rooted ties to the land. Japan’s Third National Report on the implementation of the Convention on Biological Diversity provides that urban areas should be “dotted with smaller nature spots that allow children to play on the soil and touch living things.” This is a very unique consideration, not yet articulated in any other national report. The relation between man and Nature is part of the Japanese identity and culture: captured on canvas by famous artists such as Gyokudo Kawai; immortalized in poems by writers such as Kenji Miyazawa and Godo Nakanishi, just to name a few. Indeed, Japan’s Third National Reports calls biodiversity a “fountain of rich culture that fills Japanese hearts and spirits”. The Japanese tradition of Satoyama epitomizes how man and Nature can develop a successful symbiotic relationship.

As one of the most advanced technological society, which has embraced the Grand Design of the green economy of tomorrow based on its ancestral value and on the relation of its People with Nature, Japan has such much to offer.

The principles of Satoyama, developed centuries ago by the People of Japan, are clear example of how humans can live in harmony with Nature and how maintaining the well-being of an ecosystem, which directly contributes to the well-being of humans. Through its unique blend of human settlement and diverse ecosystems, including forests, wetlands, farmlands and grasslands, Satoyama has provided the basic necessities to local communities throughout time.

We have so much to learn from the Satoyama approach, as well as the *mottainai* value and the wisdom of Jinnosuke Uotsuka that is reflected in his book “Japanese that don’t let their food rot in the refrigerator”.

The former Prime Minister of Japan, HEM Yasuo Fukuda, stated: “At the source of Japanese culture lies the idea of coexistence with Nature. In the process of economic growth we once did suffer from environmental degradation. Yet, by learning from our mistakes, we succeeded in building one of the foremost economies in the world under the banner of environmental harmony.” HEM Fukuda finished by saying that, “The spirit of *mottainai* will certainly serve as a keyword in low-carbon societies to come.” This is also true for achieving the three objectives of the Convention and ensuring well-being and sustainable society.

Enhancing our knowledge of Nature

We alter the land and ocean a little more each day to satisfy our needs, disrupting the fragile balance that Nature has created and destroying the very resources that maintain life, our life on Earth. Even more disconcerting is the fact that we do this without truly knowing its impact. As stated by Holmes Rolston III “Destroying species is like tearing pages out of an unread book, written in a language humans hardly know how to read, about the place where they live.” In spite of unprecedented scientific discoveries and technological advances, we human beings still have much to learn from Nature. Recent observations have revealed intricate linkages within ecosystems that we did not anticipate.

In some areas, large-shark populations have declined by up to ninety-nine per cent. As a result, the population of their prey is expanding dramatically, which in turn results in a depletion of populations lower on the food chain. Carnivorous groupers feed on algae-grazing parrotfish. With fewer parrotfish, algae growth is increasing the stress on coral reefs. Indeed, sharks are an essential element for the health of coral ecosystems.

In a similar vein, the loss of 73 million sharks is not only affecting coral ecosystems, but is also leading to the devastation of shellfish populations, which play a major role in water filtration by reducing sediments and improving water quality. The rapid decline of large sharks in the world's oceans is leading to an increase in the number of shellfish predators, thus disrupting marine ecosystems as a whole.

In Kenya, fences were erected around acacia trees to keep away giraffes and elephants, in the belief that this would allow the trees to thrive. This severed a vital symbiotic relationship. Without herbivores, the trees produce fewer thorns. With fewer thorns and less sap, ants move on to other trees, giving way to wood-boring beetles that invade the tree. Instead of protecting the acacia trees, the fences isolated them from nature, increasing their vulnerability. As Albert Einstein pointed out, "We still do not know one thousandth of one per cent of what nature has revealed to us." Thus, the need for continued scientific enquiry is clear.

Mobilizing Science and Technology

There is an intrinsic link between the health of our planet and human health. Nature holds many secrets of great value to human health. Currently about 80 per cent of people in developing countries rely on traditional medicines. Their knowledge of how to locate and use these remedies has been developed over hundreds of years and is the key to unlocking many natural mysteries. Moreover, 80 per cent of new chemicals introduced globally in 2002-2003 as medical drugs could be traced to, or were inspired by, natural products. However, as the plants species disappear, so does this vital information.

Last April, two Harvard Medical School physicians, Eric Chivian and Aaron Bernstein, completed a book called "Sustaining Life". They highlight how much the natural world has to offer to the advancement of medicine. Yet, at the same time, they remind us that as species are lost, so too are remedies for many of the ills that ail us. They illustrated the case of southern gastric brooding frog (*Rheobatrachus*), which was discovered in undisturbed rainforests of Australia in the 1980s.

The frogs raise their young in the female's stomach where they would, in other animals, be digested by enzymes and acid. Preliminary studies indicated that the baby frogs produced a substance, or perhaps a variety of substances, that inhibited acid and enzyme secretions and prevented the mother from emptying her stomach into her intestines while the young were developing.

The authors point out that the research on gastric brooding frogs could have led to new insights into preventing and treating human peptic ulcers, which affect some 25 million people in the United States alone. "But these studies could not be continued because both species of *Rheobatrachus* became extinct, and the valuable medical secrets they held are now gone forever", say Eric Chivian and Aaron Bernstein. We are undermining our own well-being.

However, Nature not only holds secrets, it also inspires technology.

Inspired by the structure of the lotus leaf, renowned for its ability to stay clean in a polluted environment, scientists at the Nees-Institut for Plant Biodiversity at the University of Bonn have created a "self-cleaning" paint. "Structure R" or "R-MnO₂" is being tested at the University of Tokyo and may in the near future produce artificial photosynthesis providing almost the same carbon dioxide absorptive capacity as natural forests. In Boston, at the Massachusetts Institute of Technology, paint that can kill influenza viruses and wipe out 99 per cent of bacteria is being tested and could be used very soon in the hospitals. The same institute, in collaboration with the University of Hong Kong, has developed a Nanoliquid that in just fifteen seconds can stop a cerebral hemorrhage and spinal injury. Researchers in Hong Kong have developed micro-wind turbines that generate electricity at wind speeds as low as 2 metres per second. In Milan, tests have been conducted on paint to be used in buildings to soak up to 60 per cent of some of the most noxious gases for vehicle exhausts. "Ecopaint" will be on the European market very

soon. In Milan also, cement that can reduce up to 50 per cent of pollution has been tested. The industrial scale production and marketing of TX active has already started. Last year in Vancouver, at the 2007 Conference on Hydrogen and Fuel Cells, experts predicted that hydrogen-fuel cars can be in dealer showrooms by 2015. In the forests of Borneo, WWF is using videotaping to identify new species. In Toronto, an international consortium was launched involving more than 250 researchers from 21 countries with the goal of initiating an unprecedented worldwide species identification process using DNA “bar-coding” to catalogue 500,000 species within five years. In India, a private company delivered to the Government an early warning system with a drilling capacity of 3,500 meters, which will provide early warning for future tsunamis and thereby could help save tens of thousands of human lives and billions of dollars in damage.

These are some of the examples of the fantastic power of science, innovation and technology at the service of human well-being, living in harmony with Nature. Technological innovation prompted the industrial revolution, as well as the revolution of the information technology. Today, scientific and technological innovations are required to promote the adaptation revolution to sustainable development, particularly in this era of an unprecedented loss of biodiversity compounded by climate change. Promoting technical and scientific cooperation is one of the objectives of the United Nations Convention on Biological Diversity.

The role of United Nations Convention on Biological Diversity

Opened for signature at the Earth Summit in Rio de Janeiro in 1992, the United Nations Convention on Biological Diversity is a unique international legally-binding instrument with the following three mutually supportive objectives: the conservation, the sustainable use and the fair and equitable sharing of benefits arising from the use of genetic resources. It is one of the three Rio Conventions translating in legal terms the sustainable development agenda and the agreement reached at the Rio de Janeiro Summit. With 191 Parties, the Convention on Biological Diversity has near-universal participation among countries committed to preserving life on Earth. Iraq will soon become the 192nd Party. We sincerely hope that the United States of America will be able to join the biodiversity family in Nagoya in 2010.

The Convention on Biological Diversity provides the framework to protect the very foundations of our well-being: biological diversity. As such, the Convention for Life on Earth is a valuable guide for achieving sustainable well-being. If we can use natural resources in a less destructive and wasteful manner and become less demanding on our finite planet, then there is hope that our children and grandchildren can enjoy the quality of life that so many of us enjoy today. Moreover, this would enable the millions who live below the poverty line now to improve their standards of living. Over the past year, the world has shown a renewed determination to achieving the goals of the Convention on Biological Diversity.

In May 2008 in Bonn, at the ninth meeting of the Conference of the Parties to the Convention on Biological Diversity, a new global alliance for life on Earth was born. The 5000 participants, including Heads of State and Governments and more than 127 Ministers, adopted the Bonn Biodiversity Compact aimed at enhancing the implementation of the Heads of States’ commitment taken at the World Summit on Sustainable Development to reduce the loss of biodiversity by 2010. They also adopted the Bonn Mandate to finalize and adopt by 2010 the international regime on access and benefit-sharing, which will operationalize the third objective of the Convention.

In my message to the Ministers of the Environment participating in the G8 Summit held in Kobe, last May, I stated that “Japan Biodiversity Strategy calls for a “Grand Design” based on adaptive management, the precautionary approach and the full engagement of society. All three are elements of the ecosystem approach adopted under the Convention on Biological Diversity. We need such a “Grand Design” also at the global level. This will require a Global Alliance for protecting life on Earth. It will require a renewed international cooperation. The 2010 Potsdam Initiative is a major step in the right direction. The G8+5+3 is also another significant step in the right direction. This “Grand Design” for protecting Life on Earth cannot be achieved with the full engagement of all stakeholders including the business community, indigenous and local communities, non-governmental organizations, the scientific community, parliamentarians, local authorities, women and youth.

Last May, HEM Yasuo Fukuda stated that, “It is important for each country to address sincerely what they are able to do and what they should do toward the achievement of the biodiversity 2010 target and additional targets, by collaborating with other countries, international organizations, NGOs and so forth. Japan is determined, in Asia and in the international community, to actively contribute to such activities and make further efforts toward the conservation and sustainable use of biodiversity as a potential host of COP-10.” With this kind of foresight and leadership, it is no surprise that the 5000 participants in the ninth meeting of the Conference of the Parties endorsed Japan’s offer to host the Nagoya Summit in October 2010.

However, as Holmes Rolston III highlights, “Sometimes it turns out that humans are not really winning if they are sacrificing the nature that is their life support system.” The objectives of the Convention will only be achieved when the value of biodiversity, including its non-monetary components and the ecosystem services generated, is well understood by the public and fully integrated into decision making at all levels. This necessitates the engagement of all stakeholders – something that Germany, Japan, and indeed the Secretariat of the Convention, has been working towards.

I would like to pay tribute to Japan for playing a leadership role for the adoption of the Kobe Call for Action on Biodiversity adopted by the G8 Summit, held in Hokkaido in July 2008. Japan has ensured that biodiversity remains a central issue on the agenda of the world’s leaders, while at the same time contributing to the achievement of the 2010 Biodiversity Targets and related Millennium Development Goals. Indeed, achieving the Kobe Call for Action on Biodiversity is essential for the success of the 2010 Nagoya Biodiversity Summit. Its implementation calls for strength of purpose, with a sense of leadership.

2010 will be a year of great importance for global biodiversity and indeed the world as a whole. The world will gather in Nagoya, Aichi Prefecture, for the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity. The world will celebrate the International Year of Biodiversity under the theme “Biodiversity for Development and Poverty Alleviation”. We will evaluate the success of the 2010 Biodiversity Target – to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth. We will hopefully launch an international regime on access and benefit-sharing. Truly a tremendous year awaits.

As Aldo Leopold, considered to be one of the founding fathers of environmental ethics and conservation in the United States, pointed out “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

Conclusion

The Rio Declaration adopted at the Rio Summit provides that “In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.” As Kenji Miyazawa wrote, “You must step forward from consuming the powers of Nature; you should seek to develop Nature.”

Our lives and livelihoods depend on us and the development of a new relationship with Nature, or indeed re-learning an old one, so that we can maintain our well-being and grow in a sustainable manner, rather than at the expense of Nature.

Only when the well-being of all species is seriously considered and incorporated into scientific, political, and economic considerations, will we achieve sustainable well-being on Earth.

I thank you for your kind attention.
