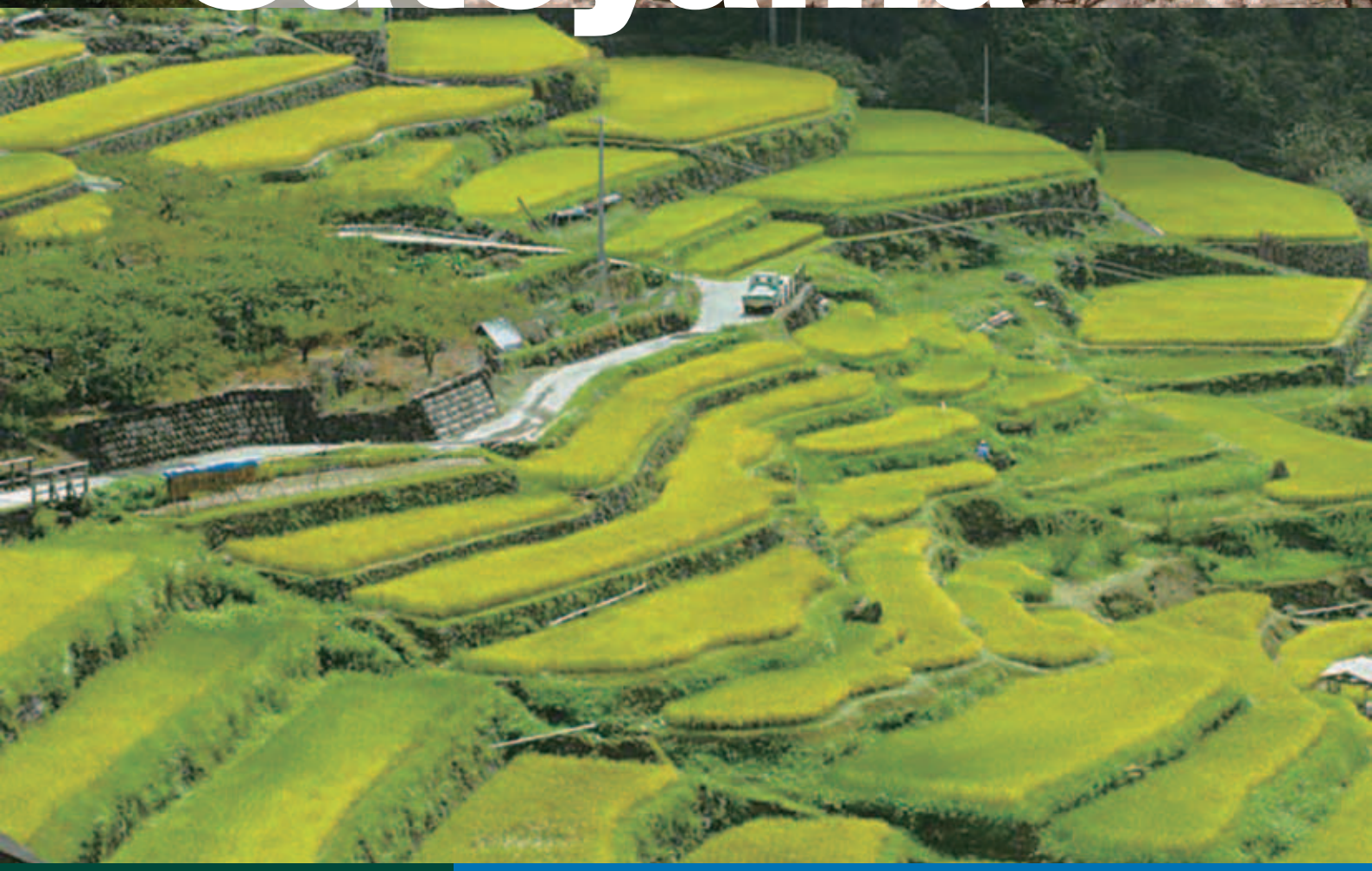
Satoyama



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Satoyama

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Ahmed Djoghlaf, *Executive Secretary, Convention on Biological Diversity*

Nature is talking and it is time we listen

In what seems to be a particularly cruel twist of fate, 2010, the year declared by the United Nations as the International Year of Biodiversity, will also be remembered as a year in which millions of people suffered their worst environmental disaster. Virtually every continent has been affected. From drought and famine in the Sahel and the Horn of Africa, to the warmest summer in 1000 years in Russian history; from the worst floods in 80 years in Pakistan to mudslides in China; and, in the Gulf of Mexico, possibly the worst environmental disaster in the history of the United States. As Victor Hugo stated, "Nature is talking and we have failed to listen". Nature *is* talking, now it is time that we listen—and act accordingly.

The third edition of the United Nations Convention on Biological Diversity's (CBD) *Global Biodiversity Outlook* (GBO-3) shows that today we humans continue to drive species extinct at an unprecedented rate. This comprehensive report on the status of biodiversity in 2010, based on 120 national reports submitted by Parties, demonstrates that biodiversity continues to disappear at an unprecedented rate – up to 1,000 times the natural background rate of extinction. The report further warns that irreparable degradation may take place if ecosystems are pushed beyond certain tipping points, leading to the widespread and irreversible loss of biological goods and ecosystem services that we greatly depend on for our health and wellbeing.

We human beings are now jeopardizing life on Earth. We are also jeopardizing our own existence. The GBO-3 predicts that if current trends are allowed to continue, we shall soon reach tipping points where irreversible and irreparable damage will be done, thus reducing the capacity of the planet to continue sustaining life. Scientists at Stanford University warn that the status of biodiversity on our planet, for millions of years to come, will be determined over the next few decades. As the Secretary-General of the United Nations, Mr. Ban Ki-moon stated, postponing action is no longer an option for humanity.

If each of us has a responsibility to shoulder the burden and to play a role in halting this loss, heads of State and government have a moral and ethical responsibility, and must assume a leadership role. On 22 September a unique opportunity is being provided by the supreme organ of the United Nations, the General Assembly, to the 192 leaders of the world to guide by example and provide leadership for shaping and implementing the new biodiversity vision of the 21st century. The High-Level Event of the 65th session of the UNGA exclusively devoted to biodiversity is a historical opportunity. The discussions by world leaders on the 2050 biodiversity vision and its 2020 biodiversity target will be submitted by the President of the UNGA, HEM Joseph Deiss, to the High-Level Segment of the 10th Conference of the Parties to be held in Nagoya, Aichi Prefecture, Japan.

The 193 Parties to the Convention and their partners will adopt the Aichi Nagoya strategic plan of the Convention which will be the unifying framework and the coordinated response of the family of the peoples of the world for the next decade to meet the unprecedented challenges of the loss of biodiversity compounded by climate change. The new biodiversity strategy also calls for a new approach. It calls for active engagement of all stakeholders without any exception. The Japanese poet Ryunosuke Satoro said, "Individually we are one drop. Together we are an ocean."

The new biodiversity strategy also requires the establishment of a new relationship between man and nature, one that is founded on conservation, sustainability and equity, the three principles of the Convention on Biological Diversity. Achievement of equity will be realize through the adoption of the Aichi Nagoya Protocol on Access and Benefit-Sharing, which promises to become the most important environment treaty in the history of multilateral cooperation for the environment.

To celebrate the dawn of a new era of living in harmony with nature into the future, the slogan of the Nagoya Biodiversity Summit, the CBD Flagship magazine has a new name, *Satoyama*. In our collective journey from Curitiba to Bonn, and from Bonn to Nagoya, the issues of *Gincana* magazine have fulfilled their mission of providing a platform for the voices of heads of State, ministers and other senior officials and their partners on biodiversity. During the four years of its existence and through its seven editions, the *Gincana* magazine benefitted from the contribution of six royal dignitaries, 26 heads of State and government, 15 ministers, five mayors, 24 partners and 10 heads of UN agencies. In the years to come, the *Satoyama* magazine will continue to provide a similar platform at the service of the implementation of the Aichi Nagoya biodiversity compact.

It is also a tribute to the people, governments and local authorities of Japan in demonstrating that economy and ecology, modernity and tradition, are mutually supportive. The character w 和 (pronounced as "wa") means "harmony" in Japanese and Chinese. Indeed, sustainable development, including the sustainable use of biodiversity is the new name of the Satoyama type of the world, a culture of living in harmony with nature into the future.

Ban Ki-moon, *Secretary-General, United Nations*

Time to recognize the true value of species and habitats

The planet's species and habitats, and the goods and services they provide, form the basis of our wealth, our health and our well-being. Yet, despite repeated global commitments to protect this heritage, the variety of life on Earth continues to decline at an unprecedented rate. Biodiversity loss is moving ecological systems ever closer to a tipping point beyond which they will no longer be able to fulfill their vital functions.

Communities everywhere will reap the negative consequences, but the poorest people and the most vulnerable countries will suffer most. Seventy per cent of the world's poor live in rural areas, and depend directly on biodiversity for their daily sustenance and income. This is among the reasons why the target set by world leaders in 2002 – to substantially reduce biodiversity loss by 2010 – was integrated into the Millennium Development Goals.

The deadline has arrived, yet the deterioration of our natural resources continues apace. To refocus attention on this challenge, the United Nations General Assembly declared 2010 as the International Year of Biodiversity. Later this year, the Assembly will hold a special high-level meeting, back-to-back with the September MDG Summit, to provide much-needed impetus to the Nagoya Biodiversity Summit in October. The goal is a new vision for biodiversity.

That new vision must promote the conservation and sustainable use of biological diversity and the equitable sharing of the benefits from its use. It must also recognize the close links between our natural capital and our development objectives, a point reflected in the theme for this year's International Day for Biological Diversity, "biodiversity for development and poverty alleviation".

In this International Year of Biodiversity, let us reflect on the root causes of biodiversity decline and take action to arrest it. Let us adjust policies and mindsets to reflect the true value of species and habitats. Let us recognize that biodiversity is life – our life. Let us act now to preserve it, before it is too late.

Edward Norton, *United Nations Goodwill Ambassador for Biodiversity*

Saving our fragile web of life requires commitment

If the world has been reminded of anything through the tragedy of the Gulf of Mexico oil spill, it is that biodiversity and the health of ecosystems is not an abstract concept of scientists or the pet project of the 'green' elite. Biodiversity and healthy ecosystems are the vital underpinnings of human society. Food and energy production on land and from the sea, medicine, tourism, real estate, these industries and many others have been shown to be starkly vulnerable to the destruction of marine and terrestrial ecosystems. And yet, while the link between biodiversity and human well-being is better understood now than ever before, the news from the front lines of the global effort to preserve the world's biodiversity is bleak. The web of life that we all rely on for our very survival is being torn apart at an increasingly alarming rate and action to address this global crisis is still distressingly lacking and slow.

Our failure to act might be attributed, in part, to the misperception that preserving the world's biodiversity is a legacy issue, one to be addressed in the future. But the conclusions of the third edition of the Global Biodiversity Outlook (GBO3), a major assessment report issued in May of this year under the Convention of Biological Diversity, put that misapprehension to rest. Drawing on 120 national reports from Parties to this unique legal treaty aimed at protecting life on earth, it soberly warns that without collective action, our earth's ecosystems will approach tipping-points, putting human lives and livelihoods, as well as such irreplaceable services as air and water purification, the renewal of soil

fertility, and climate stabilization at risk of irreversible degradation and collapse.

While the poor are particularly vulnerable, no one on earth is immune from the negative impacts of deforestation, species extinction, the collapse of coral reefs, loss of fresh water lakes, and ocean acidification. An estimated one billion people in developing countries depend upon fish as their primary source of food. However, 80% of the world's fisheries are fully or over-exploited. As biologists from Stanford University, California, have proclaimed, "The idea that economic growth is independent of environmental health, and that humanity can therefore indefinitely expand its physical economy, is a dangerous delusion". Therefore, only through sustained conservation will future generations of the developed and developing worlds meet their food, health, energy and security needs.

We have identified the principal, ever-increasing pressures driving biodiversity loss: habitat change, over-exploitation, pollution, invasive alien species, and climate change. Engagement and education are strong allies against theses threats. But only a deeper global commitment and concerted action from a state level to protect marine and terrestrial ecoregions will help stop, and possibly even reverse these forbidding trends.

This autumn, there are two important moments in our attempt to create a new paradigm for a global response to the world's biodiversity challenges. On 22 September, in observance of the International Year of Biodiversity, world leaders will have a unique opportunity to provide leadership in shaping and implementing a new biodiversity strategy, calling for the introduction of sustainable practices in land and resource use, an increase in protected areas around the world, and implementing plans to reconcile development with conservation. For the first time at the United Nations, Heads of State and Government and officials from its 192 Member States will meet at a high-level event exclusively devoted to the biodiversity crisis. In October, the Nagoya Biodiversity Summit will take place in Aichi Prefecture, Japan. There, the 193 Parties to the Convention on Biological Diversity will adopt a New Strategic Plan for the period of 2011–2020, containing new targets for 2020 and a new biodiversity vision for 2050.

Meaningful success in this effort will require the full commitment of all nations, and here, the United States is sadly short of the mark. As of today, the US is, inexcusably, one of only three countries that have not ratified full acceptance of the Convention.

President Obama has forcefully expressed his commitment to addressing the world's environmental crisis. At the UN Climate Summit in Copenhagen, Denmark, the president referred to, "…our responsibilities to leave our children and grandchildren a cleaner and safer planet".

As the most comprehensive biodiversity treaty to date, the Convention will provide the unique opportunity for the president to fulfill these responsibilities and inspire the renewed dedication of the global community.

We urge him to aggressively pursue the process of US ratification. Let's all look forward to the moment that the United States rejoins the champions of biodiversity and formally dedicates itself as a nation to preserving and protecting life on earth.

Naoto Kan, *Prime Minister of Japan*

Toward societies in harmony with nature

Throughout its long history, mankind has received various benefits from nature's cycle. Food, clothing and shelter are only available by our use of nature and living things. Mankind has also acquired a wide range of knowledge from nature, and cultivated arts and technologies in the course of maintaining the sustainable way of life within nature.

However, in recent years, our lives have rapidly become much more separated from nature and, accordingly we have changed the way we see nature. As we have lost a sense of gratitude and awe toward nature, we have dramatically accelerated the extinction of many species and put us into the situation where we cannot benefit from nature's gifts to us.

The biological diversity is deteriorating at unprecedented pace in the foutbillion-year history of living creature on earth. Should the extinction of species and destruction of ecosystems exceed a certain threshold, we may deprive not only ourselves but also future generations of the chance to benefit from nature. Even our own survival could be threatened.

This is the situation we are placed in, when the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10) and the fifth meeting of the Parties to the Cartagena Protocol on Biosafety (MOP5) will be held in the city of Aichi-Nagoya, Japan. These meetings, to be in session from October 11 to 29 this year, are one significant event in 2010, which is designated as the International Year of Biodiversity. Among a number of critical issues regarding biodiversity, we will make decision to adopt new collective action targets for all Parties at the COP10 and MOP5. These are called new "mission", short-term targets until 2020, and new "vision", mid/long-term targets until 2050, in short "post-2010 targets".

In preparing for such important

Apples with the 2010 logo *(photo courtesy Pascal Garbe)*

meetings, the Government of Japan has set the theme of the meetings to symbolize what we aim at. It is "Living in Harmony with Nature." This theme is reflected in the logo (below) and slogan of COP10: "Life in harmony, into the future." The logo was designed with *origami* (Japanese traditional paper folding) in the shape of various animals and plants, allocated in surrounding circle of an adult and child, which we hope capture the concept behind the slogan.

To materialize what this theme indicates, the Government of Japan has undertaken various activities and remains committed to continuing its efforts. One such effort is shown in our contribution to the adoption of post-2010 targets. We submitted a proposal in January and have led international discussions. We proposed setting "living in harmony with nature" as the vision, and have received wide support for this vision language. In addition, based on the lessons learned about the shortcomings of the current 2010 target, which is said to be too abstract and unclear about methodologies, we proposed setting specific targets that encourage concrete actions.

It is crucially important to encourage new actions to be taken for conserving biodiversity by various socio-economic activities, as these various human activities are considered the major cause of biodiversity loss. Japan is committed to proactively providing support for developing plans and overcoming obstacles in implementing the plans, so that all Parties of the convention can encourage various activities to take as many actions possible.

Furthermore, the Government of Japan has proposed "a decade on biodiversity." It is crucial to continue the activities of each entity as requested by COP10 decision, and not to finish them just as one year event by countries and other organizations. It is also recommended that we conduct these activities in the broader UN context including many UN agencies as well as inviting industrial and civil society, not confining them to CBD activities.

In addition, the Government of Japan has been advocating the "*Satoyama* Initiative" as one approach to realizing "living in harmony with nature." The *Satoyama* Initiative, led by the Government of Japan in close cooperation with various partner organizations, is a global effort and approach to realize societies in harmony with nature. This initiative also attempts to contribute to promoting human well-being and achieve the objectives of the Convention, by maintaining the sustainable use of biological resources in a human-influenced natural environment.

In particular, the *Satoyama* Initiative promotes various activities based on specific climates and socioeconomic conditions in each region. These include information sharing and analysis on challenges and measures to overcome obstacles, as well as employing a method of managing sustainable biological resources in many parts of the world, promoting research, raising awareness, and pursuing on-the-ground projects. These activities are primarily targeted at a human-influenced natural environment that cannot be sustained through conventional agricultural, forestry and fisheries activities due to various causes such as urbanization, industrialization, and rapid increases or decreases in population.

In Japanese, *Satoyama* refers to managed woodlands or grasslands (*yama*) adjacent to villages (*sato*). Japan's *Satoyama* represents one example, not excluding other countries' similar case, of the natural environment that the *Satoyama* Initiative aims to maintain. *Satoyama* provides specific ecosystems and is closely associated with local tradition and culture, and therefore enables local communities to fully benefit from the ecosystems through such activities as agriculture and forestry. As the Prime Minister of Japan, I feel greatly honored by the fact that this journal has been named *Satoyama*.

It is our mission to conserve biodiversity and hand it over to future generations. In this light, we need to make COP10 successful with a fruitful outcome. As the forthcoming President of COP10, Japan is fully committed to working together with other Parties and all the stakeholders toward ensuring the success of COP10 and achieving post-2010 targets, thereby realizing societies in harmony with nature.

In conclusion, on behalf of the Government of Japan and all the Japanese people, I welcome all of you to the city of Nagoya, Aichi Prefecture full of tradition and excitement.

MISIA, *(Japanese singer), Honorary Ambassador for the tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity*

We need to live in harmony with nature

At the Aichi Nagoya world conference on biodiversity the 193 Parties to the United Nations Convention on Biological Diversity and their partners will discuss a new biodiversity strategic plan for the next decade which will include a new international legal instrument to promote access and equitable sharing of benefits arising from the use of genetic resources.

Since I was appointed Honorary Ambassador for COP 10 in March 2010 I have visited several sites in Japan and abroad to learn more about biodiversity and the issues affecting it. As a result, I realize that no life can exist alone and all life is interlinked, sometimes mutually dependant, sometimes competing.

Since the beginning of the modern era, humans have promoted developments beyond the capacity of ecosystems and we have forgotten that we depend on other lives. As a result, we have driven many species to extinction because of over exploitation and habitat loss. Many others are on the verge of extinction. Malfunction of the web of life can have serious impacts on human beings.

Threats to biodiversity are deeply interrelated to major challenges to society including poverty. Africa for example is home to some of the richest biodiversity in the world but in recent times has experienced serious loss of biodiversity due to unsustainable development. Through my visits to African countries, I have witnessed that soil degradation and extreme floods caused by such development have impacted the poorest people who have become even poorer. Accelerated poverty can lead to many social problems such as deterioration of security, poor maternal health care and lack of child education.

In 2008, I started to support children's education in Africa. But we need to increase knowledge and awareness of people worldwide at all levels of society regardless of nationality, gender, specialty, and level of experience. The year 2010 – the International Year of Biodiversity – is an opportunity for us all to learn more about biodiversity and how we can act to sustain it.

In Japan there is a traditional saying spoken before meals, Itadaki-masu, which means to "humbly take the gift of life from nature". It reflects an ancient belief that the gods rest on everything and that food is a gift of life from nature and the gods. I think we all need to remember that even in this modern time we are dependant on other life, that all life is connected, and the importance to respect nature.

It is my strong hope that in the Aichi Nagoya Biodiversity Summit, a global and universal alliance to protect life on Earth will be established. It is my strong hope that this alliance includes also the artists of the world as we need more than ever to promote a culture of peace with nature and living in harmony with nature. This is why I have offered my latest song "Life in Harmony" as the official song of COP 10, as biodiversity is life and biodiversity is our life and it is essential for our common future and the future of our children.

Joseph Deiss, *President of the 65th Session of the General Assembly*

Time now to act in good faith for the environment

The year 2010 is the International Year of Biodiversity. It is the year that we celebrate the beauty of diverse species inhabiting the planet earth. It is also the year that we renew our efforts to protect these species, which are rapidly dwindling in number and kind due to excessive human encroachment. According to the most conservative estimate, the current species extinction rate is 100 times greater than the natural rate found in fossil records. Some scientists warn that up to half of all species on earth could disappear by 2100.

When biodiversity loss occurs, it is not just a few polar bears here and a few flowers there that disappear from the face of the earth. It is the very foundation of human life that becomes slowly but irreparably damaged because the whole system is interconnected. For millennia, our civilization has depended on the unique material, cultural and spiritual contributions of biological and genetic resources in developing our traditions and livelihoods. It has also relied upon nature's generosity to provide food security and counted on nature's buffers to guard against extreme weather events. However, with increasing biodiversity loss, we are losing all the benefits of nature, including its role in finding new cures for diseases and sustaining indigenous populations.

Photo courtesy of Caroline Sanchez Valero

Recognizing the urgency of the situation, the international community agreed at the 2002 World Summit on Sustainable Development in Johannesburg to significantly reduce the rate of biodiversity loss by 2010. Incorporated into the Millennium Development Goal on environmental sustainability, the 2010 biodiversity target aims to contribute to poverty alleviation and to the benefit of all life on earth. Unfortunately, none of the target's eleven goals has been fully achieved. Although many governments and relevant stakeholders have made concrete efforts to protect fragile ecosystems, the world as a whole still has a long way to go before biodiversity loss is reversed.

Raising global awareness

The International Year of Biodiversity and many events associated with it have raised global public awareness on the importance of protecting biodiversity. From teenagers in Nairobi, where the United Nations Environment Programme is housed, to local officials in Nagoya, Japan, which will host the next Conference of the Parties to the Convention on Biological Diversity in October 2010, global citizens have come to understand that there is a biodiversity crisis that must be urgently addressed. Such concern will be underscored at the September's High-level event on biodiversity at the United Nations General Assembly in New York. For the first time in the organization's history, Heads of State and Government will gather to provide political impetus to the ongoing discussions and activities on biodiversity.

It is also encouraging that just this past June, representatives of Governments agreed to endorse the establishment of an Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in Busan, Republic of Korea, as a means to enhance science-policy interface for the conservation and sustainable use of biodiversity. This joint decision is symbolic of the strong interest and political will that prevail in countries around the world to forge a way of living more harmoniously with nature.

The recent findings of The Economics of Ecosystems and Biodiversity (TEEB) study have further added empirical evidence in favor of taking action to preserve biodiversity. The study concludes that it makes economic sense to prevent and protect our ecosystem rather than exploit and repair it.

In sum, the year 2010 has seen a convergence of public awareness, rigor of science, and policy debate on the alarming loss of biodiversity. All we need now is to act. Act in good faith that efforts we make now will not only save endangered animals and plants but will vastly improve our collective standard of living. Act with a long-term view that the richness of nature in the forms of tropical forests and salt marshes will greatly boost the fight against climate change. More importantly, we must act to fulfill our moral obligation to pass on to our future generations an earth teeming diverse species on land, water and the sky.

It is my sincere hope that the International Year of Biodiversity, which will also set post-2010 strategic framework and programme, will indeed become a year of international action and cooperation that marks a historic turnaround in biodiversity trends. Let us remember that biodiversity is life, our life.

الحياة المتزايدة للطاقة ومواردها لدفع عجلة التنمية حقا لكافة الشعوب فكذلك من حق الآخرين العيش بسلام دون مخاطر تلوث كيميائي أو نووي أو غيرها فبالإمكان الحصول على موارد الطاقة متوازنة والحصول على تكنولوجيا منخفضة الآثار السلبية والتكاليف لتحقيق رفاهية وتنمية.

الموارد الطبيعية ثروة غير متجددة نستهلكها بإفراط في تسابق عجيب مع إدراكنا أن مايزول منها بسرعة لايعود أو يجدد نفسه بذات السرعة، بل قد يؤدي الأمر إلى تدهور هذه الموارد إلى درجة النفاذ فهنا لن يوقفنا قانون أو اتفاقيات لتقنين الاستخدام والتعامل مع الموارد سوى الالتزام الأدبي والأخلاقي والضمير الإنساني الحي الذي سوف يتغلب على السلوك الأناني.

ونتيجة لما تواجهه البشرية من تحديات كبيرة وخطيرة يفرض علينا تآزر وتعاون بين كافة شعوب المعمورة والعمل معا بروح الفريق الواحد دون النظر إلى اللون والأصل أو العقيدة جميعنا بشر ومن أصل واحد فالتحدي يواجه الجميع دون استثناء أغنياء وفقراء، المتطور والنامي فنحن على مشارف عصر من كوارث بدأت معالمها بالفيضانات ونوبات الأعاصير العاتية والمدمرة وذوبان الجليد في قطبي الأرض وتغير درجات الحرارة والطقس وهذا لن يتوقف بضغطة زر بل يحتاج إلى وقت طويل ومعالجات جادة وهذا لن يتحقق إن لم نعيد حساباتنا ونعيد صيغة الأنشطة بما يتلاءم والاستخدام المستدام لعناصر البيئة والموارد الطبيعية وبما يحافظ على التنوع الحيوي على الأرض وبما يساهم للحد من التغيرات المناخية والكوارث الطبيعية الناجمة عنها وهنا فأني أدعو الخيرين والزعماء والقادة لاتخاذ إجراءات عاجلة معززة بإرادة سياسية جرئيه للعشر سنوات القادمة 2011-2020 كبرنامج عمل وخطة استعادة رونق الكوكب. كما أنه من الأهمية أن يحتل التعاون بين دول الجنوب والجنوب من جهة والتعاون بين دول الشمال والجنوب رافداً قويا لتعزيز الجهود المبذولة.

ففي الوقت الذي نشيد بالجهود التي بذلت من قبل دول العالم للوصول إلى أهداف العام 2010 إلا أن تلك المنجزات لم تكن بحجم الطموح برغم ما تحقق من منجزات فمشكلة التمويل كانت عائقا أمام الدول النامية والمتخلفة لتحقيق الأهداف مع تقديرنا للمانحين الذين قدموا مساهمات جيدة وابتكروا بعض المبادرات التمويلية الإضافية. وتأتي جهود سكرتارية التنوع الحيوي لتضيف زخما إضافيا لجهود الأطراف من خلال الفعاليات الكثيرة بالاحتفاء بالسنة الدولية للتنوع الحيوي 2010 وبمباركة رسمية سياسية تفاعل معها المهتمين والعامة مما شجع الولوج بتوجهات جديدة لتحويل السياسات والاستراتيجيات المعنية بالتنوع الحيوي من قضايا نظرية إلى ممارسات عملية تلامس الواقع وتدافع عن القيم السامية والمتمثلة في تحقيق أهداف الاتفاقية الثلاثة.

المؤتمر العاشر في ناجويا باليابان نعقد عليه الآمال وهي فرصة طيبة لتحديد خطوط العمل العريضة للفترة القادمة والذي نأمل منه الكثير فمن المتوقع أن يولد بروتوكول ناجويا للتقاسم العادل والمنصف للمنافع الجينية وتنطلق مبادرات تمويلية إضافية وتحدد خطة العمل للعشر سنوات المقبلة وإنشاء المنبر الدولي للعلوم والسياسات في مجال التنوع الحيوي.

وتتشرف الجمهورية اليمنية برئاسة مجموعة الـ 77 والصين للعام 2010 وهو يصادف العام الدولي للتنوع الحيوي فهذه مناسبة حقا نفخر بها مما دفعنا إلى بذل جهد مضاعفاً كالتزام أخلاقي وأدبي نحوً الاتفاقية التي نكن لها الكثير ونعول عليها الكثير وبالفعل بدأت بلادنا في الحضور الجاد والمشاركة الفعالة في عدد من الاجتماعات التفاوضية من خلال التنسيق وتقريب وجهات النظر فيما يخص كافة القضايا المعنية وسوف نواصل جهودنا بوتيرة عالية في لعب دور محوري كرئيس لمجموعة الـ 77 والصين للوفاء بالتزاماتنا نحو المجموعة ونحو المجتمع الدولي كما إننا نتطلع بل ونأمل الدعم الكامل من مجموعتنا وغيرها من المجموعات والكتل الإقليمية والدولية للوصول إلى توافق يخدم قضايانا العادلة للوصول إلى تحقيق غاياتنا والعمل معا في مواجهة التحديات.

أخيرا إني أنظر بعيون متفائلة للدور المنوط بقادة العالم والخيرين بدعم وتبني برنامج العشر سنوات -2011 2020 وهو تحدي بحاجة إلى إرادة سياسة صادقة فسوف نستطيع عمل الكثير لكوكبنا هذا التفاؤل لن يكون ذو جدوى بدون الالتزام الجاد والتقيد بتنفيذ الاتفاقيات البيئية الدولية كافة دون استثناء وخلق تعاون بناء بين كافة البلدان المتقدمة والنامية والعمل معا بوتيرة واحدة متناغمة لتحقيق الأهداف بعيدا عن النظرة الذاتية والترفع بحجم العالم حتى نعيش بأمان وصحة وحتى يسعد أحفادنا وأجيالنا القادمة الذين هم بحاجة أيضاً لهواء نظيف ومياه عذبة وطعاما طبيعياً وصحياً ونظام حيوي طبيعي متوازن.

وأخيراً دعوة كريمة لرجال القرار والسياسيون وقادة العالم لنعمل معا لحماية ما تبقى من التنوع الحيوي وصون وتنمية المهدد من مواردنا الطبيعية لنتمكن من العيش بسلام على الأرض ونورثها لأحفادنا كتقليد أخلاقي وفاءً لأسلافنا. ❀

المشير/ على عبد الله صالح, رئيس الجمهورية اليمنية, رئيس مجموعة الـ 77 والصين

كوكبنا الجميل نظرة تفاؤل...!!

عام 2010 يعني لنا الكثير في مجال التنوع الحيوي فهو العام الذي أقرته الأمم المتحدة ليكون عاما حافلا بالعمل والنشاط وليهتف العالم أجمع بصوت واحد مدويا يزلزل معاول الهدم للمواردً الطبًيعية والتنوع الحيوي ويعيد للأرض والكوكب الجميل نضارته وعنفوانه وبريقه ويوقف الاستخدام غير الرشيد والمستنزف للتنوع الحيوي فقد تم إزالة مساحات شاسعة من الغابات واختفت الكثير من الأصناف النباتية والحيوانية البرية منها والبحرية ولازال التهديد ماثلاً أمامنا شاخصا متحديا كافة الاتفاقيات والبرتوكولات التي تعهد العالم بتنفيذها والتي لاتزال بحاجة إلى التفعيل والتطبيق الجاد بمعايير إنسانية بحتة.

الحفاظ على البيئة يعد من أهم التحديات التي تواجه عالمنا المعاصر، حيث أن الأنشطة البشرية المختلفة والازدياد المضطرد للسكان وتغير أنماط الاستهلاك قد شكل إجهاداً فوق قدرة تحمل الأنظمة البيئية والموارد الطبيعية لكوكب الأرض رافق ذلك بوادر اختلال في توازن مكونات عناصر الغلاف الجوي ناهيك عن الاستخدام المفرط للموارد الطبيعية والتنوع الحيوي بالإضافة إلى الأنشطة السلبية والاستخدامات الغير الرشيدة التي تلعب الدور المحوري في الإضرار بالبيئة وهو مايؤدي بالتالي إلى تدهور متسارع في الموارد الطبيعية التي تلبي ضرورة استمرارها في العيش وتوريث الأرض للأجيال القادمة كما ورثناها من أسلافنا.

فالإنسان هو اللاعب الأساسي في كافة المتغيرات التي تحدث على كوكبنا بل هو صانعها وأول المتأثرين بها ويعد من أهم مكونات تنوعها الحيوي الغني وهو القادر على حمايته لمصالحه واحتياجاته فالنظام الحيوي السليم سلة الغذاء والعقار والدواء والثروة البشرية، لذا يجب أن نعيد النظر في أنشطتنا المختلفة والأخذ بمبدأ التنمية متوازنة الصديقة للبيئة لتحقيق تنمية مستدامة للموارد الطبيعية.

ففي العقود الأخيرة برزت إلى السطح مشكلات التغيرات المناخية وما صاحبها من تأثيرات سلبية مباشرة وغير مباشرة على الأنشطة البيئية وتدهور الموارد الطبيعية هذه التغيرات المناخية قد أثرت سلبا على درجة حرارة كوكب الأرض وغيرت العديد من الأنماط الطبيعية لبعض الكائنات الحية ما قد ينعكس سلباً ويؤدي إلى تهديد الكثير من بقاء الكائنات الحية التي يعتمد عليها النظام الحيوي. هذا التغير لم يؤثر على الكائنات الحية فقط بل كذلك على المصادر الطبيعية الأخرى التي يعتمد عليها الإنسان كالماء ومصادره وما يلحقه من توقعات تزايد أخطار الكوارث الطبيعية كالفيضانات والأعاصير والزلازل وغيرها.

حيث تمثل التغيرات المناخية تحدياً قوياً للبشرية وللتقدم التكنولوجي الذي بلغ ذروته خلال العصر الحالي إذ قد ينجم عن التغيرات المناخية آثار كارثية قد تواجه العالم بدون سابق إنذار أو توقعات في أغلب الأحيان وسوف تصبح أوسع انتشاراً كلما زادت تلك التغيرات خاصة الارتفاع في درجات الحرارة، كما أنه وبحسب التوقعات فالتغيرات المناخية ستؤدي إلى التذبذب في مواسم وكميات الأمطار مما قد يترتب عليه نقص حاد في الغذاء ويهدد الأمن الغذائي على المستويات الوطنية والعالمية بالإضافة إلى شحة وتلوث مياه الشرب المأمونة وما قد يرافقه من هجرات بشرية واسعة النطاق قد تهدد السلام والأمن العالمي ومن أهم تلك التوقعات ارتفاع مستوى منسوب سطح البحر وما قد يتبعه من تبعات مدمرة للمناطق المنخفضة والدول الجزرية الصغيرة والذي بدوره سوف يأتي على هدم موروث حيوي كبير وقد تمتد تلك الآثار وتؤدي إلى اختفاء الكثير من الجزر وتدمير الشعاب المرجانية وغابات المنجروف ناهيك عن التهديد الذي قد تتأثر به الثروة الحيوية البحرية والساحلية.

ومما فاقم المشاكل البيئية وزاد من حدتها ربط الجوانب البيئية بالاقتصاد والسياسة مما جعلها الحلقة الضعيفة التي تقدم الكثير وتخسر الكثير مما يستدعي حضور الضمير البشري والسمو فوق المصالح والمكاسب الاقتصادية الآنية إلى النظر إلى أفق أوسع وليس من خلال ثقب ضيق أو مكاسب اقتصادية قد تضربها أي أزمة كما عصفت بعالمنا واقتصادياته عدد من المرات آخرها خلال العام الماضي والتي لازالت آثارها ضاربة حتى اليوم فجميعنا على سفينة واحدة تسمى كوكب الأرض بأيدينا التوجه إلى مرسى آمن أو خرق السفينة لتغرق ونغرق معها وتنتهي الحياة.

José Manuel Barroso, *President, European Commission*

Biodiversity — Humanity's invaluable resource

"An ambitious global biodiversity framework for the next ten years and adequate means to achieve it are indispensable if the international community wants to meet its climate change and development objectives"

Much has been done to safeguard Europe's biodiversity since the heads of State and Government of the European Union agreed to halt the decline of biological diversity in the European Union by 2010. The target itself has triggered significant action that has brought us much further than in the absence of such target. It is clear however that a lot still remains to be done. But I am convinced that the aim of halting the loss of biodiversity can be achieved if we step up our efforts.

The study on *The Economics of Biodiversity and Ecosystems* (TEEB) has shown us how the services and goods that nature provides underpin our economy. Biodiversity and ecosystem services provide essential input to our economy. For instance, they constitute a direct production factor in key industries such as pharmaceuticals, cosmetics, fisheries and timber and improve public health thanks to water and air purification. The continued loss of biological diversity is unsustainable for Europe's economy and risks compromising the prosperity of European citizens in the future. It is therefore no coincidence that the new 2020 biodiversity target for the European Union was adopted at the same summit as the new 2020 economic strategy for the European Union in March 2010. Achieving prosperity and well-being for the citizens of the European Union depends on our ability to halt the loss of biodiversity and the degradation of ecosystem services by 2020. Leaders in Europe have understood that biological diversity and the goods and services it provides are the very basis of prosperity and human well-being.

In this International Year of Biodiversity the attention of the international community has concentrated more than ever on the global challenge of biodiversity loss. We have not met our common target and although important measures have been taken we have not been able to turn the tide at the global level.

The European Union has always remained faithful to fulfilling its obligations under the Convention and has worked to achieve all its objectives. It has taken measures to reduce the impact of our consumption on the rest of the world. Quite recently legislation was adopted in the European Union to regulate timber imports to prevent the sale of illegally logged timber in our common market. Moreover the European Union provides considerable support for developing countries to assist them in their efforts to address the biodiversity crisis.

EU stepping up efforts to avert global biodiversity loss

The new target is explicit as regards the Union's role in averting global biodiversity loss. The European Union will step up its efforts over the next ten years by reducing the impact of Europe's consumption on global biodiversity. It will do this by working towards a more resource-efficient economy which factors in the importance of the Earth's natural assets and will eventually help to reduce our resource consumption to a level that ends the overexploitation of biological diversity. At the same time the Union will continue to support developing countries in their efforts to preserve and manage their biological diversity as a contribution to the achievement of the Millennium Development Goals. Obviously this needs to be done in accordance with the national development priorities of developing countries. The ownership and leadership of developing countries will be essential to mainstream biodiversity into economic development strategies.

An ambitious global biodiversity framework for the next ten years and adequate means to achieve it are indispensable if the international community wants to meet its climate change and

development objectives. Ecosystems play a principal role in storing our carbon dioxide emissions and are essential for adaptation to climate change. We must not disregard this role when designing our climate change policies. Similarly the Millennium Development Goals will not be achieved if the loss of biodiversity goes on. In many parts of the world nature's goods and services contribute significantly to the livelihoods of the poorest parts of society. Losing these services will directly impact the well-being of hundreds of millions of people.

I am looking forward to a successful outcome of the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity. Adoption of a protocol on access and benefit-sharing and of a revised strategic plan will not be easy, but I am sure that the international community will prove that we can find solutions to the grand challenges of our time. I am confident that we can forge a global partnership in Nagoya that will help us to preserve biodiversity, go a long way towards eradicating poverty and in general ensure the long-term well-being of life on this planet.

Jean Ping, *Président de la Commission de l'Union Africaine*

Dixième Conférence des Parties (COP10) à la Convention sur la Diversité Biologique

18–19 octobre, Nagoya, Japon

L'entrée en vigueur de la Convention sur la diversité biologique, le 29 décembre 1993 a marqué un tournant décisif dans la prise de dispositions concrètes par la communauté internationale pour la sauvegarde de la biodiversité.

L'objectif de la Convention, qui englobe la conservation de la diversité biologique, couvre l'utilisation de ses éléments et le partage juste et équitable des avantages découlant de l'exploitation des ressources génétiques. De même, la nécessité de l'accès satisfaisant aux ressources et d'un transfert approprié des techniques pertinentes, aussi bien que les droits et afférents et le financement adéquat y sont soulignés.

« la diversité biologique est incontournable dans la mesure où l'amélioration des conditions de vie de la planète toute entière lui est subordonnée. »

Depuis, beaucoup d'étapes ont été franchies dans la mise en œuvre, mais la tâche demeure énorme. Au nombre de mesures prises, figure l'objectif de Johannesburg, à savoir »atteindre, d'ici 2010, une réduction significative du rythme actuel de perte de biodiversité à l'échelle mondiale, régionale et nationale en tant que contribution à la lutte contre la pauvreté et pour le bénéfice de toute la vie sur Terre » qui a donnée naissance à différents types et niveaux d'actions (programmes thématiques et multisectoriels, nationaux, régionaux et internationaux) et dont les impacts sont encore attendus.

Il y eut également les négociations très prometteuses des deux instruments clés issus de la mise en œuvre de la Convention et qui sont « le Protocole Supplémentaire sur la Responsabilité et Réparation au Protocole de Cartagena sur la prévention des risques biotechnologiques » et le « Protocole sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation ».

On doit par ailleurs se réjouir de constater une amélioration de la perception de la diversité biologique et des connaissances y afférentes, notamment la compréhension générale de son apport au développement économique et social et à la survie de l'humanité toute entière y compris de la part des acteurs du développement qui se considèrent

A forest near Luvia, Finland *Photo courtesy of David Jones/www.flickr.com*

jusqu'à maintenant comme non concernées par le besoin de préservation de la diversité biologique, même si les capacités sont encore insuffisantes.

Il faut enfin signaler entre autres dispositions importantes, l'institutionnalisation des journées spécifiques et la proclamation de l'année internationale de la diversité biologique.

L'on peut comprendre aujourd'hui que les inquiétudes demeurent encore grandes quand on sait que la principale cause de perte de la biodiversité est l'Homme , de façon directe et indirecte, et que 3 milliards d'individus vivent de la biodiversité marine et côtière, qu'1,6 milliard dépendent des forêts et de ses produits non ligneux, et que par-dessus tout cela, ce sont les moins nantis qui ont le plus besoin des services de la biodiversité pour leur survie.

De ce fait, la diversité biologique est incontournable dans la mesure où l'amélioration des conditions de vie de la planète toute entière lui est subordonnée.

Les espoirs suscités par la prochaine réunion d e la dixième Conférence des Parties à la Convention (COP10) qui se tiendra en octobre 2010 à Nagoya (Japon), sont immenses, avec la perspectives de l'adoption de protocoles (Accès et Partage juste et équitable sur les ressources génétiques, Responsabilité et Réparation des dommages liés aux organismes vivants modifiés) ainsi que d'une version révisée et mise à jour du Plan Stratégique pou la période 2011-2020 devant promouvoir une mise en œuvre effective et efficace de la Convention par une vision partagée une mission avec buts et objectifs stratégiques pour une action de grande envergure pour les Parties et tous les acteurs.

Pour ce qui concerne l'Afrique, les principaux défis sont lies à l 'élaboration et à la mise en oeuvre de politiques inadéquates sur « la biodiversité et la lutte contre la pauvreté », engageant aussi bien le secteur public, le secteur prive que la société civile. Les options de stratégie de préservation et d'utilisation de la biodiversité devront nécessairement couvrir les questions de sécurité alimentaire et de santé, l'accès et le partage des bénéfices des ressources pour le développement et la réduction de la pauvreté, le rôle de la biodiversité dans les mesures d'atténuation et d'adaptation aux changements climatiques, la mobilisation et de développement de l'expertise scientifique dans le cadre de la plateforme scientifique intergouvernementale sur la biodiversité et les services des écosystèmes, et une stratégie globale pour l'Afrique pour l'après 2010.

À ce stade, il convient de souligner L'importance pour Le continent africain de la prise en compte et de la mise en œuvre des conclusions de la Conférence Panafricaine de Haut Niveau sur la Biodiversité et la Lutte contre la Pauvreté tenue à Libreville au Gabon en septembre 2010, dans le cadre de la stratégie globale qui sera adoptée a Nagoya au Japon, pour marquer l'engagement de la Communauté internationale vis- à- vis de l'Afrique laquelle, faut-il encore le rappeler, est la partie du monde qui a le moins contribué a la dégradation actuelle de l'environnement et qui constitue le deuxième poumon de la planète à travers la forêt du Bassin du Congo sans oublier sa grande richesse en ressources génétiques; de ce fait, elle a plus que quiconque, droit à des mesures compensatoires soutenues par des moyens adéquats de la part des pollueurs.

A farmer tends his fields in Ethiopia *Photo courtesy of Yigal Charnish/www.flickr.com*

S.A.S le Prince Albert II de Monaco, *Fondation Prince Albert II de Monaco*

Notre avenir et celui de l'environnement ne font qu'un

Lorsque l'Assemblée Générale des Nations-Unies a décidé de faire de 2010 l'Année internationale de la biodiversité, nous ne mesurions alors pas pleinement la pertinence de ce choix. Après la déception du sommet de Copenhague et les débats des mois qui ont suivi, cette année dédiée à un sujet majeur permet de rappeler quelques vérités importantes.

Tout d'abord, l'érosion de la biodiversité est malheureusement un fait incontestable dont l'origine largement humaine ne fait aucun doute.

Contrairement au changement climatique, c'est un phénomène dont le constat ne souffre aucune discussion, même si son évaluation obéit à des lois complexes. Chacun peut en mesurer la gravité, tout spécialement dans la région méditerranéenne. Chaque extinction d'espèce est irrémédiable et aucun progrès technologique ne pourra lui redonner vie.

Nous savons tous que la situation est particulièrement inquiétante. Sous l'effet notamment des dommages causés par l'homme aux écosystèmes naturels, en particulier aux forêts, aux zones humides, aux mangroves, aux lacs, rivières et aux espaces marins. Le nombre d'espèces connues aurait décline de prés de 40% depuis les années 1970.

En Méditerranée où 10% des espèces de la planète cohabitent sur 0.7% de sa superficie, la protection de la biodiversité terrestre et maritime est une grande urgence en faveur de laquelle Monaco et ma Fondation se mobilisent, en association avec les autres États riverains et les ONG de la région.

La deuxième donnée importante de la biodiversité réside dans le caractère encore très parcellaire de nos connaissances.

Malgré son accélération récente, la perte de la biodiversité demeure trop mal connue pour nous permettre d'avoir une vue globale. Nous avons à ce jour inventorié environs deux millions d'espèces, mais nous ignorons tout du nombre de celles qui restent à découvrir… Sur les univers marins par exemple, et en particulier sur les grands fonds, nos connaissances sont encore balbutiantes. Des pans entiers de notre planète, pourtant potentiellement menacés, échappent ainsi notre vigilance.

Or à peine commençons-nous à connaître les espèces qui nous entourent que déjà nous constatons leur fragilité.

Plus qu'aucune autre, la problématique de la biodiversité nous impose donc de comprendre l'apport irremplaçable de la recherche scientifique à notre perception du monde. Sans un soutien très fort aux chercheurs nous ne pourrons jamais espérer connaître les espèces qui nous entourent. Sans la communauté scientifique, nous ne pourrons donc pas sauver les espèces aujourd'hui menacées.

Troisième question concrète posée par l'enjeu de la biodiversité: la mise en place d'une croissance économique responsable et durable.

Nous savons qu'il nous faudra en 2050 nourrir 9 milliards d'êtres humains. Or, les menaces contre la biodiversité nous alertent déjà sur les impasses de notre mode de vie actuel.

Le cas du thon rouge, espèce emblématique de la Méditerranée aujourd'hui menacée par une pêche déraisonnable, doit ici nous faire réfléchir. Cet exemple crucial pour lequel Monaco s'est battu et continuera de le faire, montre la nécessité de mettre en place des garde-fous qui garantissent l'avenir des espèces menacées. Il nous impose aussi d'imaginer des modes de production alimentaire pérennes et qui ne mettent pas en péril l'équilibre des espèces. Il y a là un potentiel de développement économique très important.

Le quatrième apport de la question de la biodiversité aux débats sur la préservation de la planète est d'ordre plus philosophique.

Au travers de la problématique de la biodiversité, c'est notre place sur la Terre qui est en jeu et nous oblige à penser au-delà de nous. Au-delà des intérêts économiques ou nationaux à courte vue bien sûr. Mais surtout au-delà de l'anthropocentrisme qui structure habituellement notre vision du monde.

Je l'ai dit et répété, nos actions en faveur de l'environnement répondent avant tout à une préoccupation humaniste, c'est-à-dire guidée par le souci d'offrir aux humains dans leur diversité les meilleures conditions de vie et d'épanouissement physique, intellectuel et moral. S'il s'agit de protéger cette planète, de préserver l'avenir de ses espèces et de ses paysages, c'est avant tout pour garantir aux générations futures un environnement qui ne soit pas irrémédiablement détruit. Un progrès qui se ferait aux dépens des humains ne saurait être un vrai progrès.

A cette exigence d'humanisme, l'enjeu de la biodiversité apporte la démonstration que l'avenir de l'homme ne peut se concevoir indépendamment de celui de son environnement. Dès lors, l'injonction humaniste se teinte d'une nuance nouvelle. Ce n'est plus l'homme seul qui est la finalité de l'action, c'est l'ensemble complexe au sein duquel il évolue et sans lequel il n'est rien, cette biosphère dont nous ne savons pas tout mais que nous devons protéger.

Question à la dimension tout à la fois politique, scientifique, morale et économique, la biodiversité nous trace des perspectives tant d'action que la réflexion.

Zine El Abidine Ben Ali, *Président de la République Tunisienne*

La biodiversité et le rôle de la jeunesse dans sa protection

La célébration concomitante, en cette année 2010, de l' Année internationale de la biodiversité et de l' Année internationale de la jeunesse, proclamées en vertu de deux résolutions successives de l' Assemblée générale des Nations Unies en date, respectivement du 20 décembre 2006 et du 18 décembre 2009, me donne l' opportunité de me réjouir de l 'heureuse coïncidence de ces deux événements si emblématiques de la nécessite de 1 'harmonie et de la coexistence entre l'homme et la nature.

La situation environnementale dans notre monde inspire, en effet, inquiétude et préoccupation en raison de l'aggravation des agressions portées á la nature par l'homme, de par la surexploitation continue de ses richesses pour les besoins de ses activités — industrielles et touristiques, l'utilisation de l'énergie conventionnelle et de la recherche de sources alimentaires, outre une croissance démographique galopante qui risque d'entrainer l' amenuisement des ressources naturelles, le tarissement des ressources alimentaires 'et la dégradation de la biodiversité.

Nous estimons que la Terre est le bien commun de l'humanité tout entière et qu'il est du devoir de chaque individu, de chaque communauté et de chaque État de traiter de façon rationnelle et de protéger la nature, d'autant que, dans le contexte mondial présent, la protection de l'environnement et de la biodiversité ne peut être réussie et efficace qu'au prix d'efforts communs tous azimuts et vigoureux de tous les États.

La protection de la nature est essentielle

En Tunisie, nous avons, en ce qui nous concerne, considéré que la protection de la nature constitue un choix essentiel dans notre politique et nos plans de développement. Jouir d'un environnement sain et d'un développement durable, estimons-nous, est l'un des droits fondamentaux de 1'Homme. Nous avons aussi considéré que prendre soin de l' environnement et le protéger représentent un devoir national tout aussi important que n'importe quel autre devoir national.

Nous sommes en train d'adapter notre action aux exigences du climat aride et semi-aride de notre pays en nous employant à accroître la densité du couvert végétal, en diversifiant les actions de boisement, en développant les parcours, en installant des brise-vent,

en œuvrant à la conservation des eaux et des sols, en stabilisant les dunes dans les zones menacées de désertification et en créant des réserves et des parcs nationaux dans les régions et les zones riches en flore et en faune sauvages afin de les protéger, de mettre en évidence leurs spécificités scientifiques, culturelles, esthétiques et d'agrément et de doter chaque parc ou réserve d'un écomusée.

Nous avons retenu, dans notre programme pour l'avenir « Ensemble, relevons les défis » (2009-2014), de porter le taux du couvert végétal de notre pays, de 13% actuellement, a 16 % en 2020, par la réalisation de 27.000 hectares/an de boisement sylvo-pastoral à compter de l'année 2012. Nous envisageons également d'élever la proportion de zones protégées par rapport à la superficie totale des forêts de 17 a 20% en 2024, outre notre résolution à atteindre un ratio de 16m2 d'espaces verts par tête d'habitant d'ici fin 2011.

Nous nous employons à protéger la biodiversité dans tout ce que compte notre pays comme forêts, barrages et lacs collinaires tout en veillant à ce que cette protection soit pratiquée sur toute l'étendue de notre littoral méditerranéen nord et est. Nous déployons tout ce qui est en notre pouvoir pour protéger notre patrimoine génétique relatif à la flore et à la faune, multiplier les interventions préventives et curatives pour la conservation des souches génétiques locales des espèces agricoles. Nous avons crée à cet effet, en 2007, la Banque nationale des gènes et encouragé la recherche scientifique a exploiter les ressources génétiques nationales, notamment celles adaptées au climat de notre pays, dans le but de mieux contribuer à développer notre production agricole et à garantir notre sécurité alimentaire. La Tunisie a achevé, en 2009, la réalisation du 4e rapport national sur la biodiversité et mis en place, à cet effet, un plan étalé jusqu'en 2020 et destiné à assurer l'exploitation rationnelle de la biodiversité et à garantir les droits des générations actuelles et futures à une vie prospère et à des ressources pérennes.

Nous sommes parvenus à disposer aujourd'hui d'un réseau exceptionnel de parcs naturels qui recèlent des souches végétales et animales uniques en leur genre et menacées d'extinction. Il s'agit en particulier du Parc nature I d'Ichkeul, dans le nord du pays, qui s'étend sur 12.600 hectares et qui compte quelque 500 espèces de végétaux, une vingtaine d' espèces de mammifères et plus de 200.000 espèces d'oiseaux sédentaires et migrateurs qui, au gré des saisons de l'été et de l 'hiver, font le va-et-vient entre l' Afrique et I 'Europe. Cette réserve naturelle a été inscrite en 1991 sur la liste du Patrimoine mondial culturel et naturel de l' UNESCO, dans la catégorie «Homme et biosphère».

La deuxième grande réserve, celle de Bouhedma, se trouve dans le sud tunisien et s'étend sur 16.488 hectares. Elle

comporte des composantes naturelles très diversifiées, une flore riche et un certain nombre d'espèces animales sahariennes et subsahariennes précieuses.

Notre pays a ratifié les conventions et traites internationaux relatifs à la protection des ressources naturelles. Il abrite aujourd'hui, dans le cadre de la coopération et de la solidarité internationales, plusieurs représentations d'organisations environnementales internationales auxquelles nous assurons des conditions optimales pour qu'elles puissent remplir au mieux leur mission. Il s'agit, entre autres, de Greenpeace, du Fonds mondial pour la nature (WWF : World Wildlife Fund for Nature), et de la Confédération méditerranéenne des activités de plongée sous manne.

Nous sommes persuades que tous ces programmes, initiatives et efforts se traduiront par des résultats et un impact limités s'ils ne s'accompagnent pas d 'une foi puissante en la nécessité d'agir et d'un grand espoir de réaliser l'objectif escompté, à savoir la réconciliation avec la nature et la protection de sa biodiversité car c'est bien la que réside la coexistence équilibrée entre l'"homme et la nature.

Partant de cette conviction profonde, nous avons établi, en Tunisie, un vaste partenariat entre les organismes d'Etat et les composantes de la société civile, quels qu' en soient l'obédience ou le centre d'intérêt, dans le but d'enraciner les attributs du développement durable aux plans sectoriel, régional et local et d' approfondir la prise de conscience des Tunisiennes et des Tunisiens quant à l'Impératif de protection de l' équilibre écologique et de la biodiversité.

Consultation nationale de la jeunesse

Qui mieux que la jeunesse, en cette Année internationale de la jeunesse, peut saisir l'importance de la culture environnementale pour ce qui est d'améliorer le niveau de vie des populations et d'enraciner profondément en elles les fondements du développement durable, pour aujourd'hui et demain ?

Aussi, avons-nous parié sur la jeunesse et sur la vitalité et l'ambition qui la distinguent, en l'impliquant dans tout ce qui à trait à la chose publique dans son pays et dans le monde. Nous dialoguons avec les jeunes, nous nous tenons constamment à l'écoute de leurs préoccupations et de leurs attentes et nous ouvrons devant eux toutes larges les perspectives afin qu'ils puissent se rendre utiles et apporter leur contribution dans tous les domaines.

Nous avons pris coutume d'organiser, tous les cinq ans, une consultation nationale de la jeunesse, dont la quatrième du genre a lieu cette année; ce qui nous offre, périodiquement, l'opportunité d'avoir une idée précise des contributions des jeunes, de prendre connaissance de leurs points de vue et de leurs attentes afin que nous en tenions compte lors de l'élaboration des programmes et plans de développement. Nous avons, de même, crée «le Conseil municipal des enfants» et «le Parlement de l'enfant». Nous avons également ordonné la création, cette année, du «Parlement des jeunes» destiné à être une instance consultative comprenant des représentants des jeunes des deux sexes sur le modèle de la composition de la Chambre des députes en termes de nombre de représentants de chaque circonscription.

Le but en est qu'ils puissent s'exercer aux valeurs de dialogue, de consensus et de participation, se rendre utiles, apprendre et s'initier à la pratique du travail parlementaire dans ses procédures et ses règles de fonctionnement. L'Assemblée générale des Nations Unies ayant proclamé, sur proposition de la Tunisie, l' année 2010 Année internationale de la jeunesse, notre pays œuvre actuellement à profit, sur une large échelle, la célébration de cet événement international en programmant des activités et des manifestations diversifiées et de grande qualité, en rapport avec les pôles d'intérêt et les préoccupations communes des jeunes et qui s'inscrivent dans le cadre des programmes de développement du Millénaire.

Bien plus que les autres catégories sociales, la jeunesse demeure concernée par la question de l' environnement et de la biodiversité, du fait qu'elle est partie prenante dans l'édification du présent et la préparation de l'avenir. Il n'est désormais ni pensable ni acceptable, que ce soit au plan local ou à l'échelle internationale, de consacrer des politiques et d'élaborer des programmes sans penser aux jeunes et sans leur donner

l' opportunité d'exprimer leurs opinions et de faire connaitre leurs points de vue au sujet des questions engageant l' avenir de leur pays et celui du monde dans lequel ils vivent.

La situation environnementale dans le monde est le reflet de la situation environnementale dans tous les pays. C'est pour «quoi un comportement environnemental local irresponsable influe négativement sur notre monde et peut être la cause de dysfonctionnements et autres catastrophes qui pourraient l'affecter. Par contre, un comportement environnemental rationnel rejaillit positivement sur notre monde et aide à garantir une vie saine à l' ensemble de l' humanité.

Nous avons assure la consécration de ce choix dans notre pays par l'organisation périodique de journées d'information environnementale dans les divers milieux de jeunes, scolaires et associatifs, avec le concours des structures non gouvernementales et des associations écologiques. Nous avons aussi organise un grand nombre d'ateliers scientifiques, de séminaires, d'expositions documentaires et de visites sur le terrain, afin de favoriser, auprès des jeunes, une connaissance plus approfondie des spécificités environnementales aux plans théorique et pratique.

Nous avons crée des associations des « Amis de l' environnement» dans les clubs d'enfants, et des «Clubs de l' environnement » dans les établissements éducatifs. Nous avons intègre l'éducation environnementale dans les programmes d'enseignement et associe les medias de la presse écrite et audiovisuelle à la concrétisation de ces objectifs nationaux. Nous avons également prévu, dans notre programme pour l' avenir (2009-2014), la mise en place d'un forum «Jeunesse et environnement » dans chaque Maison de jeunes et d'un «Agenda 21 de la jeunesse» afin de favoriser le volontariat des jeunes dans ce domaine.

Nous nous proposons, à travers tous ces programmes et initiatives. de sceller une réconciliation locale consciente et durable de l'homme avec la nature, protéger la biodiversité et jeter les passerelles de la coopération et de la solidarité, dans cette direction, entre les différentes générations et entre les États en vue de consolider les fondements d'une vie meilleure sur cette terre pour l'humanité tout entière.

Abdelaziz Bouteflika, *Président de la République d'Algérie*

La diversité biologique

La diversité biologique est sans doute le patrimoine le mieux partagé de l'humanité : elle assure à notre planète son équilibre écologique, répond à nos besoins essentiels et constitue l'un des principaux supports de notre développement sans lequel la communauté internationale ne peut se flatter d'avoir accompli autant de progrès.

L'extraordinaire variété des écosystèmes, que la nature offre si généreusement à l'homme, continue de subir les conséquences d'un développement économique débridé, qui surexploite nos richesses biologiques et entraîne leur appauvrissement, souvent irréversible. Cette situation est, de surcroît, aggravée par une population humaine en perpétuelle croissance.

Le souci d'un confort éphémère a longtemps supplanté celui de la sauvegarde de cet héritage, menacé dans ses fondements, faisant abstraction du fait que la jouissance des services inestimables que les écosystèmes fournissent à notre équilibre environnemental est au prix d'une exploitation rationnelle et d'une gestion durable de ces milieux.

En outre, les phénomènes de la désertification et du changement climatique, conjugués à un comportement humain irrationnel, ont contribué à la dégradation des ressources biologiques et à la disparition accélérée de nombreuses espèces végétales et animales. Il est utile de rappeler ici que l'apparition de signes tangibles d'une véritable catastrophe écologique mondiale, dont les pays en développement sont les premières victimes, a incité la communauté internationale à la réflexion et à la concertation autour d'un seul et même objectif : agir ensemble pour sauver la planète et la léguer aux futures générations dans un état viable.

La prise de conscience universelle quant à l'urgence de ce combat a été salutaire dans la conception d'une politique internationale commune qui a pose les premiers jalons d'un long processus de réhabilitation et de sauvegarde de nos écosystèmes. Nul ne peut ignorer le rôle accompli, dans ce cadre, par l'ONU, qui a facilité l'élaboration de l'arsenal juridique et institutionnel que nous avons entre les mains aujourd'hui, et qui prend en charge la protection de l'environnement dans toutes ses composantes.

Les trois conventions dites de Rio qui ont couronné nos travaux au Sommet de la Terre, en 1992, ont équitablement défini les responsabilités et les engagements de chacun de nos pays, dans la protection de la diversité biologique, la lutte contre la désertification et la lutte contre le changement climatique, selon les principes cardinaux de la responsabilité commune mais différenciée et de l'équité.

Il m'est agréable de saisir l'occasion qui m'est donnée aujourd'hui pour rappeler que l'Algérie a été parmi les pays ayant activement contribué à la mise en place de ces précieux instruments qui ont nécessité un long processus de maturation.

Ces conventions, qui mettent en cause le comportement irrespectueux de l'être humain envers la nature et l'accusent de la détérioration de notre espace vital, définissent les voies menant à un recours à la rationalité dans l'exploitation de nos ressources biologiques, à travers la promotion d'un développement économique durable, fondé sur l'utilisation d'une technologie propre et l'encouragement d'investissements verts.

La Convention sur la diversité biologique vise, à elle seule, trois objectifs principaux : la préservation des ressources biologiques, leur utilisation durable et le partage juste et équitable des avantages découlant de leur exploitation. L'appropriation de cette démarche exige l'intégration de ces paramètres dans les programmes de développement nationaux et internationaux pour la reconstitution des richesses et la conservation de celles encore existantes.

Dans ce contexte, les pays développés ont le devoir de s'engager pleinement dans l'émergence d'une économie mondiale verte, en raison, d'une part, de leur responsabilité historique dans la situation actuelle et, d'autre part, parce qu'ils détiennent, à eux seuls, le monopole du savoir, de la technicité et des finances pour ce faire.

En dépit du fait qu'ils possèdent les plus grandes réserves mondiales en ressources biologiques, les pays en développement, notamment ceux du continent africain, font face aujourd'hui à de nombreux problèmes dont, entre autres, l'insécurité alimentaire, l'absence d'une couverture sanitaire adéquate et la

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rareté de l'eau.

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A l'instar des autres pays du Sud, dont elle partage les insuffisances mais aussi, fort heureusement, les atouts, les objectifs et les aspirations à un développement économique durable, l'Algérie n'a eu de cesse de plaider en faveur de la sauvegarde, de la valorisation des ressources biologiques et du partage équitable des bénéfices qui en découlent.

Concernant notre politique nationale en la matière, tous les paramètres et critères visant la préservation de nos richesses en faune et en flore ont été intégrés d'une manière systématique dans nos programmes et plans de développement, soutenus par un arsenal juridique et institutionnel à la hauteur des engagements de l'Algérie dans la protection de l'environnement.

Notre Stratégie nationale pour l'utilisation durable de la diversité biologique (1997), notre Plan National d'action pour l'environnement et le développement durable (2002), et notre Schéma national d'aménagement du territoire (2007) visent tous ensemble la protection et la conservation des espaces d'intérêt biostratégique et écologique majeurs. Des plans de gestion spécifiques à chaque type d'écosystèmes que recèle la vaste étendue de notre pays (zones humides, milieux steppique, forestier, montagneux, saharien, agricole, marin et côtier) sont également mis en œuvre à tous les niveaux et par tous les acteurs de la vie publique.

Le Centre National de Développement des Ressources Biologiques chargé, entre autres, de la réalisation d'une banque de données sur le patrimoine biologique, est venu renforcer les institutions en place dans leur mission de sauvegarde de notre patrimoine. Cette mission est également prise en charge par la mise en place d'un vaste réseau d'aires protégées et de parcs naturels, de musées marins et également à travers la promotion des savoirs traditionnels.

Le système d'irrigation traditionnel des foggaras, pour le partage communautaire des eaux souterraines dans les Oasis, est un héritage ancestral jalousement gardé par mes compatriotes dans le Sud algérien qui contribue de manière essentielle à la sauvegarde de la vie dans ces milieux fragiles. Ces foggaras illustrent d'une manière éclatante une gestion démocratique et combien juste d'une denrée si rare dans les zones sahariennes qui avaient accueilli jadis tant de civilisations. Leur classification par l'UNESCO en tant que patrimoine mondial à laquelle nous nous attelons actuellement, ne sera que justice.

Par ailleurs, les deux parcs nationaux de l'Ahaggar et du Tassili, d'une superficie de 452.000 km^2, représentent la plus vaste zone protégée contiguë d'Afrique et un site d'intérêt mondial pour la préservation de la biodiversité de l'écosystème du Sahara Central.

Au-delà de l'importance qu'ils revêtent pour l'équilibre environnemental, ces espaces protégés offrent toutes les opportunités de développement d'un éco-tourisme qui génèrera, à coup sûr, des bénéfices aux populations locales, tout en sauvegardant notre patrimoine en faune et en flore. Cet intérêt s'est traduit par d'importants investissements publics dans la valorisation et la gestion des sites et la formation et l'encadrement de guides autochtones.

En outre, il est indéniable que les efforts consentis par l'État algérien ne peuvent, à eux seuls, répondre à la complexité et à la transversalité de la menace de la déperdition de cette ressource vitale que représente pour nous la diversité biologique, complexité et transversalité qui exigent un engagement et une participation concertée et active de l'ensemble des acteurs économiques et sociaux, y compris de la société civile.

En effet, le sens de la responsabilité partagée, l'appropriation des actions de préservation et la mobilisation de tous ces acteurs contribueront, je l'espère, au changement des attitudes et des comportements préjudiciables à notre environnement. C'est à ce prix que l'écocitoyenneté deviendra une véritable culture et un pas décisif vers la bonne gouvernance.

De même que le caractère transnational des risques environnementaux exige une réponse concertée internationale, régionale et bilatérale sous la forme d'une coopération multidimensionnelle, dont des retombées seront également bénéfiques sur le développement économique des pays les plus vulnérables.

Par ailleurs, il est clair que la communauté internationale est décidée, aujourd'hui, plus que jamais, à apporter des solutions concrètes et durables aux problèmes que nous vivons. Ainsi, l'intégration de la lutte contre la dégradation de la diversité biologique dans les Objectifs du Millénaire pour le Développement (OMD) illustre bien cette détermination.

De même que l'Année internationale de la biodiversité que nous célébrons en 2010 et notre Sommet de septembre, à New York, dédié à la Diversité Biologique, ne sont que quelques preuves de cet engagement infaillible envers notre planète.

Enfin, la 10ème Conférence des Parties a la Convention sur la diversité biologique, prévue au Japon, en octobre 2010, sera sans nul doute une occasion supplémentaire pour nos pays de faire le bilan des actions entreprises jusque-là, d'intégrer des correctifs nécessaires et de préparer l'avenir.

Lee Hsien Loong, *Prime Minister of the Republic of Singapore*

Cities and biodiversity: Envisioning a long-term sustainable partnership

Human beings cannot exist without the millions of other species which share our Planet. This wealth of species form ecosystems that regulate our air quality and water supply, and maintain a natural environmental balance vital to human survival and health. They constitute a deep reservoir of genetic traits that can be tapped to develop medicines or to enhance the yield and resilience of food crops. The well-being of human populations everywhere is thus inextricably linked to the innumerable organisms which live all around us and enrich our daily lives.

2010 is the International Year of Biodiversity. Yet the latest Global Biodiversity Outlook report by the Convention on Biological Diversity (CBD) carried a stark message: In 2002 world leaders agreed to significantly slow the rate of biodiversity loss by 2010. This has not happened. Countries need to deal urgently with this problem, for extinction is irreversible.

The age of cities

The coming century will be the Age of Cities. Three billion people – more than half of the world's population – currently live in cities. According to UN reports, this will swell to five billion by 2030. The fastest population growth and urbanisation will occur in developing economies, near vulnerable and often irreplaceable biodiversity-rich zones.

Growing populations and economic development will put greater pressure on global resources. Countries must pursue sustainable development strategies, or else risk depleting their natural wealth over the not-so-long term. Economic growth and urbanisation have to be complemented by conservation of natural and living resources. City planners can and should create urban landscapes where humans and flora and fauna can co-exist and enrich each other. Biodiversity need not be confined to nature reserves outside cities. Rather, it can be an intrinsic part of a city's character, attractiveness, and life.

Cities and biodiversity — Partnerships with nature

How can cities integrate biodiversity into their plans? First, by recognising that nature and biodiversity are important buffers against the daily stresses of city living. Many major cities have embraced green spaces, such as Hyde Park in London and Central Park in New York. Singapore is known as a Garden City. We too have major green lungs at the heart of our city. And we are planning to take it one step further, to become a City in a Garden. We are creating an extensive network of nature conservation areas, parks, streetscape, skyrise and waterfront greenery, within which our homes, workplaces and schools will be nestled.

Second, by weaving biodiversity more imaginatively into the urban space. Singapore's National Parks Board has developed an island-wide Park Connector Network which links up our nature reserves, parks and gardens, and will eventually feature over 300 kilometres of green connections. These park connectors provide a long, continuous trail for outdoor activities to Singaporeans and visitors, and provide native wildlife safe avenues to travel between nature reserves.

Third, by taking an integrated and inclusive approach to biodiversity conservation. The City of Nagoya established a Biological Diversity Planning Office to integrate biodiversity management with city governance. Nagoya also involves public, citizens' groups and businesses in a comprehensive conservation effort. Singapore too engages diverse public, private and people sector stakeholders in our city development plans.

Cities should share their experience with one another. Singapore played a small role in facilitating such exchanges by hosting the World Cities Summit 2010, which featured a session on urban biodiversity. Government decision-makers, academics and civil society representatives shared useful ideas on maintaining the delicate balance between urbanisation and biodiversity conservation.

Measuring success

How can cities tell that they are heading in the right direction? At the Ninth Meeting of the Conference of the Parties to the CBD in May 2008, Singapore's Minister for National Development proposed a City Biodiversity Index to measure progress. Singapore has since worked with the CBD to develop such an index.

The City Biodiversity Index is a quantitative tool that cities can use to evaluate their biodiversity conservation efforts. The Index has three components, measuring: (a) how well native plants and animals are thriving in the city; (b) whether ecosystem services, such as purification of water and air, provided by biodiversity remain intact; and (c) the standard of governance and management of the city's biodiversity. Cities can use the Index to identify areas of improvement and take remedial actions. So far, more than 30 cities have agreed to test the Index. We encourage more to do so.

Conclusion

In our globalised world, nations must work together to reduce biodiversity loss. If we plan and build our cities with care and imagination, they can become green and sustainable living spaces, economically active yet environmentally-friendly, densely populated yet at one with nature. Conserving our planet's biodiversity will not be easy, but it is achievable if we focus our collective energies towards this goal. We must persevere and succeed, for the sake of future generations.

Tillman Thomas, *Prime Minister of Grenada, Chairman of the Alliance of Small Island States*

No island must be left behind: not anymore

> ***"The costs of inaction, the costs of action on a business as usual scenario far exceed the costs of actions which would guarantee the survival of major ecosystems, economies and people"***

In 2009 as the global environmental community focused on climate change, the breaking news coming out of the Copenhagen summit was that there was no agreed outcome for ensuring that greenhouse gas emissions were going to be held to safe levels. In 2010, the International Year of Biodiversity, the breaking news coming out of Nairobi at the fourteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice and at the launch of the Global Biodiversity Outlook 3 was that we had failed to achieve the 2010 target of significantly reducing the rate of loss of biological diversity. The breaking news for the other Rio Convention, and in fact many other environmental conventions and processes, was also of a dismal kind and so the prospects in 2010 are apparently equally bleak.

The Convention on Biological Diversity COP to be held in Nagoya, Japan, has on the agenda the consideration of a legally binding agreement on access and benefit-sharing necessary to address the third objective of the Convention. This meeting is also expected to adopt a new strategic plan for the period 2010 to 2011 to address in a significant way the declining state of our biodiversity. Also in 2010, at the United Nations Framework Convention on Climate Change COP in Cancun, Mexico, deliberations are to continue on the agreed outcome for global greenhouse gas emissions reduction.

Immediate reform needed

As the global community continues to negotiate these issues the islands of this planet are disappearing and the viability and survival of island states are placed in jeopardy. The call is therefore for immediate reform in international environmental governance away from business as usual to ensure that urgent, decisive and far reaching actions are taken to preserve life on earth. The call is for actions to ensure the viability and survival of all nations including all island states and that no island must be left behind.

As demonstrated in the GBO-3 a 20 Celsius rise on global average temperatures may be too much to prevent some major ecosystems like coral reefs from reaching tipping points with the attendant irreversible and catastrophic effects on island economies. A 20 Celsius rise in global average temperatures is also too much for many of our island states to survive the demonstrated impacts of climate change. In fact island states are faced with crises of multiple kinds which are externally generated with limited local capacity to mitigate and adapt. We are indeed faced with the triple whammy of the loss of biodiversity, the negative impacts of climate change and the negative impacts of natural disasters. The inter-linkages among these three phenomena are well documented in the literature.

Island economies, over 100,000 and counting, with their inherent environmental fragility and economical vulnerability, the home to more than 600 million persons on this planet cannot withstand the ravages of these triple threats in addition to periodical global crises in energy, finance and food.

Island economies cover only five percent of the earth's land surface and are at the same time home to the planet's most exclusive and endemic species and one third of the world's conservation hotspots. These economies contain about 20% of all known terrestrial species of which 50 percent is classified as endangered. It is a fact that over 70% of global terrestrial species extinction have occurred in island ecosystems while at the same time these ecosystems continue to be critical for livelihood and necessary sources for food, water, shelter, fuel, medicines and other life sustaining amenities.

We recognise the efforts to strengthen South–South and triangular cooperation and the work of the Alliance of Small Island States (AOSIS) and the Global Island Partnership (GLISPA) must be applauded and deepened. The Micronesia Challenge, the Caribbean Challenge, the Coral Triangle and other similar initiatives are indeed important for island conservation as ecosystem based adaptation and mitigation are essential elements for addressing the triple whammy facing our economies.

So as we move to COP 10 in Nagoya, Japan, and COP 16 in Cancun, Mexico, in 2010 we call for a holistic approach to governance and joint programming among the Rio Conventions and other related conventions. We call for a re-examination of the global environmental system to place appropriate focus on the impact of the outcomes on the most vulnerable with a view to take the necessary urgent and corrective actions. As demonstrated by the science of climate change and the study of the economics of ecosystems and biodiversity; production and consumption decisions must be informed by an agreed global policy for low carbon and green growth development pathway.

Costs of inaction exceed costs of action

The decisions that we make in Nagoya and Cancun must be guided by the mantra that the costs of inaction, the costs

of action on a business as usual scenario far exceed the costs of actions which would guarantee the survival of major ecosystems, economies and people.

In 2010 the global community must see the foundation established for an intergovernmental platform for biodiversity and ecosystems services to work in concert with the IPCC to assist in bridging the science - policy divide.

In 2010 the global community must see a strong and ambitious legally binding agreement on access and benefit sharing. It must also see an agreed outcome for global greenhouse gas emissions reduction with the appropriate regime for adaptation, mitigation, finance, technology transfer and capacity building for long term stabilization of atmospheric greenhouse gas concentrations well below 350 ppm carbon dioxide equivalent to limit global average temperature increases to well below 1.5 degrees Celsius.

In 2010 the global community must adopt a strong and very ambitious strategic plan with the appropriate means of implementation to significantly reduce the loss of biodiversity to protect life on this planet.

This is why in the year of biodiversity we support the call for the declaration of the decade on biodiversity and the establishment of a special category for Small Island Developing States in the UN system to propel the necessary changes in the global environmental governance infrastructure to ensure that no island is left behind.

Jairam Ramesh, *Minister of State (Independent Charge), Environment & Forests, India*

India: Living in harmony with nature

Indian heritage is unique in its reverence for Mother Nature in all her manifestations. The respect for nature and the belief that every organism on earth has a special role in life's cycle forms the core of India's ecological heritage. In Indian ethos, all things natural, namely, the sun, wind, land, trees, plants, animals, and even water, which is the very base of human survival, have special significance.

Tanks were an integral part of India's famous and highly evolved water management systems in the past. In areas, where rivers were not snow-fed, rainwater harvesting bodies such as percolation ponds, natural lakes and artificial reservoirs proved to be essential for the sustenance of life. Tanks thus served the vital purpose of recharging the underground aquifers and reducing runoff. They also added aesthetic value to the area and served as a meeting place for the community e.g., the step wells of Gujarat and Rajasthan.

There are several thousands of sacred groves all over the country. These comprise of patches of forests or natural vegetation that are dedicated to local folk deities and protected by local communities. These were important repositories of floral and faunal diversity and often the last refuge of many endemic species. The sacred grove varied from a few acres or hectares attached to each house or village in Kerala and Tamil Nadu respectively to entire mountain ranges and forests in the North-East and in the Western Ghats. These and other traditional practices are thus the equivalent of the Japanese 'Satoyama'.

By recognizing divinity in animals, Indian tradition gave them a position unsurpassed by any other. Some, like Ganesha were worshipped as deities, others as the vehicle of the deities: from the mouse vehicle of Ganesha to the soaring eagle Garuda and the majestic elephant Airavata, vehicle of Indra, king of the heavens.

Tradition of nature conservation

Ashoka, the great Indian emperor who ruled almost the entire Indian subcontinent from 269 BC to 232 BC, was known for his concern for living things. He was the first monarch, who nearly 22 centuries ago, banned live sacrifices, sport hunting and burning of forests or agricultural wastes. He also established through a proclamation, perhaps the first formally established state protected area for mammals, birds and fish. India proudly carried on this tradition of nature conservation, by setting up Jim Corbett National Park in 1936, as India's first, and the world's third, National Park. An emblem excavated from Ashoka's empire is today the National Emblem of India, which has four lions symbolising power, courage, pride and confidence, resting on a circular abacus girded by the lion in the north, the elephant in the east, the horse in the south and the bull in the west. The abacus rests on a lotus in full bloom, exemplifying the fountainhead of life and creative inspiration.

The conservation ethos was deeply ingrained in people and was a part of village life and society. Every region developed its own eco-friendly architecture and building materials that ensured conservation of energy and moderated the climate. Technologies used were low-cost and renewable. Man was yet to become a burden to the environment. The Bishnois tribe of Rajasthan has over the centuries, protected trees and wild animals in and around their villages. There are no idols of worship for Bishnois, instead they nurture and worship nature. In 1730, in response to an order from their King to cut trees for timber, the Bishnois hugged the trees to protect them, and as many as 363 of them laid down their lives to save the

trees. The Chipko (literally "to stick") became a socio-ecological movement that practised the Gandhian methods of satyagraha and non-violent resistances through the act of hugging trees to protect them from being felled and is a remarkable display of courage and determination.

Education about the three Rs to reduce, reuse and recycle was never required: needs were minimal and conspicuous consumption unknown. Nothing was ever wasted. Till today, the recycling culture is so strong in Indian society, that an entire profession of rag pickers exists to collect and pay for anything, from old clothes and newspapers, to broken metals, plastic carry bags and all else.

The medieval period saw the first changes. The Mughals hunted the rhino and tiger to extinction in the Indus region. In the colonial period that followed, forests were converted into estates growing cash crops like tea and coffee; agriculture was expanded into community lands; common property resources were taken over and many tribals lost their traditional rights. This was also a period of mass decimation of wildlife: the cheetah was hunted to extinction and the tiger to near extinction, as were several other species. India's traditional reverence for all life was adversely affected because of an alien culture. The post-colonial period saw an alarming drop in India's biological diversity, until several plant and animal species became threatened.

In post-independent India, the policy relating to forests was initially, for the most part, directed towards supply of cheap timber and non-timber forest products for industrialization and modernization. The Indian Wildlife Protection Act of 1972 brought about a sweeping package of measures, including bans on hunting and the protection of wild animals. The Forest Conservation Act was enacted in 1980 to help conserve the country's forests, by restricting and regulating the de-reservation of forests or use of forest land for non-forest purposes without the prior approval of the Central Government. The Joint Forest Management (JFM) Programme that began in the 1980s and transformed into an ambitious national programme in 1990, seeks to develop partnerships between local

International Ministerial Forum of CBD COP Presidents - September 2010, Geneva. *(Photo courtesy CBD)*

community institutions and state forest departments for sustainable management and joint benefit sharing of public forest lands, thus providing incentives to local people for sustainable forest management. Local level governance got a major boost through the Panchayati Raj Amendment Act of 1992 which provided for devolution of powers and responsibilities to panchayats for planning economic development.

India one of the first countries to enact biodiversity act

In response to the post-Rio changing paradigms relating to biodiversity, India was one of the first few countries to have enacted a comprehensive Biological Diversity Act in 2002 to give effect to the provisions of the Convention on Biological Diversity, 1992. More recently, the Recognition of Forest Rights Act, 2006 gives forest rights to traditional forest dwellers whose rights on ancestral lands were not adequately recognized in colonial period as well as in independent India. The National Rural Employment Guarantee Programme with an annual investment of over US $7 billion is by far the largest sustainable livelihood and poverty alleviation programme, with afforestation, irrigation and water conservation built in strategically for legally guaranteeing green jobs.

As a country rich in not only biodiversity but also associated traditional knowledge, we realized the importance of protecting this knowledge from being misappropriated through non-original innovations, after a number of patents were granted on this knowledge in foreign patent offices. Traditional Knowledge Digital Library (TKDL), an unusual amalgamation of the use of new-age information technology with the ancient traditional knowledge, is now helping in setting aside patent applications based on our traditional knowledge.

With half of our land under agriculture and 23 per cent under forests, coupled with the pressing needs for food, fibre, shelter and fuel for over a billion people, as well as the compelling needs for economic development, the protection of diverse habitats poses a formidable challenge for us. Notwithstanding this, efforts continue to be made with varying degrees of success to harmonise development with conservation.

The key message of the recently released *Global Biodiversity Outlook*, that despite the efforts made by all concerned, the 2010 biodiversity target has not been achieved in full, should be a concern to us all. Let us work together in Nagoya and beyond to ensure successful formulation of an effective and practicable Access and Benefit-Sharing Protocol, along with development of an ambitious yet achievable post – 2010 Strategic Plan.

At a more basic level, modern man must re-establish the link with nature, as did the ancients in India centuries ago, and take from Earth and the environment only so much as one puts back into them. The sages of Atharva Veda chanted in their hymn to Earth, I quote:

'What of thee I dig out, let that quickly, grow over; Let me not hit thy vitals, or thy heart'.

Joke Schauvliege, *Flemish Minister for Environment, Nature and Culture;* **Paul Magnette,** *Federal Minister for Climate and Energy Policy;* **Evelyne Huytebroek,** *Brussels Minister for Environment, Energy, Water Policy and Urban Renovation;* **Benoît Lutgen,** *Walloon Minister of Public Works, Agriculture, Rural Policy, Nature, Forests and Heritage*

Shaping a sustainable future for biodiversity

2010 is the International Year of Biodiversity, and a good opportunity to reflect on the state of the planet. The third Global Biodiversity Outlook provides the stern message that biodiversity loss is continuing at an alarming rate. World governments have failed to deliver on the '2010 biodiversity target' to reduce the global rate of biodiversity loss by 2010. On the contrary, little headway has been made. Over the past 50 years, people have modified their natural environment more rapidly than in any period earlier in history. There have been notable gains in development, but with costly environmental and social consequences.

Strategies in the post 2010 context

2010 may not be the year in which biodiversity loss was halted, but it needs to be the year in which substantial commitments have been made to tackle this loss and reverse the trends. The 2010 review of the Strategic Plan of the Convention on Biological Diversity is the opportunity to define ambitious, yet realistic, targets for the future. This requires a combination of policies and measures, including adequate financing and the mainstreaming of biodiversity across all sectors of society. It will be crucial that the revised Strategic Plan, after its adoption by the Conference of the Parties of the CBD, will be reflected in new or updated strategies and action plans at all levels.

At the European level, the preparation of an EU biodiversity strategy for the post-2010 period will provide an opportunity to do so. A headline target has already been adopted. It aims to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and to restore them in so far as feasible. It also commits to step up the EU contribution to averting global biodiversity loss. Belgium, in charge of the Presidency of the EU during the second semester of 2010, will work further on the development of this strategy. Among others, it will organise the international conference 'Biodiversity in a changing world' (8-10 September) to provide input into the process.

At the Belgian level, the mid-term review of Belgium's National Biodiversity Strategy 2006-2016 will take place in 2011. It will be the opportunity to assess the progress made and include new developments stemming from the strategic options adopted at the international and European levels.

Sustainable use: linking biodiversity, ecosystems, natural resources and materials

In this International Year of Biodiversity, it is important to demonstrate that biodiversity and ecosystems services form the basis of a sustainable economy. In sectors such as food production, forestry, tourism, pharmaceuticals and mining, the importance of this relationship is already obvious. In many other areas, the safeguarding of natural resources has not been firmly anchored. Yet, one of the main causes of biodiversity loss is unsustainable production and consumption patterns, which adversely impact on biodiversity through overexploitation, use of harmful substances, habitat destruction, pollution, etc. Up to recently, this root cause has not been adequately addressed in government policies, which largely focused on the end of the pipe polices (such as waste reduction and management of residues).

There is now a need for an integrated solution, addressing the full cycle of extraction, production, commercialisation, use and disposal. This implies that society needs to shift from a "cradle-to-grave" towards a "cradle-to-cradle" way of thinking, creating efficient and waste free systems. The objective is to sparingly use raw materials and to use by-products in further processing, as a source of products or energy. This limits material use and lessens waste disposal, thereby reducing the environmental impact of economic activities.

Material efficiency has even greater potential than energy efficiency for producing savings, with all the major benefits this implies both for the economy and for alleviating the ever-growing pressures on biodiversity.

Mainstreaming biodiversity across society

Shifting to sustainable consumption and production patterns requires actions at multiple entry points, not the least by informing consumers. Crucially, the draft post 2010 Strategic Plan of the Convention on Biological Diversity reflects this need in its very first strategic goal, which aims to integrate biodiversity concerns across government and society, through education and awareness, incentive measures, and institutional changes.

Change in consumer behaviour is key to the successful implementation of this goal. Even though environmental awareness has significantly improved over last two decades, most people still find it difficult to relate their personal consumption habits with large-scale issues such as biodiversity. Nonetheless, consumers can mitigate their impact on biodiversity with limited efforts, e.g. by minimising waste or by opting for certified products. To do so, they must receive consistent messages to inform them of the environmental impact of products and services, among others through coherent and simplified labelling. Awareness raising and positive incentives also feed the design of greener products. The 'Ecolizer 2.0' is one of the many tools that can help designers assess the environmental impact of their product.

Reconciling economy and biodiversity also passes through a better awareness of the natural environment we live in and of its economic and societal value. Belgium is densely populated and heavily urbanised. Several initiatives

have been set up to avoid that urban dwellers get increasingly disconnected from nature. Local action programmes promoting wild nature in gardens, urban kitchen gardens or citizen monitoring are complemented by a greener management of green open spaces and a better communication on public policies. Cities have a critical role to play in promoting sustainable development and are now redoubling efforts to meet biodiversity challenges.

During this International Year of Biodiversity, several campaigns have chosen to raise awareness on the values of biodiversity in Belgium. The '52 weeks for biodiversity' campaign highlights how diverse our natural environment can be and how easy it is to observe it throughout the year, whereas 'I give life to my planet' resolutely targets individuals and consumers, encouraging biodiversity-friendly behaviours and sustainable consumption patterns. Because there are many actions that people can take to protect biodiversity, at least one for every day in 2010!

Jean Charest, *Premier of Québec, Canada*

Biodiversity — A major issue for the 21st century

Maintaining biodiversity is a leading issue of the 21st century. In this International Year of Biodiversity, Québec is reiterating its commitment to the cause and has undertaken genuine action to foster biodiversity and its sustainable use. It is determined to work with its partners to preserve all forms of life on Earth.

In 1992, Québec embraced the United Nations Convention on Biological Diversity. It was the first Canadian province to endorse Canada's ratification of the Cartagena Protocol on Biosafety. I am particularly proud of the fact that, in 1996, Montréal became the home of the Convention Secretariat.

In a single decade, Québec implemented two biodiversity strategies and two biodiversity action plans. The right to live in a healthy environment in which biodiversity is preserved was enshrined in the *Sustainable Development Act*, passed into law in 1996 and, as a consequence, this right became one of many rights that Quebecers enjoy under Québec's charter of human rights and freedom. In fact, two of the 16 governing principles of this legislation (the protection of species, ecosystems and the natural processes that maintain life; and respect for ecosystem support capacity) deal with biodiversity.

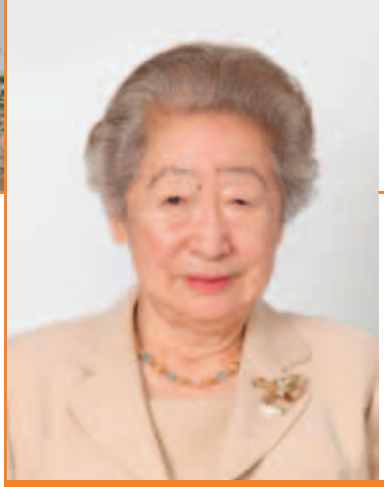
In collaboration with various international organizations, government experts published a methodological guide for drafting biodiversity preservation strategies and action plans, a demonstration of our desire to share our expertise with developing countries everywhere in the world, especially the African countries that are members of the Francophonie.

When it comes to land protection, Québec thinks big. A milestone was reached in 2009 when the protected area network reached 8.12% — or more than 135,000 km² of Québec's land base — one of our most spectacular achievements on the conservation front! The network is equivalent to over one third of a territory the size of Japan, encompasses more than 2500 quality natural sites that meet the most stringent international protection standards, comprises 24 provincial parks, nine aquatic reserves, 82 biodiversity reserves and 70 ecological reserves, and protects at least 21 major rivers in Québec.

Our recent publication, *Overview of Québec's Protected Area Network*, does what few States have done — describe how the network of protected areas contributes to protecting biodiversity — while chronicling Québec's major strides over the past seven years and making good on the government pledge to demonstrate the quality of the protected areas established by working with numerous partners across Québec. The *Overview* provides the guarantee of a first-rate representation of the biological diversity within the network. Currently we are pursuing another ambitious goal — a network that covers 12% of Québec's land base by 2015.

Lastly, Québec is laying the groundwork for a project for the sustainable development of Northern resources by earmarking 50% of the North for non-industrial activities. We are among the first entities in the world to make a commitment of such scope, ultimately representing more than 600,000 km², an area the size of France. We are also working on the *Atlas de la biodiversité du Québec nordique* (a study of the most sensitive and important environments in terms of biodiversity, and one that takes into account adaptation to climate change) in collaboration with a number of partners, including Ouranos and Prince Albert II of Monaco Foundation.

As you can see, Québec is very active in matters regarding the protection and sustainable management of biodiversity, not to mention our international leadership in reducing greenhouse gas emissions. Time and again we have shown that, as a federated State, we are resolutely engaged in responding to emerging challenges and are pro-active in alleviating the pressure on our planet's land and aquatic ecosystems. For us, this is a sign of the times as we stand on the cusp of the next decade.



Sadako Ogata, *President, Japan International Cooperation Agency (JICA)*

Human progress and biodiversity should be mutually supportive

When Cyclone Nargis struck Myanmar in 2008 it quickly developed into the worst natural disaster in that country's history. At least 140,000 persons were killed, millions were displaced, and material damage ran into the billions of dollars.

A contributing cause to the high casualty rate was that Myanmar's once extensive mangrove forests had been steadily destroyed, leaving the country, its people, flora and fauna, more vulnerable than in the past to Nargis' devastating 130 mph winds and 12-foot high waves.

A minor casualty of the cyclone was a two-year project undertaken by my organization, the Japan International Cooperation Agency (JICA), in the Ayeyarwady Delta to try to preserve and revive that dwindling forest cover.

Ironically, the tragedy of Nargis and the destruction of the mangrove programme only served to underline both the absolute centrality and importance of biodiversity in everyday life and the increasing inter-connectedness of all of our activities.

It was a lesson I learned close-up as the United Nations High Commissioner for Refugees in the 1990s, being responsible for the safety of millions of displaced persons worldwide.

Some of those crises began as a scramble for dwindling natural resources such as water, trees and plants. Situations could develop quickly into a vicious cycle, the very ingredients of the world's worst current humanitarian crisis in Darfur and Chad.

As people flee, not only their homes but also nature itself is often destroyed. When huge camps were then established in, say, Zaire, in the early 1990s, refugees were often forced to destroy nearby forests to survive. If and when they returned home they unwittingly left behind them huge areas of desolation and returned to an area equally devastated by earlier conflict.

In such circumstances ongoing poverty turned out to be the winner and some of the world's most vulnerable people and their natural habitat losers.

As Japan's official assistance agency, JICA's core mandate is to provide assistance to developing countries by helping to eradicate poverty and improve overall daily quality of life. A vibrant biodiversity is a key factor in this process.

It has become increasingly clear that while some local communities or refugee movements may be responsible for local forest destruction or a clash with wildlife, they are more often overall victims of larger forces beyond their control—the destruction of biodiversity for industrial farming, political and military instability, and climate change.

Photo courtesy of Caroline Sanchez Valero

Thus, though they are least responsible for those global mega-trends they are often the major victims, unable to effectively protect their traditional way of life and the least able to resist or reverse these malign trends.

JICA's evolving activities reflect the above realities. In recent years we have devoted more personnel, financial and technical resources to biodiversity conservation, environmental and climate change projects.

However, one situation in Malaysia underscores the complexity of the problem. It is the world's second largest producer of palm oil but that economic success came with a major price tag – the destruction of part of the rain forest in the country's Borneo region.

Rain forests like those in Borneo and even more so, in the Amazon River Basin, are home to more than one half of all the world's flora and fauna. The forests also absorb vast amounts of carbon dioxide and in the case of the Amazon, produce 20% of the world's oxygen which is key to the planet's very survival.

We recently began an exciting four-year project with Brazilian partners to map exactly how this system works, information which will be vital in preventing further biodiversity loss and positively influencing the lives of not only endangered indigenous peoples but populations across the globe.

The Myanmar mangrove project has been revived, one small step in helping particularly poverty-stricken communities to eventually recover. There are similar mangrove programmes as far apart as Indonesia and Mexico and related projects to protect the world's dwindling coral reefs—systems on which hundreds of thousands of people depend for their survival.

For JICA, the key to our activities is to strike a balance between a community's legitimate needs, at the same time preserving the very diversity of the world which will ensure those people the brighter future they want.

In welcoming a new strategy for biodiversity at the coming meeting of the Conference of Parties in Nagoya, Japan, in October, I hope that the future global conservation efforts continue to focus on human welfare, and I look forward to sharing and discussing with our partners the JICA's efforts to achieve harmony between human activities and biodiversity conservation in the countries we assist. Human progress and biodiversity should be mutually supportive, not destructive.

Takuya Okada, *Chairman, AEON Environmental Foundation*

Finding environmental solutions

AEON Environmental Foundation was established in 1990, based on the recognition that the North-South issue would become an important concern in the 21st century, and from this, we arrived at the key word—'the environment'. In order to find solutions to environmental problems, we have fulfilled our social responsibilities. Since its establishment, we have supported the activities of environmental NGOs and have planted trees in both Japan and other Asian countries along with citizen volunteers. The number of trees we planted around the Great Wall of China reached one million in April 2010.

Through these activities, we reaffirm that we should learn from the history. It is important to learn more about the human history to the global environment and think about what we should do to save our beautiful and hopeful planet.

Throughout human history, civilizations—such as the Greeks or Egyptians—flourished in locations that were rich in water and greenery, and so also did they vanish due to the wanton waste of natural resources. We intend to continue planting trees with citizens in our endeavor to solve such problems, for the better earth 20 years later and for future generations.

Masaru Onishi, *President and COO, Japan Airlines*

Working towards COP 10

In this International Year of Biodiversity, we in Japan feel very honored that the tenth meeting of the Conference of the Parties (COP 10) to the Convention on Biological Diversity (CBD) is being hosted in Nagoya. From the 18th to 29th of October, an expected 10,000 representatives from the 193 Parties will attend the summit in this city in Aichi Prefecture, central Japan. In Nagoya, a new biodiversity vision and biodiversity targets will be set, and expectations are high that this conference will make its mark just as much as the Rio Summit did in 1992.

COP 10 will aim to establish a global alliance for protecting the diversity of life on this planet. This alliance embraces all peoples and organizations. And as a corporation that shares many of the aims and ambitions of the CBD, Japan Airlines (JAL) has naturally been happy to lend its full support to COP 10. In 2008, we created our first Eco Jet, which is a Boeing 777-200 that sports a green tail instead of our usual red JAL insignia. To help raise awareness of the biodiversity summit in Nagoya, we have placed the COP 10 logo on the domestic version of our Eco Jet. The conference logo prominently appears on JAL timetables and on the cover of our inflight magazine, *Skyward*. Threats to biodiversity are also addressed in some of our inflight videos, which underline the plight of various endangered species and were produced in conjunction with Japan's Ministry of the Environment.

Japan Airlines added the COP 10 logo to its JAL Eco Jet to raise awareness for the Nagoya Biodiversity Summit *(Photo courtesy JAL)*

In August, Dr. Ahmed Djoghlaf made a visit to Japan to participate in the International Youth Conference in Aichi 2010, a major event in the run-up to COP 10. During his stay, I was most delighted to meet Dr. Djoghlaf at Tokyo's Haneda Airport and show him the Eco Jet along with other materials that we have prepared to assist in promoting the summit.

The COP 10 logo depicted on the Eco Jet shows the origami figures of a human adult and child, surrounded by a colorful array of creatures of the air, land and sea, also in origami shapes. On many of our flights, cabin attendants hand out packets of colored origami paper squares to child passengers. Within the packets are instructions on how to fold the paper, so that the children can create the various COP 10 figures for themselves.

As well as animals, there are plants to consider. Passengers on our Eco Jets are given small packets of flower and herb seeds. The species selected change from month to month, and instructions on the packets tell the passenger how best to grow the plants.

For the Nagoya summit, the popular Japanese singer-songwriter MISIA has been appointed Honorary Ambassador

by the UN Secretary-General. In this role, she is helping to increase awareness of the continuing depletion of biological resources and inform the public about the sustainable use of biodiversity. To assist her in these efforts, we at JAL have put up posters of MISIA at various points in our domestic airports. The posters show the singer standing in front of the kind of wasteland that the CBD is making great efforts to avoid as she bears a sign with the positive message of COP 10: "Life in harmony, into the future."

The kind of devastated place on the poster that stretches behind MISIA is the sort of scene that you might see after a forest wildfire. And just as 2010 is the International Year of Biodiversity, so is 2011 the International Year of Forests. Wildfires are tremendously destructive, and when they break out in the Siberian taiga, which is the biggest piece of forest on the planet, they can lead to the loss of 200,000 square kilometers of woodland. Though satellites can be used to track such fires, they are far from perfect in this surveillance. By contrast, from their perch of 10,000 meters up in the sky, flight crews are able to survey a vast area of territory with the naked eye. Since 2003, JAL has played a significant role in reporting these fires, and last year alone we spotted over 150 wildfires in Siberia, Alaska and Indonesia.

As an airline, we are naturally keen to reduce our own ecological footprint, and we have pledged a 23-percent reduction per revenue-ton-kilometer from 2005 levels in our carbon dioxide emissions by 2020. In addition to this, we have been involved in a tropospheric monitoring project since 1993. To help gain a better understanding of the complex processes involved in global warming, we carry out tropospheric sampling on our scheduled international routes for later analysis at the National Institute for Environmental Studies.

With these various efforts, we at JAL are doing our best to make a contribution in squaring up to the tremendous challenge we all face in the shape of the frightening loss of biodiversity and degradation of ecosystems. As Dr. Djoghlaf has cogently expressed it, "We need to get all sectors of society and government involved in the fight to save life on Earth and live in harmony with nature."

Tom Enders, *Airbus President and CEO*

Nature a library from which industry can learn

Airbus President and CEO Tom Enders on why the leading aircraft manufacturer will continue to support the Convention on Biological Diversity (CBD) beyond the International Year of Biodiversity – and the need for global business leaders to come onboard.

There is an old Japanese proverb "The tone of the bird's song is the same everywhere." In other words, wherever you may be, nature can be enjoyed.

Like so many of the nation's proverbs and sayings it captures the deep love of nature considered an outstanding trait of the Japanese people. So it is apt that this fall, COP 10 takes place in Aichi-Nagoya at a time when the years designated by the United Nations as the International Year of Biodiversity and the International Year of Youth overlap.

Because if the rich variety of all life on earth is to be enjoyed by future generations there is more to be done – now – in protecting the natural environment. The results of the third edition of the Global Biodiversity Outlook and our own Airbus Bio-Index, conducted as part of our ongoing support of the CBD's *Green Wave* initiative, testify to that.

That's why just as the youth are to make their voice heard in Nagoya and as the Parties are looking to adopt a 2050 biodiversity vision, Airbus has been inviting the passengers of 2050 to join us in developing our vision for both a more connected and sustainable world – one that will shape the eco-efficient aviation industry of the future.

Here, we see preserving biodiversity as a means of preserving a vital source of future innovation. It's just one of the reasons why Airbus has worked in partnership with the CBD for the past two years and will continue to do so. It's why I am proud that we have been a part of the global events to raise awareness of the importance of biological diversity. And it's why I have a particular interest in any dialogue between business leaders and ministers convened in the context of the Business and Biodiversity Initiative at COP 10 – because while we need solutions, we need industry to help shape them if they are to be meaningful, lasting and effective.

Einstein put it best: 'Look deep into nature and you will understand everything.' After some 3.5 billion years of evolution, it stands to reason that we can all learn a thing or two from the world around us. So, how many industries can afford not to protect the resources that may hold the key to the future innovation of environmentally friendly, competitive products and sustainable growth?

Today – through 'biomimicry' or

Rainer Ohler, Senior Vice President Public Affairs and Communications at Airbus, and Ahmed Djoghlaf, CBD Executive Secretary, are flanked by children at the Farnborough International Air Show *(Photo courtesy CBD)*

Airbus President and CEO Tom Enders demonstrating how owls are helping engineers to explore silent fligh

biologically inspired engineering – engineers, scientists and architects are increasingly looking not at what we can extract from the natural world but what we can learn from it. Aeronautics engineers have of course been inspired by nature ever since Leonardo da Vinci first started drawing planes and helicopters some 500 years ago. But there are also vitally important examples of biomimicry to be found across industries such as biomedicine, nanotechnology and materials science.

And in today's economic climate, how can the head of any commercial or industrial organisation ignore the economic impact of biodiversity loss?

In the same way the Stern report put climate change on the economic radar, The Economics of Ecosystems and Biodiversity (TEEB) research is sharpening international attention on the value of nature – and the economic impact resulting from biodiversity loss and the goods and services it provides. In 2008 alone, biodiversity loss and ecosystem degradation cost between US$ 2 trillion and US$ 4.5 trillion, representing between 3.3 and 7.5 percent of global GDP.

I hope at COP 10 other business leaders will recognise that what's good for nature is also good for business and the global economy, and that this landmark event will encourage other business leaders to join me in using our global outreach to back the CBD and its *Green Wave* in 2011.

As another Japanese proverb goes, "Virtue is not knowing, but doing."

Achim Steiner, *UN Under-Secretary-General and Executive Director, UN Environment Programme (UNEP)*

Renewed optimism for a sustainable century

2010, the UN's International Year of Biodiversity, started on a low note: nations everywhere failed to achieve a substantial reversal of the rate of loss of the planet's nature-based assets.

However on the eve of the 65th session of the UN General Assembly where biodiversity has a special, high-level place, there is ever growing chance that the year may end on a far higher, much more optimistic conclusion.

Many countries are showing renewed leadership and already important decisions have been taken: a green light for the establishment of an Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services to real and encouraging progress towards a new protocol to the Convention on Biological Diversity (CBD).

The protocol—an international regime on access and benefit sharing of genetic resources—is the convention's missing pillar: one that could trigger new resources for financing conservation and development between the North and the South.

Meanwhile there has been significant progress on Reduced Emissions from Deforestation and forest Degradation under the UN climate convention. This can be taken forward in Cancun, Mexico later in the year.

Underpinning this renewed momentum are the stark statistics underlining the accelerating loss of species—both in numbers and abundance—alongside perhaps a new dimension namely the costs of mismanagement.

The Economics of Ecosystems and Biodiversity initiative (TEEB), hosted by UNEP and supported by governments, indicates that annually up to $4.5 trillion are being wiped off global GDP as a result of degradation of ecosystems—dwarfing the on-going financial and economic crisis.

But the losses are only one side of the coin: 2010 is also been about showcasing the opportunities, spotlighting where countries; communities; local government; companies and citizens are harnessing smart market mechanisms and transformational policies to catalyze change.

These transformations are underlining not only the economic benefits but also the visible link between biodiversity and ecosystems and the achievement of the Millennium Development Goals (MDGs)

- In the Swiss Alps, policies recognize that healthy forests are a major component of disaster prevention: Nearly 20 per cent of Swiss forests are managed to protect against avalanches and floods. These services are valued at US$ 2-3.5 billion per year and could be applied to many mountainous countries.

- Vietnam: For over a decade, local communities in Vietnam have planted and protected mangroves in northern coastal regions, where more than 70% of the population is threatened by natural hazards. Restoration of natural mangrove forests is more cost-effective than building artificial barriers. An investment of US$ 1.1 million has saved an estimated US$ 7.3 million a year in sea dyke maintenance. During typhoon Wukong in 2000, the project areas suffered significantly less damage than neighboring provinces.

- Local authorities in Canberra, Australia have enhanced urban quality of life by planting 400,000 trees. The trees are expected to regulate the microclimate, reduce pollution and improve urban air quality, reduce energy costs for air conditioning as well as sequester carbon. These benefits are expected

to amount to the equivalent of US$ 20–67 million for the period 2008–2012 in terms of the value generated or savings to the city.

- In Kenya, the government this year launched a restoration of the Mau forest complex after over two decades of growing degradation. It follows estimates that the forest generates services for the country—such as hydropower, drinking water, moisture for the tea industry and river flows to key tourist attractions including the Massai Mara and Lake Nakuru, worth an estimated $320 million a year and perhaps as much as $1.5 billion annually.

When the original 2010 target was set these kinds of economic arguments were largely invisible or at best contested and opaque: Since the last CBD meeting in 2008 in Bonn, they have now been emerging into the visible spectrum with increasing, practical action on the ground.

Next month in Nagoya, Japan at the CBD meeting some crucial and central decisions need to be made as governments agree and adopt a post-2010 strategy.

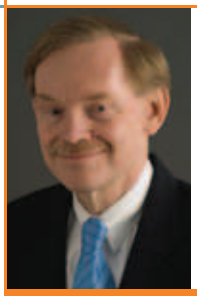
This week in New York, nations have an opportunity to further demonstrate leadership so that the imperative to scale-up and embed the sustainability of natural resources into national economies becomes an unstoppable evolution of humanity's relationship with the natural world.

The meeting will run in parallel with the MDG summit, underlining symbolically and practically the link biodiversity and overcoming poverty.

Perhaps in 2010 we may have broken beyond the current narrow definitions of GDP into a new recognition that part of the real wealth of nations lies in the intelligent management of forests and freshwaters to soils and ecosystems such as coral reefs and mangroves.

2010 may have started with the low note and a stark reality check in terms of biodiversity loss. But there is every chance, given the momentum and realization of the past nine months that it may end with a symphony of renewed optimism for a sustainable century.

Robert B. Zoellick, *President of the World Bank Group*



Stepping up our commitment to preserve biodiversity

The title of this publication, *Satoyama*, is particularly apt for the important issue that brings us to Nagoya. Indeed, while there are several meanings for the Japanese word "satoyama", the one that appeals most to me is "traditional agricultural landscape that contains a rich diversity of ecosystems and species, including endangered species". This definition reflects well the direction that I believe we should be taking to address biodiversity as it is part of our heritage. We must become responsible stewards of this planet's rich diversity of fauna and flora.

The World Bank is proud to have built up over the past 20 years a rich portfolio of biodiversity projects worth more than $6.3 billion. The Global Environment Facility (GEF) has been the mainstay of grants implemented by the Bank ($1.4 billion), but the Bank has itself committed $2 billion in loans and has leveraged $2.9 billion in co-financing. This investment has made a substantial contribution toward one of the CBD 2010 targets: terrestrial protected areas have doubled over the past 20 years and now cover almost 14 percent of the earth's land surface.

We have worked directly with 122 developing countries, as well as through a range of regional and global partnerships, to save threatened ecosystems and species. Our portfolio includes local activities to protect small but critical habitats with communities and indigenous peoples, and to establish and manage national protected areas, as well as national environment and protected areas trust funds. We focus increasingly on improving natural resource management and mainstreaming biodiversity into forestry, coastal zone management, and agriculture. The Bank also supports regional and global initiatives to increase awareness and the capacity of stakeholders to join forces in conserving natural resources.

Experiences working with international and local non-governmental conservation organizations—through vehicles such as the Critical Ecosystem Partnership Fund—have also been highly rewarding. These efforts have succeeded in strengthening local capacity, in building bridges among these organizations and with local and national governments, and in protecting threatened ecosystems and endangered species. New efforts such as the Global Tiger Initiative and the Save Our Species program are breaking fresh ground in how and with whom we work on biodiversity conservation, including innovative financing. We are delighted to serve as a catalyst for bringing together a wide range of parties interested in biodiversity conservation – governments, scientific groups, business, NGOs and civil society groups, law enforcement, and other international organizations – when we are well-suited to do so.

Despite these and other national and international efforts, the world's biodiversity continues to be threatened. The IUCN Red List now indicates that one in four mammals face extinction, as well as one in eight birds and one in every three amphibians and corals. The May 2010 issue of *Science* states that "most indicators on the state of biodiversity (i.e. species' population trends, extinction risk, habitat extent and condition) showed declines, whereas indicators of pressures on biodiversity (i.e. over-exploitation, resource consumption, invasive alien species) showed increases."

Once biodiversity is lost, it is gone forever.

Given that the World Bank has more than two decades of engagement on biodiversity issues, it is now vitally important that we step up our commitment and actions to help our developing country partners conserve biodiversity. We will continue to deploy the technical and financial resources at our disposal, our convening power, and (most importantly) our partnerships, to achieve this. In this regard, we welcome the recent,

highly successful GEF replenishment that should enable the World Bank and other agencies to scale-up biodiversity conservation actions in developing countries.

In addition, as the international community makes decisions relating to the use of forests and other natural areas as part of a global climate pact, we will find ways to secure co-benefits from improved management of natural resources. We will also more effectively learn from and work with indigenous communities while respecting and supporting their rights. Much of the world's remaining natural areas are inhabited by indigenous peoples who have served as stewards for some of our most biodiversity rich ecosystems.

Our developing country partners are largely aware that biodiversity underpins every aspect of human life and is critical for sustainable development. They are forced, however, to make difficult decisions on the use of their natural resources. One of the critical shortcomings that inhibit fully informed decision-making is the lack of information on the short-term *vs.* long-term values of local ecosystems and their services. We are, therefore, undertaking with partners an initiative to strengthen our ability to measure the economic value of ecosystems and biodiversity and their contribution to sustainable development. This initiative will help to measure ecosystems as assets in the national accounting framework so that decision-makers can balance short-term gains from unsustainable exploitation against long-term benefits from ecosystem services. Along the same line, we want to strategically increase financing of ecosystem and biodiversity services through our regular operations, including infrastructure, agriculture, energy, and policy lending operations.

Finally, I would like to emphasize that biodiversity must warrant our respect and protection, regardless of the economic calculations that we might apply to them. That is why it is critical to assist in the recovery of endangered species and ecosystems. We see it as a moral and ethical obligation toward future generations and the creatures with which we share the planet. We will continue to do all we can to ensure the success of the Global Tiger Initiative, launched in 2008, which has now entered its implementation stage; the Save Our Species initiative, whose key strategy is to leverage new funds from private companies that use animals and plants in their logos and to provide grants to save endangered species; and the Critical Ecosystems Partnership Fund, which is providing grants to 18 critically endangered ecosystems that harbor a large number of endangered species.

As stewards of our planet and its resources, we share a larger responsibility to protect our natural heritage. We need an evolution of thinking so that the value of sensitive ecosystems and endangered species is factored into the equation of development. At the World Bank, we endeavor to mainstream these values into our own work. The International Year of Biodiversity provides an occasion to celebrate successes and partnerships, but also an opportunity to develop creative approaches and expand our networks so as to maintain a healthy, thriving world for a sustainable future.

Monique Barbut, *CEO and Chairperson, Global Environment Facility (GEF)*

Safeguarding nature generates multiple global benefits

There are many emotional and moral arguments for preserving biodiversity. There is also a practical rationale. Long before biodiversity conservation made headlines, the centuries-old Japanese cultural tradition of Satoyama recognizes that biodiversity touches every part of our lives: from the clothes we wear to the food we eat to the jobs we hold.

The concept of Satoyama recognizes that societies that work in harmony with nature, thrive. This concept has been further defined in practical terms as a way to encourage biodiversity conservation and sustainable use not just in wilderness, but also spaces that have a distinct human footprint - farmlands and forests that people can use responsibly for generations. These production landscapes, and the sustainable land use practices and knowledge they represent, are increasingly threatened by humans in many parts of the world, with more and more migrations to urban centers and higher demand for goods and services that all of us rely on for life. As noted by the Millennium Ecosystem Assessment, the sustainable use of biodiversity will only be achieved once it is mainstreamed within production sectors.

As the world's largest funder of projects to improve the environment and preserve biodiversity in the developing world, the Global Environment Facility (GEF) has so far invested about $2.8 billion in direct financing and leveraged another $8 billion for 790 projects that address the loss of globally significant biodiversity in more than 155 countries for the past two decades. Since 2002, a strategy to promote biodiversity-friendly production practices and development beyond protected areas—including at the landscape level with mosaic land use, has been a key focus. This is in direct response to the third objective of the Convention on Biological Diversity (CBD) on sustainable use of biodiversity. To that end, the GEF has directed about $580 million in grants to these kinds of projects. Further, these GEF grants have leveraged more than $2.4 billion in co-financing from various partners. The GEF supports efforts on mainstreaming biodiversity through strengthening policy and regulatory framework, and fostering markets for biodiversity goods and services. The approach helps overcome barriers that prevent public and private

Photo courtesy of Caroline Sanchez Valero

sector actors from adopting sustainable practices.

One example can be found in Central America, where working with partners we instituted a payment for ecosystem services project that has become a model around the world. In Colombia, Costa Rica and Nicaragua we rejuvenated pasture lands by investing in a more traditional agroforestry method - the silvopastoral system that promotes biodiversity conservation and at the same time increases productivity. The project supported ranchers for changes in land use, moving away from ranching in degraded lands toward a more sustainable approach that includes different combinations of livestock, fodder crops and woody perennials. The result was improved cross-cutting environmental benefits for biodiversity and climate change marked by a measureable increase in species varieties, as well as higher carbon sequestration, and cleaner water.

These sustainable land use practices are often based on traditional knowledge held by the local communities and indigenous peoples. Maintaining and enhancing this knowledge for natural resources management is an essential part of the GEF's critical work to make investments in partnership with local communities and indigenous peoples worldwide. The GEF has worked on more than 100 related projects that aim to conserve and sustainably use biodiversity in a more integrated way, through promoting unique and endangered sustainable practices that both protect biodiversity and cultural heritage.

Similarly on the local level a hallmark of the GEF is the Small Grants Programme (SGP) and the Critical Ecosystem Partnership Fund (CEPF), which work with civil society to promote biodiversity friendly production practices at the landscape level. The Small Grants Programme for example has introduced effective models to protect biodiversity at the landscape level, through targeted small investments. The CEPF, a partnership program among the GEF, World Bank, Conservation International, MacArthur Foundation, with the French and Japanese governments, also integrates biodiversity conservation in production landscape and development planning with more than 1 million hectares expected to be managed in the next five years.

These are important steps but clearly more must be done to ensure our efforts are not lost. In our latest four year funding cycle we will have over $1.2 billion for biodiversity. With this commitment we are prepared to support developing countries and countries in economic transition move forward with mainstreaming biodiversity at production landscape and sectors, as well as meeting the overall goals and objectives of the Convention on Biological Diversity, including enhancing protected area systems and access and benefit sharing. We are also strengthening our sustainable forest management program, which could further expand on the synergy between biodiversity conservation, poverty reduction and emissions mitigation. With all these new financing available, the GEF is arguably the largest financier for the Satoyama-like initiatives globally and we are currently working with the Japanese and other partners to enhance collaboration.

I strongly believe that promoting and sustaining biodiversity is not just good for animals and plants, but first and foremost for people. Safeguarding nature promotes synergies that generate multiple global benefits: protecting and sustainably using biodiversity will help maintain the goods and services that human rely for their living, including food, shelter, and clothing. These actions in turn put countries in a better position to adapt to and mitigate climate change, which can then generate jobs and better standards of living. While we continue to face serious biodiversity loss and species extinction rates continue unabated, the concept of Satoyama, I hope will accelerate the need to further promote the concept of sustainable use and provide a necessary platform to further strengthen the approach.

Jacques Diouf, *Director-General, Food and Agriculture Organization of the United Nations (FAO)*

Committed to building a food-secure world

Today, about one billion people are estimated to be undernourished and urban and rural poverty remain widespread. The causes of this are numerous, including access to nutritious food, and the more recent price fluctuations and economic crisis.

At the same time, the degradation of natural resources - particularly land, water and biodiversity - both in developed and developing countries is undermining the sustainability of precious ecosystems in the face of increasing threats posed by climate change. FAO estimates that about three-quarters of the genetic diversity of agricultural crops have been lost over the last century. Just 12 crops and 14 animal species now provide most of the world's food supply, forest resources are being degraded and important fish stocks are declining. This erosion of agricultural biodiversity severely compromises global food security and threatens the resilience of ecosystems and our ability to cope with crises.

Genetic resources provide the raw material for breeding new crop varieties and animals. Fewer genetic resources mean fewer opportunities for growth and innovation in agriculture. However, as the world population increases, agricultural production must evolve and increase to keep pace with demand.

FAO's mandate and vision is to help build a food-secure world. It provides intergovernmental fora where biodiversity policies and actions in agriculture, forestry and fisheries are discussed and relevant agreements negotiated and adopted by member countries. The International Plant Protection Convention, the Code of Conduct for Responsible Fisheries, Global Forest Resources Assessments, Global Information Systems on Forest Genetic Resources, the Rotterdam Convention, Codex Alimentarius and the International Treaty on Plant Genetic Resources, are examples of such international agreements and mechanisms. FAO, for example, assists in the implementation of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture and the Global Plan of Action for Animal Genetic Resources. FAO also addresses legal, social and economic aspects of agricultural biodiversity, and seeks to capitalize on its multidisciplinary expertise through an integrated approach towards biodiversity conservation and its sustainable use.

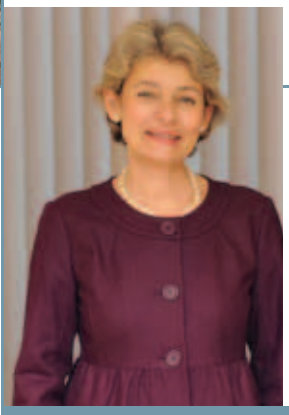
In 1997, FAO and the Secretariat of the Convention on Biological Diversity (CBD) signed a Memorandum of Cooperation, which provided a framework for advancing biodiversity initiatives of mutual interest. In May 2005, a revised Memorandum of Cooperation was signed to ensure continued effective working arrangements and in 2009 a joint work plan of the Secretariats of the CBD and of FAO and its Commission on Genetic Resources for Food and Agriculture was agreed to enhance synergies in the implementation of the Programmes of Work of the Convention and the Multi-Year Programme of Work of the Commission.

In 2002, during the World Summit on Sustainable Development, FAO launched a UN Partnership Initiative on Dynamic Conservation of Globally Important "Agri-cultural" Heritage Systems (GIAHS) with the primary objective of *in-situ* conservation of agricultural biodiversity. GIAHS are agricultural systems and landscapes that have been created, shaped and maintained by generations of farmers and herders based on local biodiversity, and diverse natural resources, using locally adapted management practices. Building on local knowledge and experience, these ingenious agricultural systems reflect the evolution of humankind, the diversity of its knowledge, and its profound relationship with nature. These systems have resulted not only in outstanding landscapes, the maintenance and adaptation of globally significant agricultural biodiversity systems, indigenous knowledge and resilient ecosystems, but, above all, in the sustained provision of multiple goods and services, food and livelihood security and quality of life. This programme presently covers some twenty countries and operates at international, national and local levels.

At the global level, the programme is promoting the international recognition of the concept of Globally Important Agricultural Heritage Systems wherein globally significant agricultural biodiversity is harboured. At the national level and in pilot countries, the programme promotes the mainstreaming of the concept of Agricultural Heritage Systems in national sectoral and intersectoral plans and policies. At the site-level in pilot countries, the programme addresses the conservation and adaptive management of agricultural biodiversity at the community level. It is expected that GIAHS activities will greatly contribute to sustainable development through (i) sharing the benefits derived from the management, conservation and sustainable use of agricultural biodiversity and natural resources with local populations and indigenous peoples; (ii) adding economic value to goods and services of these systems through promotion, labelling and marketing; and (iii) enhancing food security and alleviating poverty through agro-ecological approaches and use of local resources.

The Satoyama Initiative has direct relevance to the GIAHS programme and numerous avenues for collaboration exist. The most important step would be a genuine investment on the ground through participatory and bottom-up approaches and recognition of cultures, livelihoods and rights of local communities.

As partner, FAO has supported the development and implementation of the Convention, since its entry into force and FAO is committed in assisting countries in the implementation of the post 2010 Strategic Plan of the Convention in areas of mutual interest.



Irina Bokova, *Director-General, United Nations Educational, Scientific and Cultural Organization (UNESCO)*

Recognizing the critical interdependence between biological and cultural diversity

Showing how biodiversity is linked to all aspects of our life has inspired a myriad of initiatives by the United Nations Educational, Scientific and Cultural Organization (UNESCO) throughout 2010. Stressing biodiversity's importance from the standpoint of nature, culture and sustainable development, UNESCO opened the International Year of Biodiversity in January with a launch event which drew high-level representatives from government, the United Nations, the scientific community, non-governmental organizations and the private sector.

But our purpose is also to sensitize public opinion in informative and innovative ways: as part of the launch events, we organized talks with the media, students, UNESCO Clubs and youth groups. The UNESCO Associated Schools Network, which comprises over 8,500 educational institutions in 180 countries, is currently involved in testing a UNESCO Biodiversity Learning Kit for primary and secondary schools around the world. This exciting and groundbreaking educational tool will be officially presented at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity. Furthermore, a dynamic Travelling Exhibition on Biodiversity was also unveiled in January and has since been shown in many countries across all regions.

Strengthening links between scientific community and policy makers

In addition to awareness-raising, our role is also to strengthen the links between the scientific community and policy makers. To this end, UNESCO organized a major Biodiversity Science Conference in January involving more than 250 experts from both the scientific and policy fields. The Conference gave special attention to the voice of the scientific community in order to highlight new knowledge that could inform biodiversity-related decisions. Participants identified a number of priority actions, from scaling up taxonomy, the foundation of the biodiversity knowledge base, to developing strategies for biodiversity conservation based on studying the changing geographical distribution of species and the related impact of climate change.

This interface between biodiversity science and policy is of particular concern to UNESCO and its Member States. There is indeed a strong call for more effective mechanisms to link the two. This was clear after the third and final meeting on an Intergovernmental Platform on Biodiversity and Ecosystem Services, held in Busan, Republic of Korea, in May 2010. Representatives recommended the establishment of the Platform and welcomed expressions of interest to support it from the Food and Agriculture Organization, the United Nations Environment Programme and UNESCO. Pending the setting up of a Secretariat, it was recommended that our three agencies, along with the United Nations Development Programme, facilitate the implementation of this Platform.

Broad vision required in addressing challenges

A broad vision is required to address the challenges of biodiversity loss and conservation. It is a vision that must encompass human well-being, culture and science. In particular, it is critical to recognize the important contribution of indigenous and traditional knowledge for biodiversity conservation and healthy ecosystems. Indigenous peoples, who often live in diverse and fragile ecosystems, have developed ancestral knowledge, practices and values through their co-existence with nature. We must enhance the linkages between scientific and local and indigenous knowledge, and promote its transmission. Similarly, we must acknowledge the role that women play in developing and transmitting specific biodiversity knowledge, and ensure that they participate in decision-making processes related to biodiversity.

Our common objective is the conservation of biodiversity, including its sustainable and equitable use for human well-being and development. In this endeavour, UNESCO looks forward to working with the whole family of partners concerned with biodiversity including multilateral agencies, civil society, the media and the private sector. UNESCO enjoys a longstanding and excellent collaboration with the Convention on Biological Diversity. I believe that a central element of the Convention's post-2010 objective will be to further demonstrate the inextricable link between cultural and biological diversity, and to mainstream this into related national policies, strategies and action plans.

The outcomes of the International Conference on Biological and Cultural Diversity for Development, held in Montreal in June this year, mark a positive step in this direction. The Conference produced a draft programme between the Secretariat of the Convention on Biological Diversity and UNESCO that sets out the global research agenda with concrete actions to ensure that the mutually beneficial and reinforcing links between biological and cultural diversity are taken into account in policy-making.

I am hopeful that this draft programme will receive the attention, endorsement and support it merits by the Conference of the Parties to the Convention on Biological Diversity in Nagoya. With all our partners, including the Convention Secretariat and local and indigenous communities, we aim to achieve a broader recognition of the critical interdependence between biological and cultural diversity in the post-2010 biodiversity vision, including by suggesting innovative ways for reaching its targets.

Photo courtesy of Caroline Sanchez Valero

Luc Gnacadja, *Executive Secretary, United Nations Convention to Combat Desertification (UNCCD)*

Drylands diversity crucial for sustainable development

The biological diversity of drylands may be less spectacular than that of the rainforest and other more humid areas; species may be less numerous, the ecology of landscapes may seem simpler, but they are essential for global sustainability and close to one billion people have the drylands as their home. Degradation of this environment forms a threat to the biological diversity and the carrying capacities of these lands and is a threat to neighboring ecosystems closely linked to the drylands. Droughts also indirectly affect biodiversity. For example, as biological and economic productivity deteriorates, communities can be forced to migrate to other areas or engage in other coping activities that contribute to biodiversity degradation.

Within the physical framework of our planet we are unlikely to achieve sustainable development without wise management of our natural resources. Desertification, land degradation and drought (DLDD) constitute a real threat to the peoples of the drylands and to others who rely on their crops and animals. Some of our most important crops originate in the drylands: wheat, barley, sorghum, millet, many pulses, and cotton. The majority of the 20 most important crops in world food statistics come from fragile ecosystems including drylands. In many respects our very existence continues to rely significantly on the biodiversity of the drylands.

At the bottom of the pyramid of life we find the micro-organisms. As of yet we only have a glimpse of the valuable genetic variability that exists in these microorganisms living in the soil through study of a very few species that are of economic importance in agriculture, food processing or medicine. But we know that much of the nitrogen required to drive green production systems of the drylands comes from nitrogen fixation by rhizobium and other root bacteria, and from free-living micro-organisms. Because we normally do not see them, we tend to overlook these fundamental building-blocks in the dryland production systems. As topsoil blows or is washed away, the micro-organisms may disappear. Also, the large surface area of drylands (more than 40% of the planet) gives dryland carbon sequestration a global significance. In particular, total dryland soil organic carbon reserves comprise 27% of the global soil organic carbon reserves and are far from saturated with carbon. Desertification undermines the whole natural production system of our planet.

A key factor for sustainable development of the world's drylands is our ability to maintain their biodiversity. It is unlikely that sustainable development can be achieved in drylands without the survival of a continuous access to the genetic material present there. The genetic codes that make up and create the biological diversity of drylands environments result from biological developments over thousands and millions of years. Desertification is not only soil erosion but potential genetic erosion of the plants, animals and micro-organisms that form the living elements of the dryland environments. When we lose a dryland plant species or a dryland animal species, or soil organisms adapted to dry conditions, we have very likely lost something that could limit our sustainable development orientations. And because species and genes well-adapted to the drier areas are so few, the magnitude of their loss will be even greater unless we take immediate steps. All living things and ecosystems that they form have inherent rights of survival within the environment. This fundamental principle for conservation also applies to the drylands. We can easily understand that the disappearance from the drylands of plants and animals of actual or potential use in the long run will increase our vulnerability.

Desertification, as a multidimensional natural and man-made dryland degradation phenomenon, is an undisputed threat to valuable dryland biodiversity and to achieving the post-2010 vision and objectives of both the Convention on Biological Diversity and the United Nations Convention to Combat Desertification. The loss of biodiversity is of global concern as it undermines the resilience often displayed in the drylands in the past, and may reinforce the destructive impact of other forces of desertification and worst of all, threaten the potential for recovery. The realization of the critical role of biodiversity in maintaining the integrity of the arid, semi-arid and dry sub-humid areas has also revealed how imperfect our knowledge is of these valuable ecosystems and their genetic characteristics.

We must live in this world as stewards of the biodiversity that surrounds us. We are now at a point in the environmental governance debate where we must examine the role of the soil in both climate change and biodiversity as it is a precondition of our basic food security and survival. Let us do everything we possibly can over the next decade to maintain the diversity of life and unlock the potential in the drylands.

Christiana Figueres, *Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC)*

Combating climate change requires unity of action

"It is essential to take swift global action on climate change… it is crucial to mobilize actors who are instrumental in this endeavor… Unity of action is critical. We may act individually with the best intentions but climate change will not treat an insufficient response kindly, well meaning though it may be"

The extinction of species is a painful reality of our times. When I was a child in Costa Rica, the Golden Toad lived in the cloud forests of my country. During the mating season, the males came out in their thousands, parading around like living amber jewels against the dark brown mud of the forest while the trees echoed their calls. By the time I had grown up, the unique Golden Toad was extinct, its voice gone forever. The disappearance was a direct result of rising global temperatures, which led to diminished humidity in the rainforests of Costa Rica. The toads' eggs could not survive that change: small for us but big enough to wipe out their sensitive niche.

The extinction of the Golden Toad is a single example of how climate change affects biodiversity around the world, leading to a vicious circle of diminished welfare. As biodiversity becomes impoverished, natural systems come under greater strain and add to the potential feedback effects of climate change, posing yet another dire threat to the achievement of the Millennium Development Goals.

Swift global action needed

There is no doubt that with rising temperatures and their associated impacts, there will be a greater likelihood of irreversible changes in terrestrial, freshwater and marine ecosystems, with serious implications for the provision of key ecosystem services for the planet and therefore for humanity. This includes the ability of ecosystems to help regulate the climate, for example the ability of forests and soils to absorb carbon. It is therefore essential to take swift global action on climate change by fully implementing the United Nations Climate Change Convention (UNFCCC).

At the same time, it is crucial to mobilize actors who are instrumental in this endeavor, not least the other two Rio Conventions – the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD) – along with other UN entities, intergovernmental organisations, civil society, and the private sector. Unity of action is critical. We may act individually with the best intentions but climate change will not treat an insufficient response kindly, well meaning though it may be.

The CBD process has already made important contributions to the climate change process, including relevant work carried out under the Ad Hoc Technical Expert Group on biodiversity and climate change (AHTEG). In addition, recent assessments such as the CBD's most recent Global Biodiversity Outlook (GB0-3) clearly call for urgent and integrated action to achieve our common goal of sustainability. Activities such as the UN-system wide effort to support the biodiversity agenda, led by the United Nations Environment Programme's Environmental Management Group, can also contribute to advance the process.

Forthcoming milestones to advance in this regard include the possible extension of the UNFCCC Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (NWP) at the end of this year in Cancún, as well as the expected agreement on issues relating to reducing emissions from deforestation in developing countries is a critical future milestone, to which we are looking forward.

The agenda of CBD COP 10 in Nagoya includes many climate change-related issues. The UN Climate Change Secretariat will be following developments closely and will endeavor to provide any technical advice and assistance needed. At the same time we will participate in projected activities of the Rio Conventions' Ecosystems and Climate Change Pavilion, aimed at awareness-raising, information sharing and outreach in the respective frameworks of the Rio Conventions and at enhancing collaboration and coordination among the Rio Conventions.

It is already too late for the Golden Toad of Costa Rica, and between the toads and us is merely a matter of degree. Exactly how many degrees is not something we want to wait passively to find out. We have a big niche but big change is on the way. It will take big hearts and minds to confront it effectively.

Helen Clark, *Administrator of the United Nations Development Programme (UNDP); Chair, United Nations Development Group (UNDG)*

The importance of biodiversity to human life and sustainable development

Photo courtesy of Caroline Sanchez Valero

Protecting biodiversity is important in its own right, as well as being essential for the survival of humanity. Whether it is providing the air we breathe, the water we drink, or food we eat, the many "services" provided by our planet's rich biodiversity make human life on Earth as we know it possible.

The diversity of the world's plant and animal life is diminishing, and crucial ecosystems around the planet are reaching tipping points beyond which there may be no return. Many scientists warn that we are in the midst of a major mass extinction of a kind which has not been seen in 65 million years.

If the environments in which people live are rendered inhospitable to life, or are degraded beyond repair, there can be no lasting or sustainable development.

Forest loss is a case in point. In forests, we find food, wood, and medicines. We find flowers and pollinators living symbiotically. We find birds which keep insect populations in check. We find the ceaseless production of micronutrient rich soils. We find the capture, storage, and distribution of water. So much of what humans need in order to thrive is in our forests.

Photo courtesy of Caroline Sanchez Valero

The world's current unsustainable path has two significant characteristics. One is a lack of accountability and weak governance. Inadequate national policies, regulations, and institutions all contribute to failures to protect natural resources.

The other is the blindness so often of markets to the value of the myriad goods and services provided by the natural environment. This leads to the conversion of ecosystems into uses which have market value, such as for farmland or urban development. It leads to the unmanaged extraction of important components from ecosystems, without taking into account the consequences for other parts of inter-connected natural systems.

UNDP helps countries build and strengthen institutions which can plan, implement, enforce, and monitor measures to maintain biodiversity. We help build broad-based consensus for action and leverage finance to help pay for it. We advocate for policies which address governance and market failure.

We support projects which help local and indigenous communities develop sustainable livelihoods whereby they can simultaneously generate income and protect their natural environment. We assist in the establishment of protected natural areas. We help strengthen governance for tropical forest management which can reduce carbon emissions, protect biodiversity, and sustain livelihoods.

Through these and other experiences, we have learned that biodiversity can be protected while alleviating poverty and hunger. It is also clear that poverty and hunger for the world's growing population cannot be sustainably alleviated unless biodiversity is protected.

The International Year of Biodiversity reminds us of these essential truths and it highlights the decline of the planet's biological diversity. The Nagoya Biodiversity Summit offers an opportunity to commit to corrective action and to take important decisions to protect life on Earth.

Protecting our planet will take vision, courage, and strong political leadership at all levels. On this issue, so critical to the well-being of all humanity, we can ask surely for no less.

Julia Marton-Lefèvre, *Director General, International Union for Conservation of Nature, IUCN*

Living up to expectations

What a laudable goal governments committed to back in 2002: "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". Unfortunately, despite many efforts and local successes around the world to tackle the biodiversity crisis, the so-called 2010 biodiversity target has not been met.

The conclusions from the third Global Biodiversity Outlook are clear. There are multiple well-documented indications that biodiversity in all its components – genes, species and ecosystems – continue to decline. A quick scan through its findings demonstrates the extent of this crisis and the urgency to address it. "Nearly a quarter of plant species are estimated to be threatened with extinction… Freshwater wetlands, sea ice habitats, salt marshes, coral reefs, seagrass beds and shellfish reefs are all showing serious declines… extensive fragmentation and degradation of forests, rivers and other ecosystems have also led to loss of biodiversity and ecosystem services…habitat change, overexploitation, pollution, invasive alien species, climate change are either constant or increasing in intensity…" No one should question the severity of the problem at hand; rather we should look at how to reverse these damaging trends.

Urgent action needed

Urgent action is needed to protect, support and invest in biodiversity to ensure we do not lose more of this vital natural infrastructure. Nature is resilient and can recover surprisingly quickly when given the chance, but only up to a point. Catastrophic tipping points, where the recovery of an ecosystem is either impossible, or at the very least extremely costly, are a real possibility. It is clear that 'business as usual' will not secure a future for biodiversity, or the health and wealth of this one planet it supports, and on which all human life depends.

It is clear that 'business as usual' will not secure a future for biodiversity, or the health and wealth of this one planet it supports, and on which all human life depends.

The Convention on Biological Diversity is holding its tenth Meeting of the Conference of the Parties in Nagoya, Japan, later this year. The Nagoya meeting provides a unique opportunity for governments who have signed the Convention to seize the moment and commit to invest in what is needed now to achieve new objectives by 2020 and a long-term vision by 2050. Nagoya could be a different kind of tipping point – one that triggers positive action and guarantees a future for all life on earth.

Many eyes are looking to Nagoya

and expectations are very high. For many months governments have worked hard to develop proposals for robust targets underpinned by sound science. During recent months, and particularly after the Nairobi meetings in May, many useful formulations have emerged. We commend this thorough and committed work to the Governments meeting in October.

Governments have also met on several occasions to agree on a legally binding protocol to regulate access to genetic resources and the sharing of benefits associated with their use. The clock is ticking for governments to fulfill their mandate and adopt a much needed instrument in Nagoya on access and benefit-sharing, underpinning the third objective of the Convention. We fully support this goal and look forward to help implement the protocol.

IUCN is aware that there will be very strong pressures on governments to lower ambitions for the post-2010 Strategic Plan of the Convention. As governments move into the final negotiation rounds on the mission and targets, we need to carefully consider what is driving these pressures and the decisions to be taken in Nagoya. Is it, for example, the global economic situation and the need for cuts in overall public expenditure? Or is it to invest now to halt biodiversity loss, and so avoid the much larger costs of inaction, as demonstrated by *The Economics of Ecosystems and Biodiversity* (TEEB) study?

This is the time to make the right choices. For IUCN, a 2050 vision should aim not just to halt biodiversity loss, but also comprehensively restore the populations, habitats and ecological cycles that enable biodiversity and ecosystem services to persist. The time horizon is appropriate for such a vision given that the restoration of forests, wetlands, coral reefs and other habitats depend on species and processes that can sometimes have generational periods measured in decades. We thus support a long-term CBD vision which calls for "Living in harmony with nature: Biodiversity is conserved and restored, to secure a healthy planet and to deliver essential benefits for sustainable development and the well being of all people and nature." We certainly can't afford to be less ambitious than that.

Photo courtesy of Caroline Sanchez Valero

Kazuhiko Takeuchi, *Vice-Rector, United Nations University*

Satoyama: Building new human-nature relationships

Among the conclusions of the third edition of the Global Biodiversity Outlook (GBO-3) is one that refers to "tipping points" or thresholds which when reached veer ecosystems towards less productive states from which it may be difficult or impossible to recover (GBO-3 press release). Maintaining the quality of ecosystems so that they do not reach such a tipping point will be a challenge in the upcoming decades. However, the GBO-3 also notes that such outcomes can be avoided with effective and coordinated action to reduce the multiple pressures on biodiversity.

Reducing the pressure on biodiversity involves more than conserving pristine environments; it also implies safeguarding landscapes such as farmlands and secondary forests that have been shaped and maintained sustainably by humans over a prolonged period. The value of such landscapes needs to be recognized globally as a first step in their conservation.

In Japan, a word that communicates this harmonious relationship between humans and nature is satoyama. Although the word was used in the Edo Period (1603-1868), a forest ecologist was responsible for helping make it a widely used expression in the Japanese lexicon. In his paper (2000: 71–77), ecologist Tsunahide Shidei wrote that he turned the word Yamazato (village in mountainous area) back-to-front to read Satoyama (mountain in a village area). This word, he hoped, would help people grasp the concept of agricultural woodlands easily. Since his assertion made in the 1960s, the word has expanded to embody a symbiotic relationship between ecosystems and humans to produce a bundle of ecosystem services for human well-being (Japan Satoyama Satoumi Assessment (JSSA): National Report, UNU Press, Forthcoming).

UNU-IAS has led the Sub-Global Assessment (SGA) of Satoyama and Satoumi in Japan in the last three and a half years. Over 200 scientists, researchers, experts and stakeholders took part in the assessment which looked at the status of ecosystems and ecosystem services in Satoyama and Satoumi (lakes and marshes sustainably managed by local communities who benefit from them) in Japan in the last half a century. According to this SGA, Satoyama landscapes and the ecosystem services

"Reducing the pressure on biodiversity involves more than conserving pristine environments; it also implies safeguarding landscapes such as farmlands and secondary forests that have been shaped and maintained sustainably by humans over a prolonged period."

they provide are under threat. In Japan, it has been found that increased development, abandonment, declining economic value of agricultural, forest and fishery products, global trade, the aging workforce, depopulation, rural-urban migration, invasive alien species and issues associated with property rights are all reasons for changes in satoyama landscapes (Japan Satoyama Satoumi Assessment (JSSA): National Report, UNU Press, Forthcoming).

Although Satoyama is a Japanese term, such socio-ecological production landscapes formed through harmonized human-nature relationships are found all over the world. Words such as muyong, uma and payoh in the Phillipines, mauel in Korea, dehesa in Spain and terroirs in France, indicate managed landscapes that are characterized by a wise use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use. Like the Satoyama and Satoumi landscapes in Japan, managed landscapes around the world face challenges of increased development, overuse and abandonment.

The Ministry of the Environment of Japan and the United Nations University – Institute of Advanced Studies (UNU-IAS) have been promoting the Satoyama Initiative, an international effort with the vision of realizing societies in harmony with nature, built on positive human-nature relationships. The Initiative aims to enhance understanding and raise awareness of the importance of socio-ecological production landscapes for livelihoods and biological diversity by collecting, analyzing, synthesizing and comparing case-studies around the world; researching ways and means to promote wisdom, knowledge and practice on sustainable ecosystem services, building bridges between traditional ecological knowledge and modern science, exploring new forms of co-management while respecting traditional communal land tenure systems, revitalizing socio-ecological production landscapes and integrating results into the policy and decision-making process (Paris Declaration on the Satoyama Initiative).

The Satoyama Initiative aims to support the achievement of the three objectives of the Convention. The Initiative can also contribute to the achievement of the Convention's 2020 targets, particularly those related to reducing the direct pressures on biodiversity and promoting sustainable use, and those on enhancing the benefits from biodiversity and ecosystem services by strengthening capacities for maintaining, rebuilding and revitalizing socio-ecological production landscapes. Regional capacity-building workshops, support for on-the–ground projects and activities, and collaborating with and strengthening synergies with various stakeholders will be some of the ways in which the Initiative will help develop capacity.

An International Partnership to support the Initiative is to be launched at the Tenth Meeting of the Conference of the Parties (COP 10) to the Convention on Biological Diversity. This Partnership will comprise international organizations, national and local governments, civil society and nongovernmental organizations, private companies, universities and other research organizations, among others, and is expected to carry out activities identified by the Satoyama Initiative.

We hope that opportunities to investigate the validity of the Satoyama concept as a vehicle for building new human-nature relationships will be taken advantage of, and that the rediscovery of traditional knowledge and its utilization in a modern context embraced widely.

Flavia Pansieri, *Executive Coordinator, United Nations Volunteers programme*

Voluntary action is key to reaching the goals of the 2010 International Year of Biodiversity

Voluntary action will be key to the success of the 2010 International Year of Biodiversity in achieving its goals. The Year, which was designated by the United Nations General Assembly to increase awareness of the importance of biodiversity by promoting actions at the local, regional and international levels, has our full support at the United Nations Volunteers (UNV) programme. Without the help of volunteers at the forefront of conservation and biodiversity data gathering initiatives as well as in environmental organizations and on scientific and legislative committees, our knowledge and awareness about the importance of biodiversity conservation would suffer.

As the UN organization that promotes volunteerism to support peace and development, including environmentally sustainable development, UNV will continue, as it has in the past, to work to raise awareness and to lend support to activities organized by developing countries to sustain or improve their biodiversity and to integrate volunteerism into development programming, including by mobilizing volunteers.

The continued loss of biodiversity, with its social, economic, environmental and cultural implications, including the negative impacts on the achievement of the Millennium Development Goals, demands that we all adopt concrete measures to reverse it. First, a few figures, annually, over 7,500 volunteers coming from more than 150 countries contribute their invaluable skills in some 128 countries around the world to enable communities to contribute to peace and development, including environmentally sustainable development. Many UNV volunteers serve in countries vulnerable to climate change and loss of biodiversity, and many of them are engaged in various ways in environmental conservation and related activities.

In 2009, about 300 UNV volunteers were engaged directly and exclusively in environment projects of United Nations organizations in 67 countries, including Benin, Cambodia, Comoros, Guinea Bissau, Mali, Pakistan and Uganda. We estimate that at least the same number will be engaged in these or similar projects in this and future years.

UNV actively engaged in biodiversity conservation

UNV has been actively engaged in environmental programmes for years and our work in this area continues to grow. Here are a few examples of the contributions of volunteers to biodiversity conservation.

In Cambodia, UNV recently completed a project to help communities around the Tonle Sap Lake to develop alternative "biodiversity friendly" income-generating activities. Tonle Sap is the largest freshwater lake in Southeast Asia, covering an area ranging between 250,000 hectares in the dry season and more than one million hectares when at the peak annual flood. The extensive wetlands resulting from this cycle are characterised by unique and abundant biodiversity. The lake also produces half of the country's total fish catch and provides a livelihood for some two million people.

However, human activities have been increasingly posing threats to the integrity of the area's ecosystems. Agricultural practices, fire wood collection, human population growth and new resettlement, as well as intensive and destructive techniques such as damming, pumping, electro-fishing, egg and chick harvesting, as well as wildlife hunting for trade, imperil the environment by causing the loss of flooded forest, over-fishing and overexploitation of wildlife.

The UNV project, with the objective of finding alternative livelihoods and other options likely to reduce harvesting, habitat disturbance or loss of biodiversity, is an integral part of the Tonle Sap Conservation Project implemented in partnership with the United Nations

Development Programme (UNDP), and the Small Grants Program (SGP) of the Global Environment Facility (GEF) . UNV volunteers have promoted participatory development and introduced new livelihoods options, such as ecotourism, mushroom growing, floating vegetable gardens and caged fish culture, at the community level in the three target areas of Prek Toal, Boeung Tonle Chhmar and Stung Sen. In this way, these volunteers are helping to break the cycle of poverty.

Another project in the Union of the Comoros provides another example of how UNV project is directly sustaining biodiversity. The project, which is also being conducted in partnership with UNDP and GEF, aims to build the capacity of community based organizations in village communities over the next three years while promoting volunteering as a means for community involvement in achieving the MDGs.

Since its inception in 2009, the project team has concentrated on shoring up

the environmental management capacities of Comorian grassroots community organizations in high priority areas for sustainable development. Nearly 1,700 volunteers in 33 communities across the three islands have already been trained in such diverse topics as apiculture improvement, crop production, community development and project as well as land management. Some 35 local committees have been formed to address sustainable development. Community tree nurseries are already planned for each of 33 sites. Between now and 2012, the project will mobilize local volunteers to preserve the integrity of local ecosystems, reduce the area's vulnerability to natural and climatic hazards and ensure that any eco resources protected and developed benefit the population as a whole.

In addition to country level projects, UNV last year launched the 'Volunteering for our Planet' campaign, which united volunteers across the world, illustrating ordinary citizens' commitment to preserving our environment, mitigating climate change and safeguarding biodiversity. The campaign website, hosted in cooperation with the Seal the Deal campaign of the United Nations Environment Programme (UNEP), invited visitors to pledge their time and energy between World Environment Day 2009 on 5 June and International Volunteer Day on 5 December for various forms of environmental activities. It recorded pledges totalling more than 1.5 million hours, equivalent to 900 working years voluntarily spent planting trees, reducing carbon emissions and cleaning up pollution. Participants reported that almost ten percent of actions taken related directly to conservation and biodiversity.

'Volunteering for our Planet' showed the world that voluntary action counts and contributes to achieving results. Environmental groups have already recognized this for a long time. The non-governmental organization, Wetlands International, provides one example, by relying on some 15,000 volunteers each year to carry out the January International Water Bird Count. Data from this census are used to designate Wetlands of International Importance under the Ramsar Convention on Wetlands. In addition, the waterbird monitoring carried out by these thousands of International Waterbird Census volunteers each year also presents information which is vital to UNEP wildlife treaties such as the African-Eurasian Waterbird Agreement (AEWA) and the Convention on Migratory Species (CMS).

Volunteering at community level essential

Voluntary action at the community level is vital to species conservancy worldwide. Marine turtles offer another example. Around the world, thousands of local volunteers protect and even physically assist these large and endangered reptiles when they are at their most vulnerable, during their onshore nesting and hatching periods.

During the nesting season, local people watch for the adult female turtles that come ashore to lay eggs. The turtle watchers mark the nests and even remove eggs to incubate elsewhere when they have been laid in dangerous locations, subject to animal and human predation, or are too close to urban development. When the eggs hatch, the community volunteers are on hand to shepherd the baby turtles on their dangerous journey from the shore to the sea, protecting them from crabs, seabirds, dogs and even people who might cause them harm.

UNV continues to cooperate with organizations across the world to help integrate volunteerism into their work. In partnership with UNDP, GEF and SGP, UNV volunteers are harnessing the skills of people who live under the threat of climate change and loss of biodiversity themselves. The Community-based Adaptation project supports people in Bolivia, Guatemala, Jamaica, Morocco, Namibia, Niger and Samoa as they build resilience into their local ecosystems and take ownership of their futures through voluntary action. The programme developed a draft methodology that plans, recognizes, and values the work of hundreds of local volunteers implementing more than 30 community projects. Assisted by UNV volunteers, these community volunteers work on solutions to conserve water, promote sustainable agricultural techniques and protect local biodiversity and ecosystems.

Volunteers can also make a difference from afar. Via the UNV Online Volunteering service, for example, online volunteers supported the African Conservation Foundation's campaign to protect the critically endangered Cross River gorilla. In addition, in 2010, as of this writing, some 300 online volunteers are engaged in environmental projects over the Internet. Organizations can register and benefit from the expert assistance available online from volunteers around the world by visiting the UNV Online Volunteering Service website: www.onlinevolunteering.org or sending an email: info@onlinevolunteering.org.

While governments put in place the legislation to enable volunteers to do their work, environmental organizations continue to integrate volunteers into their projects and programmes. By supporting volunteers and creating the necessary mechanisms and structures to assist them in their work, stakeholders can thus contribute to both environmental preservation and to sustainable development.

To preserve our one planet, its many species and our one future is going to take the continued efforts of many more volunteers and many, many more millions of hours of hard work and commitment. But together, through voluntary action we can make a real difference. Everyone can play a role.

Maurice F. Strong, *Secretary General of both the 1972 United Nations Conference on the Human Environment, which launched the world environment movement, and the 1992 Rio Environmental Summit, he was the first Executive Director of the United Nations Environment Programme (UNEP)*

No better investment than securing the sustainability of life on earth

This International Year of Biodiversity and this Conference of the Parties of the Convention on Biodiversity, agreed at the Earth Summit in Rio de Janeiro in 1992, provide an opportunity to give new momentum to the process of reversing the loss of biodiversity, which is the key to life on earth. In launching the International Year of Biodiversity, German Chancellor Angela Merkel warned that the earth will face "enormous costs, if no action is taken against climate change and securing biodiversity". She pointed out that the world is facing a global extinction crisis which threatens not only the natural environment but humankind itself. This underscores the relationship between climate change and biodiversity and indeed other environmental issues, including degradation of soil, damage to habitats and loss of forest cover.

While the inter-active relationship amongst these phenomena is clearly recognized, the conventions and other cooperative arrangements we have put in place to deal with them are far from systemic. Although there is a degree of cooperation and consultation amongst them, the fact that each convention has its own separate Secretariat and governance makes such cooperation difficult and, of course, this is also constrained by a degree of institutional competition. Tematea, a joint project by IUCN, the *International Union for Conservation of Nature,* and the United Nations Environment Programme (UNEP), provides an encouraging response to these problems by supporting a better and more coherent national implementation of biodiversity related conventions that are built around issue-based modules.

At the centre of the movement to conserve biodiversity is IUCN, created in 1948 to "influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable". Its Red List of Threatened Species provides a regular assessment of biodiversity extinction and an increasingly alarming picture of the state of biodiversity. Its latest List shows that some 22% of all known mammals, 30% of all known amphibians, 12% of all known birds and 28% of reptiles, 37% of fresh fish species, 70% of plants and 35% of invertebrates assessed are now under threat. From its inception UNEP has had a close and constructive cooperative relationship with IUCN. This provides the most well developed institutional basis for undertaking the urgent task of elevating biodiversity to the level of the global priority it deserves. To do this requires it be managed in close cooperation with the economics and other conventions on sustainability.

Our experience demonstrated that concerted efforts to protect biodiversity and reduce extinctions can produce positive results. Many species have been brought back from the brink of extinction with conservation. The loss of those species, it has been estimated, would have been 25% greater in the absence of targeted conservation programs. The percentage of land protected with national parks or in other ways has grown to about 12% globally and some 80% of tropical areas which have stopped or reversed habitat loss. Unfortunately, only some 1% of the world's oceans are protected and extending this is becoming ever more urgent.

Lack of funding is a major and continuing constraint on all of the measures designed to address these issues. Yet the Stern Review of the Economics of Climate Change estimates that the cost of the loss of biodiversity and the failure to take protective measures far exceeds the cost of effective conservation. The full *The Economics of Ecosystems and Biodiversity* (TEEB) report to be delivered in Nagoya is expected to make a compelling case for this.

"COP 10 has an opportunity, and a responsibility, to reinforce existing programmes, launch new means of systemic cooperation and mobilize the sufficient resources required to do this"

Nevertheless at this time when governments are finding it difficult to add to their budgets newer and innovative means should be devised for this purpose. An "Earth Fund" to be funded, for example, by a small percentage of the proceeds the many lotteries that exist around the world or a small percentage levy on the use of international common for air and ocean transport are possible sources that should be explored.

In short this Conference of The Parties of the Convention of Biodiversity has an opportunity, and a responsibility, to reinforce existing programmes, launch new means of systemic cooperation and mobilize the sufficient resources required to do this. There could be no better investment in the future of security and sustainability of life on earth.

Thomas Lovejoy, *Chief biodiversity adviser to the President of the World Bank, Senior adviser to the President of the United Nations Foundation, and President of the Heinz Center for Science, Economics, and the Environment*

Time ripe for more ambitious thinking

As nations head to Nagoya the question before them is how to take the biology of our planet with the seriousness it deserves. It is very clear that the planet's climate works not as a physical system but as a biophysical system, one tightly linked with biodiversity and its collective complex functions. The soils which underpin our agriculture are living systems and elsewhere are intricately intertwined with the way wild ecosystems work. Our very well being depends on a healthy and diverse planetary biology.

More than 60 years ago the pioneering ecologist Ruth Patrick established that the numbers and kinds of species in streams are a direct indication of the natural physics, chemistry and biology of a watercourse as well as the stresses from human activity in the watershed. In other words biodiversity integrates all environmental problems because – by definition – they affect living systems. As a principle, biodiversity as the measure of the condition of an ecosystem applies to all ecosystems. It is at the heart of environmental science and management.

As stunningly laid out in the third Global Biodiversity Outlook, it is clear that biodiversity summed at the level of the biosphere is highly endangered and declining. The living planet and all it means for life on Earth including our own is degrading rapidly. Almost all indicators are negative and many are in decline exponentially. Tipping points like that for Amazon dieback are in sight.

What is abundantly clear is that we need to think much more ambitiously than we ever have. While for some intermediate time we may have to discuss and act around what might be a "reasonable" reduction in extinction rates it is in fact not reasonable.

We need to keep our sights set at much more ambitious goals, namely, restoration of ecosystems at a planetary scale and a reduction in greenhouse gas emissions and concentrations way beyond those being discussed today. At the two degrees global increase discussed at Copenhagen we will have a world with no tropical coral reefs,

Charles-Mathieu Brunelle, *Director, Montréal's Nature Museums*

A totally natural relationship

Behind every film, book and song, there is a message that reveals to others who we are and where we come from. Regardless of what form it takes, culture is the very expression of a community's identity, reflecting its hopes, fears and convictions. Artists draw their inspiration from their surroundings. They submit to their environment and to the various influences on them in order to make that environment theirs and, ultimately, help the world progress. By its very essence, culture speaks about and even shapes society. It questions the established order. It is perpetually evolving. It is truly alive!

Culture sheds light on the relationship between humankind and nature. Just think of the hunting scenes on the walls of prehistoric caves, and of how Native traditions revolve around celebrating Mother Earth.

But culture also sheds light on the way a society can be unaware of the bonds that connect it with nature. The prevalence of plastic and the rise of junk food in recent decades show us how far removed we are from our natural state. We have used our intelligence to invent new tools and new technologies to care for ourselves and even meet artificial needs we have created. We have set ourselves apart from the other species and have gradually forgotten that we too are part of nature, as we have bent it to our every desire. We have forgotten that we ourselves are a species and, just like the millions of other species on the planet, we are part of the balance of the vast system to which we all belong and on which we rely for our survival. In short, as intelligent as we may be, we have mortgaged our own future.

For some years now, our contemporary art, drawing on new knowledge, has been sounding the alarm and calling us to arms. Photographers like Gregory Colbert and Paul Antoine Pichard make us see the urgent need to restore our bonds with the planet. Land art reminds us of nature's splendour. And more and

increasingly acid oceans, with Amazon dieback, with major loss of temperate zone coniferous forest, no species with a current geographic range with lower bound less than 400 meters from the top of a landform, and all island species gone that are today less than four to six meters above sea level.

Two degrees would require a peak in global CO_2 emissions in 2016.

That world is simply not acceptable for us to bequeath to future generations. And it is riddled with inequity for current humanity. The poor will be buffered the least and suffer the most.

It took four billion years for life on Earth to reach its current biodiverse state and to produce an animal with extraordinary consciousness, namely human beings. Our responsibility is to use that capability to take true stock of a biosphere in peril, to push aside the idea of small inadequate steps, and embrace the most ambitious program ever undertaken in our history to restore the Living Planet.

more visual artists are using recycled materials, confronting us with the absurdity of our consumer lifestyles.

Places like Montréal's Nature Museums – the Botanical Garden, Biodôme, Insectarium and Planetarium – are scientific institutions. But they also offer a world of possibilities for showcasing nature's beauty. Culture is one of our main means for sharing our message. For ensuring that the people who visit our institutions appreciate nature even more in all its diversity, complexity and glory. For showing them the bonds between everything in nature. And for constantly emphasizing the importance of the relationship between humankind and nature.

Nature and culture just naturally go hand in hand. They are both all about creativity. They are unceasingly adapting and reinventing themselves. And we humans are players in this major happening, which is also our greatest collective challenge.

Mourad Ahmia, *Executive Secretary of the Group of 77*

Enhancing South-South Cooperation essential for developing countries

The last twenty years have witnessed a major transformation in the way developing countries have been addressing environmental issues in the field of biodiversity. Increasingly, the emphasis of incorporating environmental consideration into economic and developmental priorities within the context of sustainable development constitutes a major concern for the global South.

This explains the fundamental importance that developing countries attach to the Convention on Biological Diversity (CBD) especially to the effective implementation of its threefold objectives; namely the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

Today a major challenge for developing countries is to enhance South-South Cooperation in order to implement fully the objectives of the Convention and attain critical Millennium Development Goals. In this context, initiatives and projects advanced in the field of South-South Cooperation, including Triangular Cooperation represent vital tools for developing countries to share strategies for the effective implementation of the Convention.

In this regard, a significant step forward was taken by the Group of 77 in initiating the elaboration of a Multi-Year Plan of Action (MYPA) for South-South Cooperation on Biodiversity for Development as recognized in decision IX25 adopted by the ninth session of the Conference of the Parties to the Convention held in Bonn, Germany, from 19-30 May 2008. The progress was launched in 2006 in partnership with the CBD Secretariat as an important mechanism to facilitate projects and programmes designed to support the achievement of the main objectives of the CBD. The proposed Multi Year Plan of Action aims to:

- Enhance the implementation of the threefold objectives of the Convention and the relevant decisions of the Conference of the Parties and the Cartagena Protocol on Biosafety through South-South Cooperation
- Provide a solid platform for Parties to exchange experiences and disseminate best practices among developing countries through South-South Cooperation and to facilitate access to relevant information on

"The Group recognizes that South-South Cooperation on biodiversity for development can make a valuable contribution towards the fair and equitable sharing of benefits from the use of genetic resources"

major South-South initiatives on biodiversity

- Provide a framework for Parties, development agencies, and various institutions to develop and implement projects, initiatives on South-South and Triangular Cooperation under a common approach in order to ensure the effective implementation of the Convention

- Mobilize additional resources for South-South and triangular initiatives in the Convention.

In this context, the proposed MYPA will not only provide a solid platform for the exchange of South-South scientific and technical knowledge and best practices, but also support the mainstreaming of biodiversity concerns into regional and sub-regional cooperation agreements as well as inter-regional South-South initiatives. It will also contribute to expanding South-South Cooperation including triangular arrangements, as a compliment to North-South Cooperation in the implementation of Convention's main objectives.

Today there is a mounting sense within the Group of 77 that MYPA's objectives are particularly vital to targets envisioned by the Convention. In this context, the Group recognizes that South-South Cooperation on biodiversity for development can make a valuable contribution towards the fair and equitable sharing of benefits from the use of genetic resources taking into account the varied linkages and interactions between biodiversity, climate change and desertification.

In this regard, the forthcoming session of the Conference of the Parties to the Convention (COP 10) to be held in Nagoya, Japan from 18 to 29 October, will provide a timely opportunity for Parties to showcase major South-South and North – South initiatives in support of biodiversity and renews their commitment towards further strengthening South-South Cooperation on biodiversity for development.

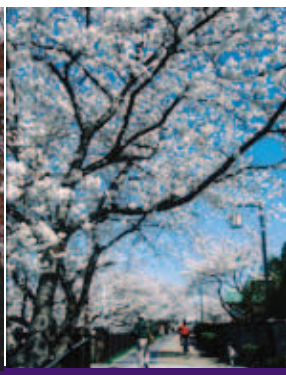
Takashi Kawamura, *Mayor of Nagoya, Aichi Prefecture, Japan*

Nagoya: Working for the preservation of nature

Two years have passed since a decision was adopted at the ninth meeting of the Conference of the Parties (COP 9) to the Convention on Biological Diversity which recognized the importance of cities and local governments in the conservation and management of biological diversity. In the two years following the Mayors Conference in Bonn, Germany, a number of international conferences have been held, including the ICLEI World Congress, the Urban Nature Forum, and the Second Curitiba Meeting on Cities and Biodiversity. And in this time, international collaboration and sharing of information on local governments' leading-edge efforts have been strengthened.

In keeping with this trend, the City of Nagoya, along with the Aichi Prefectural Government, will host the City Biodiversity Summit 2010 in Nagoya from 24 to 26 October. We are expecting around 500 participants at the forum from 200 groups interested in biological diversity, such as the world's cities and local governments, and international organizations. By local governments both within Japan and abroad exchanging experiences and sharing information on their leading-edge efforts concerning biodiversity, we hope to further expand efforts at the regional level.

Urban Biodiversity & Design 2010 (URBIO 2010), a workshop developing research related to the conservation of ecosystems, was held in Nagoya in May 2010, ahead of COP 10. This conference was the successor to URBIO 2008 which was held in Erfurt, Germany, concurrently with COP 9. There were 460 attendees from 30 countries, and as many as 340 presentations were given on the theme of "Urban Biodiversity in the Ecological Network." On the final day of the conference, the Nagoya Declaration – URBIO 2010 was adopted. The declaration recognized the importance of research related to the climate change mitigation and adaptation, and was communicated to the Ministry of the Environment and the Secretariat of the Convention on Biological Diversity, and so on. The declaration will be presented



Muneharu Nakagai, *Mayor of Toyooka, Japan*

The revitalization of our regional community and economy through stork conservation: Challenge for Toyooka City, Japan

The photograph below, of a female farmer, seven cows and twelve storks, all living in the same close vicinity, was taken in 1960 in Toyooka, Japan. No one could then imagine that the peaceful co-existence between humans and storks would disappear just 11 years later with the total extinction of the Oriental White Storks in Japan. The photograph symbolically shows what we have lost through these past years.

In 1960 *(Photo courtesy of Fuji Kogeisha Ltd)*

On 24 September 2005, forty-five years after this photo was taken, thousands of people gathered around "Homeland for the Oriental White Stork[1]" to witness five artificially incubated storks being released into the skies of Toyooka. One of the five storks was released by members of Japanese Royal Family, Prince and Princess Akishino. Some of the audience even shed tears as they witnessed the storks flying freely in the sky.

The following story is about how Oriental White Storks became extinct in Japan and how they were returned to nature, as well as what the reintroduction of storks has brought to our livelihood today and what we aim to achieve in the future.

Toyooka is located in a low and swampy basin area

Toyooka City is located in the northern part of Hyogo Prefecture in Western Japan, facing the Sea of Japan and has a population of about 90,000. The

(Photo courtesy of Toyooka city office)

Maruyama River runs through the middle of the city. The gradient of the river is very gentle with an inclination of only one to ten-thousandth, together with bottleneck valley topography, creating a poor drainage and a swampy basin which is prone to floods. These geographic features may be inconvenient for humans; however, these swampy low lands function as a wetland ecosystem, making Toyooka an ideal home for marsh-living creatures and a reservoir of biodiversity.

Extinction and re-introduction of storks

A typical example is the Oriental White Stork which utilizes wetlands and rice paddies as feeding grounds. The stork is a large bird with a two-meter wingspan. Storks are fully carnivorous, sitting at the top of their food chain. Previously, rice

(Photo courtesy of Kobe Shimbun)

paddies adjacent to rivers were wet all year-around due to the low altitude and lack of any modernized drainage system. This enabled these rice paddies to function as an extensive wetland ecosystem, making Toyooka an ideal habitat for this bird.

Storks used to be common throughout Japan. However its population declined throughout the 19th and 20th Centuries, due to various human interventions, such as the hunting of storks and the reduction of wetlands as a result of the improvement of rivers and lands. The ecosystems in the rice paddies were especially affected due to spread of chemical pesticides/ fertilizers usage and proliferation of modernized agricultural infrastructures, which were all introduced to enhance the rice production. By 1966, Toyooka had become the last

1. "Homeland for the Oriental White Stork" is a Hyogo Prefectural re-introduction center which focuses on breeding, research and education for Oriental White Storks.

existing habitat for the storks until their total extinction in 1971.

Six years before their extinction, the Hyogo Prefectural Government and the Toyooka Municipal Government decided to start a project to breed storks under captivity. However this artificial breeding was not an easy thing to do. No chicks hatched for 24 years, leading people to devastation and despair. After a quarter of century of continuous efforts, the first chick hatched in 1989 from a stork couple which were donated from Khabarovsk, Russia in 1985[2]. Since then, the number of hatched storks has been steadily increasing and brought us to the historical moment in 2005, as mentioned above, when the storks were returned to the skies of Toyooka. Currently, there are more than 40 birds in the wild, in addition to 100 birds in two breeding facilities in Toyooka.

Why and how do we re-introduce storks?

We spent effort in terms of energy, cost and time, to bring back these birds into the wild. This is a price that we are willing to pay in the future as well. But why?

There are three reasons. Firstly, this was a promise made between our community and the storks. When we took storks into captivity in 1965 we made a promise to them that we would return them back to the skies of Toyooka and enable them to fly. Secondly, the population of the Oriental White Storks is estimated to be only about 3,000 worldwide. We want to make a contribution to the conservation of the endangered species through our re-introduction project. Thirdly, and most importantly, we want to restore a rich natural environment which enables even a large carnivorous bird, like a stork, to survive. Our slogan is "A rich environment good for storks must be also good for humans."

To meet these goals, hub facilities, such as "Homeland for Oriental White Stork" and "Eco-Museum Center" were established by the local governments, and various projects were implemented by different stakeholders.

One of the success stories in these projects is the promotion of 'organic farming[3]' called, "Stork Friendly Farming". To minimize the environmental damage caused through the agricultural production process, this organic farming method requires farmers to curtail the usage of chemical pesticides to 25% of that of the conventional farming methods or less. Moreover, fish ladders have been installed to connect the rivers, irrigation channels and rice paddies. This enables various fish and amphibian species to move around in these networks. Through these farming practices, we were able to synchronize rice production, i.e. economic activity, which is essential for the local livelihood, with the conservation of biodiversity.

In 2005 (*Photo courtesy of C Asahi shimun*)

Another example is the project being implemented by Ministry of Land, Infrastructure, Transportation and Tourism. This project is a mixture of disaster management, specifically flood control and wetland creation. As mentioned above, Toyooka is prone to floods; therefore flood management is crucial for the safety of human lives. In parallel to creating dikes along the river, the ministry is excavating floodplains for flood control and the restoration of wetlands. These artificial wetlands are designed to function as reservoirs of diverse plants and animals as much as feeding grounds for storks.

On 20 May 2007 the first chick was born in the wild, after a 43-year absence. Since then more and more new chicks have been hatching every year increasing the storks' population.

Creating Toyooka Eco-Valley, Environment-Economy Strategy

Now we are proceeding to the next step which aims to further enhance a linkage between the environment and the economy. We are often exposed to strong criticism which says that human livelihood is much more important than nature or storks. To encounter these criticisms we are putting our efforts towards creating a sustainable city, called "Toyooka Eco-Valley", where activities for the conservation of the environment and biodiversity boost the local economy and vice versa. This will enable us to tear down the "traditional" belief that environment and economy are incompatible.

We formed "the Environment-Economy Strategy" in 2004 (see box 1. for details). For example, Toyooka City has invited a manufacturing factory of solar batteries. Solar batteries offer benefits for the environment like reducing CO2 emissions. At the same time, through manufacturing of solar panels, the company gains a profit and provides jobs for the local population.

Another example is the organic farming mentioned above. This organic farming method contributes to creating a good environment for the storks. The rice which is made using this method,is sold at a price of 60 to 100% higher than that of the rice made using conventional farming methods, creating financial benefits for the farmers and incentive for them to conserve the environment. In addition, it has contributed to the creation of pride for the farmers which motivates them to continue farming. Consumers are willing to pay the premium since they know that this rice is safe and healthy and they are contributing to the conservation of biodiversity through their consumption of the organic rice. Currently, this organic farming is rapidly spreading not only in Toyooka but in adjacent cities as well.

The third example is eco-tourism. The

2. Haplotype analysis has revealed that the genetic differences are small or none at subspecies level between Japanese population of storks and the Russian one.

3. In this article organic farming includes farming with reduced chemical fertilizer and pesticide as well as so-called organic farming.

re-introduction of storks has contributed to the creation of eco-tourism in Toyooka. About 400,000 tourists visit the Eco-museum Center every year to see the storks and to learn what we are doing here. A couple of Japanese economists have evaluated that the economic ripple effect of increased tourists is worth $11 million per year.

The Eco-valley is an accumulation of these projects. Each project has different goals and purposes but they supplement each other, making our Eco-valley a more comprehensive one.

Restoration of nature, culture and community

Through numerous efforts, Toyooka's wetland ecosystem has been restored and its biodiversity recreated with various fishes, frogs, insects as well as the storks. However, it is not just these living creatures that returned to the wetlands and wetland-like ecosystems, but also humans, especially children. This is one of the things that we take the most pride in. We are promoting various environment education programs, through which children become familiar with wetlands and rice paddies, and learn about their living creatures. We strongly believe that working on awareness is the key to these issues and the children are the key since they are our future.

It took us an enormous effort to bring the storks back into the skies of Toyooka. But we are very glad that some of the storks have started to fly out of Toyooka as if they were messengers to explain what we are doing. Currently similar projects are spreading throughout other parts of Japan.

You might think, "How can we do such things without storks?" Yes, Toyooka was fortunate to have such a flagship species; however this does not mean that it is impossible to have a similar kind of endeavor in order to enhance human welfare through environmental conservation, especially biodiversity. What is important is to create a viable story, a story that brings people together, that enhances bonds within the community.

Vision

- To create a concordant relationship between the environment and economy

Aim

- Secure sustainability of environmental behavior through the creation of economic benefit that will cover the cost of environmental conservation
- Achieve economic independence through eco-friendly business
- Create a regional identity through new endeavors to synchronize the environment and economy

Principles

- Accumulate eco-friendly businesses
- Promote organic farming
- Support the consumption of local products
- Promote eco-tourism
- Increase the usage of renewable energy

In 2006 *(Photo courtesy of Kobe Shimbun)*

Gérald Tremblay, *Mayor of Montréal, Canada*

Urban Biodiversity: Montréal plays a key role in the challenge of the century

Through their determination, the cities have worked together and in partnership with the Secretariat of the Convention on Biological Diversity to create dedicated urban tools, such as the City Biodiversity Index, the Local Action for Biodiversity, Urbis, etc. However, although the 2008 Convention refers to such resources and programs, the cities have access to few tools that would enable them to do more in this field.

The year designated as the International Year of Biodiversity by the United Nations certainly raised awareness of this critical issue and furthered discussion of best practices in cities. For Montréal, which hosts the International Secretariat of the Convention on Biological Diversity, 2010 was to have been marked by events that would bring the challenge of urban biodiversity to the fore.

Urban biodiversity in Montréal: a mobilizing issue

A spring Summit on Biodiversity and Greening was held at the joint initiative of Montréal and a group of environmentally active organizations. During this public forum, Mr. Ahmed Djoghlaf, Executive Secretary of the Convention, sounded the alert on waning biodiversity throughout the world. His speech rekindled the determination of stakeholders from all Montréal communities, who were eager to share their local experiences and learn about projects produced in other major Canadian, American and European cities.

From the consensuses reached at this summit emerged « *La Déclaration de la collectivité de l'Île de Montréal en faveur de la biodiversité et du verdissement* ». This declaration in favour of biodiversity and greening sought to rally the forces of change around urban biological diversity and to inform current and future efforts in this area.

Beginning in 2004, Montréal deployed new mechanisms for expressing its commitment to reconciling biological diversity and urban development. A specific policy that became part of the Urban Plan highlighted an urgent need to protect existing natural habitats on the Island of Montréal. This policy resulted in the creation of 10 biodiversified urban "ecoterritories," 2,700 hectares of which have now been preserved. In this manner, the city is now protecting some eight percent of its territory, including wetlands and aquatic spaces.

Montréal's nature museums, which include the Botanical Garden, the *Biodôme* and the *Insectarium,* make it a leader in environmental education. With over 1.7 million visitors, many of whom are young people, the nature museums not only play an important role in education, but in conservation, with large plant collections (over 20,000 plant types in the Montréal Botanical Garden, one of the world's largest), insects and animals and research geared to a better understanding of biodiversity.

Next November, Montréal will open its new Biodiversity Centre at the Botanical Garden. Produced in partnership with the Université de Montréal, this centre will conduct research on plants, insects and mushrooms. Some 30 researchers, including those from the nature museums, will seek out new species, since protecting biodiversity starts with discovering, surveying and describing it. This centre will be home to large collections, containing over two million species and will also be a hub for merging major plant and insect collections maintained in Canada's universities and science museums. Finally, international-calibre exhibitions will be presented in a 500 m^2 public space to showcase the critical issues that humanity is facing through the loss of biodiversity.

Getting greener every day

The greening of Montréal's central and more densely populated districts will help mitigate the impact of urban heat islands. Such heating is a public health issue in a large centre like Montréal. Community organizations are helping to plant trees. Green roofs and walls are proliferating as urban farming becomes ever more popular in our parks. Montréal manages its green spaces and in particular its large parks ecologically to promote biodiversity. About 20% of Montréal is covered by woodland or forest, a highly encouraging fact that makes it one of the world's most tree-friendly cities.

"About 20% of Montréal is covered by woodland or forest, a highly encouraging fact that makes it one of the world's most tree-friendly cities."

An active role in international initiatives

Back in 2008, I highlighted the essential roles of cities in local and international efforts to protect the environment in Bonn. Concrete commitments followed. Montréal now sits on the Steering Committee of the Global Partnership on Cities and Biodiversity, along with Nagoya, Curitiba and Bonn. Montréal is one of the cities that have agreed to test out the Urban Biodiversity Index developed in Singapore. Montréal will use that index to formulate a biodiversity action plan and will exchange best practices with other leading cities as part of the Local Action for Biodiversity (ICLEI-LAB).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COVER PHOTOS

Nagoya Castle; "Tanada" in Aichi: Tanada is terraced rice fields and a traditional landscape in hilly or mountainous area of Japan.

photos courtesy Aichi Prefecture government and Nagoya City government