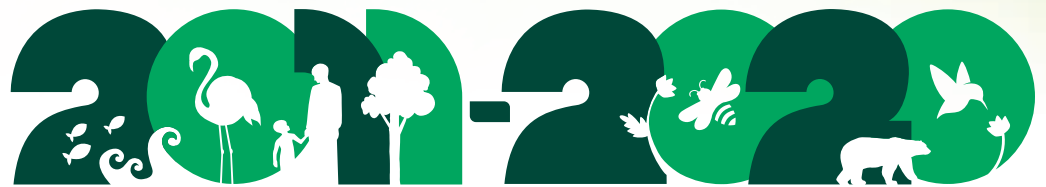


# Living in harmony with nature



**United Nations Decade on Biodiversity**

# Satoyama 3



Convention on  
Biological Diversity

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## You cannot protect what you don't know

**T**he third edition of the Global Biodiversity Outlook 3 confirmed that biodiversity continues to be lost globally at rates so advanced that many ecosystems, including coral reefs, oceans and the Amazon, could enter a self-perpetuating spiral of degradation and quickly become much less rich and diverse.

Despite the warning signs of this potentially irreversible change, far too many people across the world remain unaware of the ongoing loss of life on Earth. This is in large part because the majority of the public and policymakers are ignorant of the irreplaceable contributions that biodiversity makes to human

well-being. As a result, we continue to lead lives marked by unsustainable consumption patterns that disregard the biodiversity upon which our prosperity is based. Because you cannot protect what you don't know and you cannot value what you ignore, the worldwide celebration in 2010 of the International Year of Biodiversity has been an outstanding success in addressing this gap.

At the historic Nagoya Biodiversity Summit last October, world leaders took the first political steps towards a life in harmony with nature. They agreed to the 2011-2020 Strategic Plan for Biodiversity with its set of 20 headline targets, known as the Aichi Biodiversity Targets.

The Aichi Targets are organized under five strategic goals: addressing the underlying causes of biodiversity loss, reducing the pressures on biodiversity, safeguarding biodiversity at all levels, enhancing the benefits provided by biodiversity, and providing for capacity-building. Among the targets, governments have agreed to at least halve and, where feasible, bring close to zero the rate of loss of natural habitats including forests; protect 17% of terrestrial and inland water areas and 10% of marine and coastal areas; restore at least 15% of degraded areas; and make

special efforts to reduce the pressures faced by coral reefs.

But governments also recognized the importance of public awareness in ensuring that this vision comes to fruition. At the initiative of Japan and building on the tremendous success of the 2010 International Year of Biodiversity, the UN General Assembly declared 2011-2020 the United Nations Decade on Biodiversity.

The Decade is not only a vehicle to support the implementation of the 2011-2020 Strategic Plan for Biodiversity and the achievement of the Aichi Biodiversity Targets: it is a worldwide celebration of everything we stand to lose by doing nothing and everything we stand to gain by changing our ways.

Over the course of the Decade, biodiversity must be mainstreamed throughout government and all sectors of society through communication, education and awareness-raising, appropriate incentive measures, and institutional change. By 2020, citizens and governments without exception should be firmly committed to the preservation of our biological heritage.

Launch events for the Decade have already taken place around the world: in Africa, Asia and the Pacific, Southeast Asia, Europe, Latin America and the Caribbean, with a global launch set for the end of the year in Japan.

Each of these events has helped to both build and reinforce a coalition of agencies, organizations and actors in support of the Decade. At the start of this historic event, United Nations Agencies, regional economic commissions, national governments, local authorities and cities and the general public are making the commitments to building a sustainable future.

And indeed we cannot afford to let this opportunity slip by: we must work together more closely than ever during this critical period to build on the outcomes of Nagoya for our mutual benefit and the benefit of all life on Earth. ❖





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

# Message for the United Nations Decade on Biodiversity

**C**onserving the planet's species and habitats is central to sustainable development. Yet the global decline in biodiversity is accelerating. The main causes are human activities.

The consequences are devastating: failed crops, economic losses, less resilience in the face of disaster. As with most emergencies, those hardest hit are the poor. And climate change is compounding the problem.

There are also the opportunity costs: what cures for disease... what other useful discoveries, might we never know of because a habitat is destroyed forever, or

land is polluted beyond all use?

We have all heard of the web of life. We risk trapping ourselves in a web of death. The United Nations Decade on Biodiversity is an opportunity to reverse this trend. Under the theme "living in harmony with nature", the Decade has several objectives. It aims to help us look at the underlying causes of biodiversity loss. It seeks to ensure that biodiversity figures more prominently in decision-making by governments and industry. And it hopes to mobilize all segments of society in achieving agreed international biodiversity targets.

For too long, our natural capital has



been seen as an endless reserve, instead of the limited and fragile resource we now know it to be.

But it is not too late to protect biodiversity so that future generations can enjoy the goods and services it provides.

The coming decade can be a turning point in how humanity values and manages biodiversity. Together, we can build the foundations for a sustainable future. ✨

Achim Steiner, *Under-Secretary-General, United Nations and Executive Director, United Nations Environment Programme*

# Defining the future of life on Earth

**T**he UN Decade on Biodiversity offers an opportunity to encourage and catalyze governments but also a broad cross section of society towards the ultimate goal of meeting the new targets and the timetables agreed in Nagoya, Japan in 2010.

It comes against a backdrop of growing awareness of the inextricable links between human development and the world's natural or nature-based assets and the way biodiversity and ecosystems underpin economies and contribute to the GDP of the poor.

There will be no single, silver bullet that will ensure the new targets are met. Indeed the way societies produce and consume, the character of economic activity and the value placed on forests to freshwaters will as much define the

future of life on Earth as the willingness of nations to declare and support protected areas and set recovery targets and strategies for species.

UNEP has crystalized this reality in its work on the Green Economy—one of the two major themes of the Rio+20 meeting taking place in Brazil in June 2012.

The fundamental thrust is that creative public policy and smart instruments can deliver across a range of sustainability challenges while also growing economies, generating employment and meeting a range of aims from the Millennium Development Goals to the 2 degrees Celcius climate target and the new biodiversity ones.

A recent report by The Economics of Ecosystems and Biodiversity (TEEB), an international effort which has informed the



Green Economy work, notes that:

- The certified agricultural products market was valued at over US\$ 40 billion in 2008 and may reach up to US\$ 210 billion by 2020.
- Biodiversity offsets, such as wetland mitigation banking in the United States or 'bio-banking' in Australia, are predicted to rise from US\$3 billion in 2008 to US\$ 10 billion in 2020.
- Bio carbon/forest offsets including Reducing Emission from Deforestation and forest Degradation are expected to rise from just US\$21 million in 2006 to over US\$10 billion in 2020.



Accelerating and scaling-up such instruments are among the challenges of the Decade and part of the overall greening of the global as well as national economies.

There is equally a growing body of support for a new indicator of wealth, one that moves beyond the narrowness of GDP and includes nature within its parameters. It is likely to be an issue for Rio+20 and beyond, and it offers one path for better integrating biodiversity and ecosystems in economic and development planning.

Governments including India and Brazil are now piloting new assessments of natural wealth which in turn could provide some first steps towards a new, formal notion of national wealth. Communicating their experiences and encouraging assessments among a wider audience of nations may thus also be key for a successful Decade.

Some businesses have made commitments to goals such as a “Net Positive Impact” on biodiversity. Other companies have been developing similar kinds of

commitments in specific areas including Walmart (Acres for America initiative), Coca Cola (water neutral by 2020) and BC Hydro (no net incremental ecological impact).

Such commitments offer templates for private sector engagement and could become a cornerstone of corporate social responsibility initiatives that encompass ever more sectors during the Decade.

Meanwhile, engaging the global public will be a foundation. One of the great achievements of the environmental movement, dating back many decades, has been the growth and membership of wildlife charities and environmental non-governmental organizations.

TEEB, through its public-focused website Bank of Natural Capital, has been bringing the value of nature to a public audience including for example the multi-billion dollar importance of pollinators to food production.

While the spiritual and cultural significance of biodiversity has inspired many to campaign on its behalf, enlisting the force of consumerism into the debate and the

necessity for the world to meet the 2020 targets could have a tipping point effect.

The failure to achieve the 2010 Biodiversity Targets was, at the time a body blow and symbol of the wider failure of the international community to implement sustainable development 18 years after the Rio Earth Summit of 1992.

As nations again embark on the road to Rio to evolve a more decisive response to the sustainability challenge in a world markedly different from the past, the launch of the UN Decade on Biodiversity reminds each and all of the challenges every country faces, but also the possibility of finding new and conclusive ways of meeting our collective goals.

There have always been strong arguments for conserving the planet’s natural riches. Today and as a result of ever more compelling science, economics and social understanding we have many more which offer broad spectrum engagement, improved focus, clear areas for implementation and every chance that 2020 will be cause for celebration. ❖

**Satsuki Eda**, *Minister of the Environment, Japan*

## Achievement of the Aichi Biodiversity Targets through the United Nations Decade on Biodiversity



**F**irst of all, I would like to express my most sincere appreciation for the heartwarming assistance and support provided from around the world in lifesaving and recovery activities for our nation, in response to the Great East Japan Earthquake, which occurred on 11 March 2011. While this disaster made us acutely aware of the starkness of nature, it also shed light on the fact that how valuable the foundations supporting our daily lives are, such as food and energy, for which we depend on myriad plants,

animals, and natural resources.

Today, we are losing biodiversity from every corner of the globe at an unprecedented speed. It is said that if this loss continues at its current pace, the ecosystems will reach the tipping point beyond which our biodiversity would be degraded to such an extent that it could never be recovered for future generations. In order to hand down the healthy ecosystems that are fundamental to our daily life, we need to confront these crises with our collective wisdom.

At COP 10 held in October 2010, the Aichi Biodiversity Targets were adopted as the new global targets on biodiversity. The Aichi Targets presented a direction which the international community should follow for the next ten years. Whether or not we can halt the loss of biodiversity and turn toward recovery depends on our actions over the next ten years.

Above all, each country is required to develop and revise its own national strategy and action plan based on the Aichi Biodiversity Targets, and thereby reinforce



biodiversity conservation measures. In this context, taking a participatory process with the engagement of a wide range of stakeholders is key.

Serving as the COP 10 Presidency, Japan remains committed to enhancing its efforts in conserving biodiversity and providing proactive support so that all the Parties can advance implementation with the participation of various stakeholders.

As part of the contribution, Japan is supporting the capacity building workshops on developing and revising national biodiversity strategies and action plans through the Japan Biodiversity Fund,

taking not a conflicting but rather a more adaptive approach towards nature, is an important perspective of the initiative. As a concrete measure, designing a new national park symbolizing the recovery is being discussed, which would contribute to the rebuilding of the Satoyama and Sato-umi areas that were affected by the disaster.

The early entry into force of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, which was adopted at COP 10, is another major issue. Japan will encourage devel-

the processes such as the first plenary meeting to be held in October 2011.

This year is the first year of the United Nations Decade on Biodiversity 2011-2020, which provides all levels of stakeholders, including governments, businesses, and citizens, with the unique opportunity to tackle establishing a sustainable society in harmony with nature, based on the Aichi Biodiversity Targets.

Celebrations for the start of the Decade have already been held in Asia, Latin America, and Africa, in response to the increasing momentum for the efforts around the world. As the COP 10 Presidency, Japan will host the global launching event of UNDB in mid-December of 2011, in partnership with the CBD Secretariat and the United Nations University. With this celebration, governments, international organizations, and other relevant stakeholders will gather to celebrate the launching of the Decade, so as to contribute to the effective and efficient achievement of the Aichi Biodiversity Targets.

At the national level, Japan will establish a national committee with the participation of the major stakeholders concerned, with a view to promote efforts undertaken by sectors through this committee.

In order to pass down the rich bounties of nature to our children, seeking the life in harmony with nature, let us now take urgent actions, continue our actions, and extend our actions to all the people around the world, for the achievement of the Aichi Biodiversity Targets. ❖

*“Serving as the COP 10 Presidency, Japan remains committed to enhancing its efforts in conserving biodiversity and providing proactive support so that all the Parties can advance implementation with the participation of various stakeholders.”*

which was established under the CBD Secretariat at COP 10. The workshops have been held in nine sub-regions globally as of August 2011, with the participation of more than 140 countries in total.

With the intention to take the lead in setting good examples, Japan has initiated the process for revising its national biodiversity strategy, taking the Aichi Targets into account. In particular, based on our experiences from the recent disaster, I believe that the concept of realizing “a society in harmony with nature,” by

opening countries to sign and ratify the Nagoya Protocol through its contribution to the Nagoya Protocol Implementation Fund (NPIF) that was established at GEF in March 2011, thereby contributing to the early entry into force of the Protocol.

In order to address the loss of biodiversity, the science and policy interface should be enhanced. Toward the early establishment of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), I expect that the discussions will be further advanced through



Paul Kagame, *President of the Republic of Rwanda*

# Socio-economic transformation and the protection of biodiversity: A symbiotic relationship

It is now no longer debatable that an intrinsic relationship exists between resilient biodiversity and sustainable development. Furthermore, the reliance of communities on well functioning ecosystems to achieve socio-economic activities is undeniable.

In line with Rwanda's continuous efforts to streamline all national policies to ensure socio-economic transformation, we have placed the environment at the core of our development. To address evidence that human development has been compromised by the accelerated global depletion of biodiversity, our Government is implementing sustainable restorative initiatives aimed at bringing these negative trends under control.

As the first sub Saharan African Nation to sign the Nagoya Protocol, which is currently undergoing the ratification process in Parliament, Rwanda continues to fulfill its commitment to implement its core objectives. Through the adoption of the Nagoya Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets, Rwanda has established a variety of policies that ensure that Rwandans are "living in harmony with nature."

With more endemic mammals, birds, butterflies, fish and amphibians than any other African country, Rwanda belongs to one of the most biologically diverse geographical areas—the Albertine Rift. Rwanda is also home to two great ape species that were under threat of extinction two decades ago. With conservation best practices that focused on ensuring that species naturally thrive in a safe environment, the population of mountain gorillas had a record growth of 26.3% between 2003 and 2010.

As is customary in Rwanda, community participation in these efforts has been key. The communities surrounding the mountain gorillas have benefited through employment and a revenue sharing scheme that has led to construction of



*"Through the adoption of the Nagoya Strategic Plan for Biodiversity 2011–2020 and the Aichi Targets, Rwanda has established a variety of policies that ensure that Rwandans are 'living in harmony with nature.'"*

schools, homes for the most vulnerable as well as funded income generating projects. Indeed, the mutually beneficial harmony between livelihoods and biodiversity protection could not be clearer. Additionally, the benefits of these conservation efforts have expanded beyond Rwanda and into neighboring countries through collaborative conservation mechanisms such as "The Greater Virunga Transboundary Collaboration."

Appropriate biodiversity protection is made even more indispensable by the need to adapt to the Climate Change challenges our Planet is facing. To address these changes, Rwanda has dedicated 10% of our land to nature conservation within protected areas. Rivers, wetlands and lakes are by law, demarcated by protection belts which also account for part of our national contribution to achieve the global aim, as set in Aichi Target 11, to increase the size of terrestrial and inland water conserved areas to 17%.

In Rwanda, the case of restoring Lake Kivu's coast line is a clear illustration of the benefits that water protection brings to both biodiversity and socio-economic development of communities. The lake shores have been continuously encroached by farming communities, causing excessive siltation. The same communities also carried out non-sustainable fishing that had gradually led to the exhaustion of the fish stock.

In 2005, a five year programme was

implemented to rehabilitate the 50 meter protection belt through tree planting and auto-regeneration of natural vegetation. This involved resettling 1200 families in villages where they were provided with necessary production facilities to sustain their livelihoods. This rehabilitation resulted in the rise of water levels and the replenishment of fish stock. The communities were then organized into 21 fishing cooperatives equipped with appropriate tools and capacity for economically viable fishing. Resettlement in villages permitted better land use, allowing improved agricultural productivity and commensurate earnings.

Other restorative schemes such as the Rwanda Forest Landscape Restoration (RFLR) initiative and the ongoing crop intensification programmes to achieve national food security based on Land Husbandry, Water-Harvesting and Hillside Agriculture (LWH) techniques, all demonstrate the symbiotic balance between productive economic activities and biodiversity conservation.

The Nagoya Strategic Plan of Action 2011-2020 will continue to serve as an important framework for Rwanda to ensure our development targets such as the MDGs and future ambitions are sustained by the safety of our biodiversity heritage. With our steadfast commitment to sustainable socio-economic transformation, we are certain we shall meet the goals we have set both for the Strategic Plan and our national Vision 2020. ❖





# Biodiversity is more than what we think it is



*(The following article is taken from a speech made by Philippine President Benigno S. Aquino III during the South-East Asian launch of the United Nations Decade on Biodiversity and the International Year of Forests, on 30 May 2011 at the Rizal Ceremonial Hall, Malacañang)*

**D**r. Ahmed Djoghlaif, Assistant Secretary General and Executive Secretary of the UN Convention on Biological Diversity; Secretary Ramon Paje; Undersecretary Antonio Rodriguez; Executive Director Rodrigo Fuentes of the ASEAN Center for Biodiversity; Excellencies of the Diplomatic Corps; Representatives from the various international organizations, NGOs, business and youth sectors; fellow workers in government; honored guests; ladies and gentlemen: Good morning.

Biodiversity is much more than what we think it means. The United Nations defines it as the web of life and the foundation of human living, meaning it is more than the coral reefs we protect so we can have fish for dinner.

It is more than the forests we nurture so we can produce clothing and shelter, among other things.

Biodiversity means the air we breathe; the ebb and flow of the oceans; the mountains and the valleys that evoke from us inspiration, awe, and an awareness of our own smallness in the face of the world.

Biodiversity is the delicate thread connecting every organism that lives and thrives on this planet; it is everything that we call home.

Suffice it to say, the launching of the “United Nations Decade on Biodiversity and International Year of Forests in Southeast Asia” is a historic occasion, and we are honored to host it. We thank the United Nations Convention on Biological Diversity and its Executive Secretary, Dr. Ahmed Djoghlaif, for the honor of having the Philippines as its launching site.

We are fully aware of the need to sustainably maintain the balance of our biodiversity. At least 40% of the world’s

economy and 80% of the needs of the poor depend on biological resources. And it is our role as occupants of this world to make certain that we are able to completely and sustainably utilize the resources we have at hand.

Although occupying only three per cent of the earth’s total surface, the ASEAN Region is the habitat of more than 18% of all known plant, animal, and marine species, making us one of the world’s wealthiest biological havens.

The Philippines alone is a highly diverse country. We are ranked fifth for having the most number of plant species in the world, around 7,500 of which are endemic to our country, not to mention the many rare species of reef fishes, birds, and corals.

All these resources make the Philippines and the ASEAN Region crucial

components to the global sustainability and stability of the environment. This is one of our main competitive advantages as a region. Unfortunately, there are those who still see the environment as nothing more than a means to make an easy and quick profit without regard for the long-term consequences.

Last week, it came to my attention that a coral reef complex almost twice the size of Manila was decimated by environmental plunderers, all for a quick profit. They took more than 21,000 pieces of sea fan black corals and indiscriminately murdered 161 endangered turtles—from 80-year olds to 4-year olds—to stuff and sell. Not to mention taking 196 kilograms of sea whip black corals as well. Sadly, this single act of environmental pillage is only symptomatic of a larger problem. Our region is on the brink of losing a significant number of





*“We want to change the way things are; we want to make life better, not only for Filipinos, but ultimately, for the citizens of the world; not only for those who are here now, but more importantly, for those who will come tomorrow.”*

endangered species due to multiple cases of deforestation, wildlife hunting, climate change, pollution and population growth.

If it was not clear before, then it is as clear as day now: we need to act. We need to act now. Our administration has already begun a number of programs to preserve vulnerable species and habitats.

Earlier this month, during the 18th ASEAN Summit in Indonesia, I also personally urged our neighbors to continue supporting the operations of the ASEAN Centre for Biodiversity, which aims to facilitate cooperation among the ASEAN Member States and concerned organizations. Aside from hosting the ASEAN Centre for Biodiversity, we have also committed to incorporating biodiversity in the national development process.

Our administration will continue pursuing biodiversity conservation efforts in the region, such as the Coral Triangle Initiative, the Greater Mekong Program, the Heart of Borneo Initiative, and the ASEAN Heritage Parks.

Just last week, our Department of Environment and Natural Resources launched a project to expand the terrestrial protected areas in the country, beginning with nine key biodiversity areas.

I also just recently launched the National Greening Program, which aims to plant 1.5 billion trees in 1.5 million hectares of land across the country from 2011 to 2016. This program complements an earlier directive I issued, Executive Order No. 23, which calls for a total logging ban in our natural and residual forests and establishes an Anti-Illegal Logging Task Force to enforce the campaign. This aims, ultimately, to end exploitative and long-entrenched practices that have severely damaged our ecology, only for the benefit of a powerful few.

It is important for us to continue down this path of preserving the biodiversity. Therefore, in support of the United Nations, I declare 2011-2020 as the National Decade on Biodiversity in the Philippines.

Some of you may have noticed the towering tree rooted just outside this palace. This balete tree, which is more than a hundred years old, has been a mute witness to Philippine history. And now, as a fitting symbol of our commitment to the United Nations Decade on Biodiversity, I hereby proclaim the balete tree located in front of this hallowed hall as our Heritage Tree. In making it a Heritage Tree, it will constantly remind us of our obligations, both as citizens of this country and as stewards of this planet.

I know that we have made several initiatives to curb these threats to our biodiversity, and I know how hard many of us have worked for this cause. It gets tiring, especially when it would be much easier to surrender under the difficulties of protecting what many people pay little attention to, and what some people want to destroy for temporary gain.

Many of us are dissatisfied with the way things are going. I myself am itching to see the fruits of our efforts. But if there is one thing I have learned from facing the many challenges that confront a president, it is that, especially during difficult times, we must put our foot down and hark back to why we are doing what we are doing in the first place: why we choose to act outside of our comfort zones, when we can easily sit back and watch the world, along with its cycle of problems, spin by.

The answer is simple: we want to change the way things are; we want to make life better, not only for Filipinos, but ultimately, for the citizens of the world; not only for those who are here now, but more importantly, for those who will come tomorrow.

This is not the first time a group of strong-willed people tried to change the world. This has happened before, and though some may have faltered, many have succeeded. And this is what ties us all together; the collective will to persevere in the face of the seemingly impossible. This is the root from which the enduring tree of humanity has grown.

So in this spirit, together, let us celebrate the National Decade on Biodiversity from 2011-2020 and the International Year of Forests and let us constantly work towards everything it promises.

Thank you and good day! ✎



# México, a favor del manejo sustentable de la biodiversidad para el desarrollo y el bienestar

**Y**o nací y crecí en Michoacán, un estado en México que tiene vastos bosques, lagos, ríos, llanuras y hermosos litorales que son el hogar de una rica diversidad biológica. Fue ahí, en mi tierra, donde aprendí a respetar a la naturaleza. Fue ahí donde comprendí que la gran biodiversidad que tiene México no es sólo un enorme privilegio, sino que es también una gran responsabilidad, se trata de un patrimonio que pertenece a toda la humanidad. Partiendo de esa convicción, en mi administración le hemos dado la más alta prioridad al cuidado y a la conservación del medio ambiente y de los recursos naturales.

Como parte de este compromiso con el mundo, durante la Décima Conferencia de las Partes en el Convenio sobre la Diversidad Biológica (CDB) celebrada en Nagoya, Japón, a finales de 2010, México, a nombre del Grupo de Países de América Latina y el Caribe (GRULAC), conjuntamente con el Grupo de Países Megadiversos Afines, promovió activamente la aprobación de tres puntos fundamentales para los trabajos del CDB durante la próxima década:

- La formalización e implementación del Protocolo de Nagoya sobre el Acceso a los Recursos Genéticos y Participación Justa y Equitativa en los Beneficios que se Deriven de su Utilización;
- La adopción del Plan Estratégico 2011–2020; y
- La movilización de los recursos financieros necesarios para la implementación del Protocolo de Nagoya, especialmente en los países en desarrollo.

Todo resulta de la mayor relevancia debido a la posibilidad de reforzar, vía financiamiento, los programas y las acciones concretas para reducir

significativamente el ritmo de pérdida de diversidad biológica en el ámbito mundial, regional y nacional.

Los retos ambientales que vivimos actualmente se pueden resumir en la existencia de dos importantes brechas que comprometen el bienestar de la humanidad: la brecha entre ricos y pobres, y la brecha entre el hombre y la naturaleza. En México estamos convencidos de que podemos y debemos trabajar para cerrar ambas brechas simultáneamente. Para nosotros, la conservación de la biodiversidad requiere de imaginación para pensar en nuevas formas de aprovechamiento sustentable de los recursos naturales y convertirlos en fuente de desarrollo y bienestar.

Con este espíritu, en febrero de 2011, México se convirtió en el quinto país en firmar el Protocolo de Nagoya. Al hacerlo, reiteró la importancia de la cooperación internacional y de que todos los Países Parte del CDB lo firmen y ratifiquen lo antes posible, ya que su entrada en vigor permitirá contar con los medios necesarios para su adecuada implementación. Este instrumento es un elemento fundamental para dar cumplimiento al tercer objetivo del CDB, orientado a: “Garantizar el reparto justo y equitativo de los beneficios derivados del uso de los recursos genéticos, incluyendo el acceso adecuado a éstos, los conocimientos tradicionales relacionados y la transferencia de tecnología relevante.” Esto significa que la diversidad biológica debe ser un elemento para mejorar el bienestar de la gente, y en particular, de las comunidades que viven en esos ecosistemas.

Con la firma del Protocolo de Nagoya y con la adopción del Plan Estratégico 2011-2020, México refrenda su compromiso de poner en práctica nuevas acciones y reforzar aquellas que ya estamos realizando para la conservación y el aprovechamiento sustentable de la

riqueza biológica de nuestro país. Por ejemplo, nos esforzamos en la conservación de nuestra riqueza biológica y a través del fomento a la participación de las comunidades locales y del desarrollo de nuevos mercados verdes, esto, entre otras medidas, nos está permitiendo generar fuentes de empleo e ingreso para la población. De esta manera avanzamos en el rompimiento del círculo vicioso pobreza-deterioro ambiental-mayor pobreza, y damos pasos firmes en el mejoramiento de las condiciones de vida de las comunidades cuyo sustento depende del aprovechamiento de los recursos naturales.

Los resultados de la Cumbre de Nagoya serán un tema central en la Conferencia Río+20, que tendrá lugar en 2012. Se trata de una Conferencia que marca el vigésimo aniversario de la Cumbre de Río, en 1992. Sin duda, aún están pendientes muchos de los compromisos adquiridos hace 20 años. Es hora de redoblar esfuerzos para que trabajando unidos, como comunidad internacional, logremos frenar y revertir la pérdida de la diversidad biológica del planeta, fortalecer la seguridad alimentaria y erradicar la pobreza. Ahora, como hace veinte años, todavía tenemos mucho trabajo por delante para avanzar en el logro de éstos objetivos. México, como país megadiverso, en el que buena parte de su población y de su economía están ligadas a la permanencia de los recursos naturales, está comprometido a promover activamente el cambio de paradigma económico que nuestro presente y nuestro futuro nos demandan.

Invitamos a la comunidad internacional a unir esfuerzos para transformar las oportunidades que brindan la conservación y el aprovechamiento sustentable de nuestra biodiversidad en un mayor bienestar para las generaciones de hoy y del mañana. ✎



# Translating the Nagoya commitments at the regional level



**T**he agreement reached by 193 countries in Nagoya, Japan in October 2010 on how to advance global biodiversity policy over the next decade represents a victory for the world's biodiversity and, by consequence, for the future of mankind, given our dependence on the goods and services provided by nature. Nagoya is also a positive example of what can be achieved when the international community joins forces for a common cause. It is an example of multilateral environmental governance at its best.

The international community must now waste no time in translating the Nagoya commitments into action at global, regional, national and sub-national levels.

On 3 May 2011, the European Commission adopted a new strategy to reverse the loss of biodiversity and speed up the European Union's (EU) transition towards a resource efficient and green economy. Entitled *Our life insurance, our natural capital: an EU biodiversity strategy to 2020*, the strategy focuses on six priority targets and corresponding measures aimed at protecting species and habitats, maintaining and restoring ecosystems and their services, anchoring biodiversity goals in sectoral policies such as agriculture, forestry and fisheries, combating invasive alien species, and stepping up the EU's contribution towards averting global biodiversity loss.

The strategy is complemented by a substantial body of existing EU environmental legislation, which tackles a wide range of pollutants, minimizes waste and regulates chemicals. This legislation delivers important additional benefits for biodiversity.

Taking action to protect and enhance biodiversity will also make an important contribution to our climate change objectives, since healthy, diverse ecosystems play a vital role in climate regulation, while helping communities adapt to its unavoidable impacts. It will also contribute to the

EU's resource efficiency goals as part of the broader Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth, since the conservation of biodiversity and ensuring its sustainable use are essential to achieving the desired transition towards a green economy.

The EU biodiversity strategy to 2020 is underpinned by a 'triple rationale' for action.

Firstly, there is an obvious environmental imperative to act. Recent assessments of the state of biodiversity in the EU show that despite improvements in some areas resulting from action taken in response to the 2010 target, the situation remains worrying. Only 17% of assessed species and habitats are in a good state of conservation. Too many ecosystems are degraded, and as a result are unable to provide optimal levels of ecosystem services. It is high time to turn this situation around.

Secondly, the strategy is underpinned by political commitments at both EU and global levels. In March 2010, EU heads of state and government endorsed an ambitious EU headline target on biodiversity, which calls for *halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss*. In October 2010, the EU subscribed to the Nagoya Compact.

Finally, we have a clear economic rationale as set out in the results and recommendations of the TEEB reports, which underscore that the value of natural capital far outweighs the costs of action needed to conserve it.

These considerations informed the development of the EU's biodiversity strategy to 2020.

Many of the targets and actions reflect the strategic goals and targets set out in the Aichi Strategic Plan 2011-2020. For example, one of the targets requires restoring 15% of degraded ecosystems in the EU by 2020, as called for in target 15

of the global Strategic Plan, while another mirrors target 9 on invasive alien species, which is a growing driver of biodiversity loss in the EU, causing some €12,5 billion worth of damage each year.

On 21 June, environment ministers of Member States meeting as Council of the European Union endorsed the strategy as a key instrument to enable the EU to reach its 2020 headline target on biodiversity. This is important, since the strategy includes some actions that must primarily be delivered through national level action by the 27 Member States of the Union.

Political commitment is an important first step towards effective implementation. An important factor for delivery will also be to successfully engage with the wide range of concerned stakeholders. The slogan of the European Commission's 2010 biodiversity campaign, "We are all in this together", could therefore not be more fitting. It is vital that everyone — from businesses and NGOs, to politicians and citizens — get involved and do their part to translate commitments into action. The Commission will draw on a number of key partnerships established with different stakeholder groups in support of implementation. As we head towards the 11<sup>th</sup> meeting of the Conference of the Parties to the CBD, which India will graciously host in 2012, we will work closely with our partners within and beyond the EU to ensure the success of Nagoya is replicated in Hyderabad.

Indeed, success in achieving our biodiversity targets, whether at the level of the European Union or at the global level, requires a global approach. The United Nations Conference on Sustainable Development, which will take place in Rio next June, is a singular opportunity for the world to chart a new course towards achieving real sustainable development — one in which economic growth comes not at the expense of natural capital, but through its preservation and enhancement. ♣



# Shaping a new framework for conservation of biological diversity



On 1 July 2011, Poland took over the Presidency in the Council of the European Union. On the one hand this is a good reason to feel proud, but on the other it is an enormous challenge and a chance to search for effective solutions to problems shared by Europe and the world.

The loss of biological diversity is one of the most acute global environmental problems which humankind has to face. Biological diversity is a system we are part of ourselves, and on which our existence is based. The condition of ecosystems affects, among other things, supplying people with food, clothes and medicines, ensuring fresh air and clean water, as well as preventing and mitigating consequences of extreme phenomena. Moreover, numerous forms of economic activity are based on natural resources.

Unfortunately, escalating processes of excessive exploitation of resources, advancing changes as far as land use is concerned, environment pollution, spread of invasive alien species, climate change and their conjugate impact result in imbalance in ecosystem functions and depletion of species and genetic diversity worldwide. These have also a negative impact on the quality of human life, as well as on life safety and health of people.

The increasing awareness of consequences of the loss of biological diversity resulted in adoption by the international community at the Summit held in Rio de Janeiro on 5 June 1992—the United Nations Convention on Biological Diversity. The Convention has become a global tool enhancing and coordinating measures aimed at conservation of biological diversity, sustainable use of its elements and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources. Poland ratified the Convention in 1996 and since then it has been actively supporting accomplishment of its objectives, both through engagement at the

international level and implementation of the National strategy for conservation and sustainable use of biological diversity and the Action Plan.

Within the current six-month period, the Polish Presidency has been striving to accomplish the primary objective of the European Union on biodiversity, which includes: halting the loss of biological diversity and degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping

Targets) was one of the decisions which made the CBD COP 10 successful. Updating the Strategic Plan resulted in development of an action-oriented document, containing ambitious but realistic and measurable short-term objectives, as well as long-term ones and visions. Global priorities within conservation and sustainable use of biological diversity for subsequent 10 years were specified in the document. The document will also serve as frameworks for updating by Poland of

*“Taking into consideration the value of natural capital in other policies may become the key to overcome the economic crisis, the way to reduce poverty and a chance to accomplish successfully the Millennium Development Goals.”*

up the EU contribution to averting global biodiversity loss. Pursuits to meet the obligations resulting from the Convention on Biological Diversity, including the decision of the 10th Conference of Parties to the Convention (COP 10 CBD Nagoya, October 2010) adopted last year, are of particular importance. These include implementation of the Strategic Plan for the years 2011-2020, mobilization of resources for implementation of the Convention and a prompt ratification and meeting obligations resulting from the Nagoya Protocol. Identification of appropriate instruments facilitating conservation of biological diversity, ensuring inter-sectoral integration and increasing the awareness of the importance of biodiversity protection in the society are some of the most important current topics.

Adoption of the revised Strategic Plan for Biodiversity for the years 2011-2020 and its 20 objectives (referred to as Aichi

its national objectives and revision of the national biodiversity strategy. This is a task requiring careful execution of the adopted objectives, determination of priorities, identification of weaknesses and ways of eliminating them.

Besides the key issues related to the pursuit to lower the dynamics of the loss of biological diversity, increasing protected land and marine areas or restoring degraded ecosystems, numerous vital objectives of the Strategic Plan relate to the need to incorporate biological diversity in the process of development and implementation of sectoral policies. Effective conservation of biological diversity must be holistic and go beyond the interests of individuals and institutions occupied with environmental protection, becoming a shared concern and an important element of all development measures and decision-making processes (including in particular sustainable agriculture,



forestry and fishery, spatial management, infrastructure development, water management, as well as education and upbringing).

Taking into consideration the value of natural capital in other policies may become the key to overcome the economic crisis, the way to reduce poverty and a chance to accomplish successfully the Millennium Development Goals. Still, fostering conditions ensuring preservation of biological diversity at all levels of its organization requires systemic measures and active engagement of the entire society.

One should also emphasize the importance of ratification and implementation of the Nagoya Protocol concerning access to genetic resources and fair distribution of the benefits resulting from their use, as with no progress in that area it will be difficult to achieve any progress in the other thematic areas of the Convention. This issue is of key importance not only for sustainable use of biological diversity, but also in the context of execution of the Millennium Development Goals, including reduction of poverty worldwide. Intense works aimed at signing the Protocol are currently under way in Poland.

We have to achieve difficult, still very motivating objectives. Their accomplishment requires joint efforts to be undertaken by the international community. While expressing satisfaction from adoption of ambitious goals of the Strategic Plan, Poland is undertaking and will be intensifying its efforts aimed at their accomplishment, as well as at execution of the other decisions adopted during the Conference of the Parties held in Nagoya.

Earth Summits held within the last two decades (Rio de Janeiro 1992 and Johannesburg 2002) were of key importance for undermining the significance of biological diversity. We believe that as a result of the incoming Earth Summit Rio+20 (Rio de Janeiro, 2012) another milestone will be made towards fulfilling the requirements of nature conservation in accordance with the sustainable development concept, and implementation of the new approach to economy aimed at effective use of resources will contribute to implementation of the Millennium Development Goals. ♣

# 10 years for 20 targets – together we can do it!

**T**he International Year of Biodiversity was a very intensive year for us all. It was marked by many achievements, such as the decisions of Nagoya, the successful conclusion of The Economics of Ecosystems and Biodiversity (TEEB) study, the decision to establish the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and the declaration of the United Nations Decade on Biodiversity, 2011 to 2020. Although the loss of global biodiversity has not yet been halted, the highly complex issue of biological diversity has nevertheless become the focus

of more international public attention than ever before. We are justified in saying that we have firmly established “our” issue at the very top of the global political agenda. Right up to head of state and government level, politicians throughout the world have been considering biological diversity and the impacts of its loss on human well-being and global economic development.

The Strategic Plan 2011 to 2020 was adopted at the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) in Nagoya. The Strategic Plan is an ambitious roadmap which, if consistently implemented, will help us achieve the long overdue trend reversal for the conservation and sustainable use of biodiversity. Nagoya saw important progress on other issues as well. For me, the greatest breakthrough was reaching agreement on the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization. Thus, after 20 years, we have finally been able to give substance to the third objective of the CBD. The international community now has an effective instrument to prevent biopiracy, and one which provides both developing and user countries with a reliable framework.



Despite these successes, however, there are still considerable challenges before us. Here are just some examples: 13 million hectares of forest are cut down each year—the equivalent of an area the size of Greece. Already, 80% of the Caribbean coral reefs have been wiped out, and 35% of all mangroves were destroyed within the last 20 years. Nature

in Germany is not doing very well either. 72% of all habitats are endangered or even acutely threatened with destruction. All these examples drive home the fact that we are failing to take care of our planet.

Bit by bit, we are losing nature. This loss is often subtle and goes unnoticed, but it is, in any event, irreversible.

Yet nature is the basis of our livelihood—and of our economy. The conservation of nature is no luxury. On the contrary, the destruction of nature will ultimately also have serious impacts on mankind. I would like to illustrate this by looking at the destruction of the coral reefs. Why must we concern ourselves with this? Even if CO2 emissions remain the same, acidification of the seas could still lead to the world’s coral reefs being completely wiped out within a few decades. The loss of coral reefs would mean the loss of ecosystem services currently provided by nature, such as coastal protection and fish breeding grounds. These services are valued at up to 170 billion US dollars per year, but that figure is surpassed once again when we realize that the loss of these services also means the irreversible loss of livelihood for half a billion people. This is the magnitude of the effects. We have to recognize this economic dimension and gear our political and business activities to it.

The Strategic Plan of the CBD therefore also specifies that the conservation of biodiversity should no longer remain the sole



responsibility of environment ministries. The conservation of natural resources—our natural capital—must be integrated into other political sectors and processes, and be addressed by ministries of finance and economic affairs as well. Moreover, if we want to seriously combat the main causes of biodiversity loss—the destruction and over-exploitation of habitats and species, environmental pollution, climate change and the spread of alien species, we must also bring on board stakeholders in agriculture, fishery and transport.

I believe that the UN Decade on Biodiversity 2011 to 2020 will sustain

and strengthen the momentum that the International Year of Biodiversity 2010 gave to global biodiversity policy. Over the next 10 years we must implement the ambitious decisions taken at Nagoya, so that we can succeed in achieving our key joint objective.

We must use the Decade on Biodiversity to draw the attention of policymakers, trade and industry and society to biodiversity, which is an issue of global human relevance. The knowledge that biodiversity is the basis of our economy, and that we as a part of nature are inextricably connected with it, must be consistently

reflected in our political, social and personal actions.

Instruments such as TEEB and IPBES will play a decisive role in this. Their task is to create cross-sectoral political understanding, to identify genuine solutions and help raise public awareness of biological diversity.

The 2008 to 2010 presidency of COP 9 gave Germany the opportunity to considerably advance international efforts to preserve life on Earth. And of course, even after the end of our presidency, the conservation of biological diversity is and will remain a core issue for Germany. ✚

**Nathalie Kosciusko-Morizet**, *Ministre de l'Écologie, du Développement durable, des Transports et du Logement, France*

## La Stratégie française pour la biodiversité 2011-2020 : une mobilisation de tout un chacun



Photo: Mr. Sjoerd van der Hucht

**D**u fait de son patrimoine naturel exceptionnel sur l'ensemble de ses territoires, la France a une responsabilité mondiale en matière de préservation de la biodiversité. C'est pourquoi notre pays a répondu favorablement au double appel de l'Organisation des Nations Unies et de la Convention sur la diversité biologique, en lançant le programme « 2010, Année internationale de la biodiversité en France ». Le bilan en est très positif.

La mobilisation a été forte sur différents terrains : les projets et les manifestations mis en œuvre ont été nombreux, et les citoyens y ont été particulièrement réceptifs. La biodiversité s'est imposée à l'attention de tous et elle s'affirme désormais comme l'une des dimensions d'un projet de société durable.

L'année 2010 était également l'occasion de tirer tous les enseignements de la Stratégie française pour la biodiversité 2004-2010. Des analyses et des évaluations ont été menées, puis une grande conférence nationale en mai 2010 a permis d'esquisser des pistes originales de réflexion pour améliorer la gouvernance

de la biodiversité.

C'est fort du succès et des acquis du programme français de l'Année internationale de la biodiversité que mon ministère a donc lancé, dès 2010, une révision de la Stratégie nationale pour la biodiversité (SNB). La SNB est la réalisation de l'engagement français au titre de la CDB : le Plan stratégique de la CDB lui a donc tout naturellement servi de point de départ. Aussi les 20 cibles d'Aichi ont-elles toutes été reprises et adaptées dans la SNB 2011-2020. L'architecture de la nouvelle stratégie en six « orientations stratégiques » et vingt objectifs reflète le souhait d'être parfaitement lisible au plan international. Tous les enjeux pour la société sont couverts.

Les six orientations stratégiques de la Stratégie française pour la biodiversité 2011-2020 sont d'abord de susciter l'envie d'agir pour la biodiversité ; puis de préserver le vivant et sa capacité à évoluer ; d'investir dans ce bien commun qu'est le capital écologique ; d'assurer un usage durable et équitable de la biodiversité ; d'assurer également la cohérence des politiques et l'efficacité de l'action ; de développer, enfin, les connaissances,

en les partageant et en les valorisant.

Nous nous étions fixés comme échéance symbolique la Journée mondiale de la biodiversité. Pari tenu ! Le 19 mai 2011, j'ai eu le plaisir de présenter, au nom du Premier ministre, la nouvelle Stratégie française pour la biodiversité pour la période 2011-2020. Une stratégie qui fait donc de la France l'un des tout premiers pays à mettre en œuvre à l'échelle nationale le Plan stratégique de la CDB.

À l'occasion de cette révision, nous avons eu à cœur de reproduire le modèle de la gouvernance partagée qu'avait instauré notre « Grenelle de l'environnement ». Sous l'égide de mon ministère, la révision de la SNB a été pilotée par un comité composé de plusieurs catégories d'acteurs, qui chacune a une approche particulière des enjeux : les départements ministériels, les collectivités territoriales, les organisations professionnelles, les associations, les organismes de recherche, les syndicats de salariés, et d'autres encore. À quoi s'ajoutait une participation inédite : celle du public, consulté par Internet et invité à alimenter l'élaboration même de la stratégie. Invitation bien reçue, qui a



Henk Bleker, *Minister for Agriculture and Foreign Trade, Netherlands*

montré une forte adhésion des citoyens aux nouveaux objectifs. La SNB est un véritable projet de société, qui va modifier en profondeur notre rapport à la nature et proposer des modèles de développement dont la biodiversité sera l'une des clefs<sup>1</sup>.

Le fondement et l'originalité de cette nouvelle SNB tiennent à la mise en place d'un cadre cohérent pour que tous les acteurs, aux différents niveaux territoriaux et dans tous les secteurs d'activités, puissent contribuer comme ils l'entendent. Se mobiliser en faveur de la biodiversité, voilà le mot d'ordre. 200 structures sont dorénavant « adhérentes » à la SNB, prêtes à diffuser et promouvoir la stratégie. Je souhaite que chacune d'entre elles puisse prendre part à l'action commune, de façon significative et dans une perspective d'amélioration continue. Concrètement, pour encourager et valoriser l'action, une « reconnaissance SNB » sera mise en place. Il s'agit en quelque sorte de labelliser certains projets faisant preuve de sérieux et entrant dans le cadre des objectifs et principes de la stratégie.

Les collectivités sont concernées par cette mobilisation générale, puisqu'elles élaborent ou révisent les stratégies régionales et locales pour la biodiversité. De son côté, l'État s'est engagé pour la période 2011-2013 à mener des actions complémentaires à celles déjà définies dans le cadre du « Grenelle de l'environnement ». Outre des chantiers tels que l'amélioration de la connaissance, l'accès aux ressources génétiques, la réflexion sur la fiscalité, des appels à projets opérationnels viennent d'être lancés. Dans les domaines notamment de la restauration de milieux naturels et de continuités écologiques, de l'innovation en ingénierie écologique ou encore de la lutte contre les espèces exotiques envahissantes.

La France continuera de se mobiliser pour mettre en œuvre les engagements internationaux de Nagoya et soutenir la Décennie des Nations Unies pour la biodiversité. ♡

<sup>1</sup> Celle-ci fixe pour ambition commune de « préserver et restaurer, renforcer et valoriser la biodiversité, en assurer l'usage durable et équitable, réussir pour cela l'implication de tous et de tous les secteurs d'activité ». Cela s'entend dans tous les espaces dont la France est responsable, en métropole et outre-mer, mais également dans le cadre européen et international, là où la France peut contribuer à cette ambition, dans un esprit de solidarité planétaire.

# Towards integration of biodiversity and economy during the United Nations Decade on Biodiversity

In April 2002 the 6th Conference of the Parties to the Convention on Biological Diversity (COP 6-CBD) took place in The Hague under the motto "Vital World—life on the line". More than 2500 participants discussed the programmes of work on forest biodiversity, marine and coastal biodiversity, agricultural biodiversity and invasive alien species.



At the COP 6 significant progress was made on Access and Benefit Sharing as well as the Strategic Plan of the Convention. The meeting of the Parties to the Biosafety Protocol negotiated a final agreement, while the Ministerial Round Table agreed to reduce the global loss of biodiversity by 2010. In the end, the *Earth Negotiations Bulletin* reported that 'delegates left The Hague with definite feelings of accomplishment'.

Much has been achieved in the nine years since then. But much still needs to be done as well. As we enter the United Nations Decade on Biodiversity I take this opportunity to look back at the period since 2002 and how the policy debate has changed.

First it is noteworthy to see how several of the topics discussed in The Hague have evolved. The Biosafety Protocol has entered into force. Negotiations on Access and Benefit Sharing were successfully concluded and the Nagoya Protocol is now awaiting ratification. The forestry debate has opened up to include discussion of the problem of illegal logging, a still contentious notion in 2002. Climate change has gained prominence in the global environmental debate.

Notwithstanding these achievements

we are still facing serious issues. The earth is still the same size as it was in 2002, but the world's population continues to grow and global consumption continues to rise. Unacceptable inequalities still exist. We still lose species every day. It is for this reason that new and more specific biodiversity targets were set in Nagoya in 2010.

The issues that we face are both urgent and complex, but in essence come down to the question of how to integrate the sustainable use and conservation of biodiversity with economic growth, especially in relation to agricultural production and climate change. What does that mean for the way we organise our economies and use the available land and resources?

These various issues are also at play in the Netherlands, a small country with a population of 17 million and a high-yielding agricultural sector. Biodiversity is the basis for our economy, just as soil is the basis for our agriculture. The Netherlands not only wants to conserve its own biodiversity but also wishes to reduce its impact on biodiversity elsewhere.

At the same time, the public understanding of how we should reach these goals is changing.

Until now much effort has been put into addressing nature separately from the economy. We have tended to segregate land used for nature conservation from land used for economic purposes. This segregation may not be the best way to create incentives for the conservation and sustainable use of biodiversity. It is





clear to me that while we need a system of national parks and nature reserves, the battle to maintain global biodiversity cannot be won through such instruments alone.

In line with the principles that underlie the Japanese Satoyama initiative I believe we need to close the gap between nature and economy in order to create a balanced society: A society that makes a living through nature while at the same time looking after it.

To pursue this we have to integrate sustainability and conservation considerations into every aspect of our day-to-day production and consumption processes. At the same time we need not be afraid to use and enjoy the economic values that our biodiversity holds in store for us.

The need to integrate economy and nature is also visible in other international forums: during the 14th Conference of the Parties of the Convention on the International Trade in Endangered Species

(COP 14-CITES) much debate revolved around the question whether commercially exploited fish and timber also deserve international regulation. During the RIO+20 Conference in Brazil next year, where the notion of the 'Green Economy' takes centre stage, much of the international debate will focus on issues of resource use as well as land-use planning.

The debate on how to integrate economic considerations into the sustainable use and conservation of biodiversity suggests a number of complementary actions:

- Firstly we have to continue to invest in biodiversity protection and the recovery of degraded nature areas in order to preserve species and maintain and enhance vital ecosystems services
- Secondly we have to improve the sustainability and productivity of

global agricultural and fisheries production

- Thirdly we have to enhance the sustainability of production of both biotic and a-biotic commodities in order to reduce our ecological footprint.

With regard to the latter I am pleased to see that the private sector is increasingly taking its responsibility. In the Netherlands and elsewhere numerous initiatives are underway to enhance the sustainability of the production and trade in timber, palm oil, soy, tea, coffee, cocoa, fish, flowers, minerals, peat and the like.

Only by setting policy targets that are both practically achievable and affordable, and by intensive cooperation between private sector, civil society and governments can we achieve the ideal of a balanced society and conserve the species and resources on which we depend. ❖



**Dato Sri Douglas Uggah Embas**, *President of Seventh Meeting of the Conference of the Parties*

## Biodiversity our living treasure

The Convention on Biological Diversity ever since coming into force has been a significant driving force in addressing global biodiversity management issues. Malaysia being a megadiverse country is proud to be party to the CBD and has continuously supported its cause. We hosted the Seventh Meeting of the Conference of Parties (COP 7) to the CBD, and the First Meeting of the Parties (MOP 1) to the Protocol on Bio-Safety in 2004. "Invest in Tomorrow, Protect Today" was the theme of COP 7.

The theme of COP 7/MOP 1 which in essence captures the objective of the CBD, still remains very relevant in today's context as the world embraces green and bio economy. Biodiversity has a huge potential for new wealth generation especially among developing countries. Hence, towards this end we need to sustainably

utilise biodiversity in a fair, safe and judicious manner and in this context, CBD as one of the most subscribed treaty plays a significant role.

Almost two decades have passed since the inception of the Convention on Biological Diversity in 1992. Throughout this period, CBD has played an important role in bringing countries as Parties to the Convention to act in unison to combat global biodiversity loss. While various efforts have been implemented in many parts of the world to halt biodiversity loss; scientific evidence never fail to alert us that world biodiversity is still going on a downward trend, with alarming rate of biodiversity loss. This situation proves that gaps on biodiversity conservation efforts still exist and urgent actions need to be taken before it is too late. The many decisions, resolutions, programs and targets of

the CBD must be translated into real and concrete actions and this can only be realized if countries have adequate capacity and capability for implementation.

However, this, as agreed upon at Rio and reiterated in many foras, calls for financial and technical assistance to developing countries. This has been and continues to be the significant issue in translating the noble intentions of CBD into meaningful actions to meet the targets set by our world leaders to address biodiversity loss.

The CBD also acknowledged that natural resources is the sovereign right of a country and has entrusted each and every country with the responsibility to ensure that biological resources are well taken care of and, where possible, domestic actions are in sync with global efforts to halt biodiversity loss. At the same time,



scattered efforts by individuals, organizations, industries countries and even regional blocks must be converged into an orchestrated global effort in order for us to see significant and meaningful impacts on the ground. In this spirit, Malaysia welcomes the decisions of COP 10 and MOP 5 recently held in Nagoya Japan in 2010. Malaysia is also extremely proud to lend its name to the supplementary protocol adopted during MOP 5 on liability and redress under the Biosafety Protocol of the CBD—the Nagoya Kuala Lumpur (NKL) Supplementary Protocol. This stands as a clear testimony of the continuous efforts of Malaysia as the proponent to include biosafety measures in the CBD to ensure biodiversity in all aspects are well managed, including in new and emerging areas such as modern biotechnology.

The COP 10 decisions among others calls for countries to revise or develop national biodiversity strategy and action plans to be in line with the Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets 2011-2020. The timeline for Aichi Targets is very significant since we as global citizens have not been able to reduce biodiversity loss by 2010, as envisaged by the World Summit on Sustainable Development. Hence, this decade will be very important to ensure concrete actions are taken, and to augment this endeavour, the UN has declared

this decade as the United Nations Decade on Biodiversity.

In line with the first Strategic Goal of the Aichi Targets which calls for addressing the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society, Malaysia would like to share our measures to mainstream biodiversity through Malaysia's Common Vision on Biodiversity document, which was adopted in 2009. The Common Vision promotes a three-pronged approach, namely strengthening the protected areas system, land/seascape management for biodiversity and mainstreaming biodiversity.

In COP 10 the Nagoya Protocol on Access and Benefit-sharing (ABS) was adopted. Malaysia played a very important role in this ABS Protocol. The decision for the Working Group on Access and Benefit Sharing to negotiate an international regime on ABS was adopted in Malaysia during COP 7 where Malaysia played a very active role as part of the Like-Minded Megadiverse Countries (LMMC). After 6 years of intense negotiations, the Nagoya Protocol on Access and Benefit-sharing was adopted at COP 10. Though the process to adopt the protocol may not be in the true spirit of a negotiation process, nevertheless ABS is an extremely important issue especially to biodiversity rich developing countries such as Malaysia. In this spirit, Malaysia is currently formulating

our domestic law on ABS to ensure benefit sharing from the utilisation of biological resources is respected, as well as to curb the misappropriation of these resources and associated traditional knowledge.

Malaysia too is actively promoting nature based tourism as we have some of the world's oldest rainforest, rich with biodiversity some not found anywhere else on the planet. We too have some of the best diving spots and picturesque beaches. In fact Malaysia is one of the top-ten ecotourism destinations of the world. Ecotourism not only plays a significant role in providing alternative livelihood and generating new source of income, but our experience shows it also ensures and promotes the conservation and sustainable utilisation of biodiversity.

In conjunction with the International Year of Forests 2011, Malaysia would like to urge that recognition is given to countries which are dedicated to the conservation of their forests through sustainable practices. This is particularly important to ensure our forests remain intact as they provide continuous ecosystem services such as food, products, wildlife habitats as well as act as carbon sinks. In this regard, Malaysia is extremely proactive in forest management and also in implementing sustainable forest management practices. These efforts have enabled Malaysia to ensure that at least 50% of our land area continues to be under forest cover. Forest conservation efforts must also be recognised, and Malaysia welcomes initiatives such as REDD, Wildlife Premium Market and other carbon systems which will support the objectives of the CBD and at the same time help address climate change issues.

Finally, Malaysia would like to reiterate our continued commitment to implementing the CBD. We hope by the next COP we can create history by having a universal participation by all remaining countries who are still not Parties to the CBD to join this global family and act as one force to manage and protect our planet's biodiversity. We believe that if we act together, we will be able to make an impact and see changes as envisaged by the UN Decade on Biodiversity to ensure that this wonderful living treasure is inherited and enjoyed by generations to come. ❧





Yoo Young-Sook, Minister of Environment, Republic of Korea

# Green growth: A virtuous cycle of biodiversity conservation and economic growth

**T**he Economics of Ecosystems and Biodiversity (TEEB) released in Nagoya last year foresees that the poor will be hit the hardest by the loss of biodiversity. The world's poor depend significantly on biodiversity and ecosystem services. As much as 90% of their needs, including food, fuel, medicine, depend on biological resources.

Biodiversity loss and poverty are closely linked. Poverty often encourages exploitation of biological resources, which further aggravates ecosystem degradation and deprives important sources of income and livelihood, especially in rural areas. The challenge ahead of us is to end this vicious cycle of poverty and biodiversity loss.

Efforts to fight poverty, however, do not always yield positive outcomes for biodiversity. We often witness development initiatives, such as the expansion of crop land, causing biodiversity loss. In this regard, it remains an essential task for developing countries to harmonize poverty eradication and biodiversity conservation efforts.

## Korea's Experience in Biodiversity Conservation and Poverty Eradication

Only four decades ago, Korea experienced extreme poverty and biodiversity loss, comparable to what some developing countries are experiencing today. The colonial rule (1910-1945) and the Korean War (1950-1953) left the entire country in ruins, both economically and environmentally. Widespread poverty resulted in exploitation of biological resources, such as forests, which in turn triggered severe deforestation and frequent natural disasters.

Korea has now overcome poverty through rapid industrialization and is on its way to restoring its ecosystem through targeted investments in nature. Through the process of seeking economic growth and environmental conservation simultaneously, Korea learned priceless lessons. The most valuable lesson is that nature conservation is not only an environmental issue, but also an economic issue. It is in this context that Korea declared "Low Carbon Green Growth" as its new national vision in 2008.

## Green Growth: Investing in Ecosystems and Biodiversity

Green Growth aims to formulate a virtuous cycle in which environmental conservation helps revive the economy, and vice versa. It makes strategic investments in addressing environmental and energy problems, thereby achieving sustainable economic development.

In the past three years, the Korean government has laid the institutional and legal foundations by launching the Presidential Committee on Green Growth, the National Strategy for Green Growth including the Five-year Plan, and by legislating the Framework Act on Low Carbon Green Growth. Korea also plans to invest two percent of its annual GDP (equivalent to 107 billion won or US\$ 93 billion) from 2009 to 2013 to financially support Green Growth. In a special report on Korea's Green Growth, UNEP commended Korea's Green Growth as a "useful and exemplary model".

## Four Major Rivers Projects: River Restoration for Green Growth

Green Growth targets not only climate change and energy sectors, but also policies on biodiversity conservation. The Four Major Rivers Restoration Project is a central project in this respect. The project aims to restore the natural forms and flows of the four major rivers (Han River, Nakdong River, Geum River and Yeongsan River) in Korea. It is intended to provide water security and flood control while revitalizing the riverine ecosystem.

The restoration project puts priority on restoring the ecosystem. In particular, it will relocate agricultural lands and greenhouses in river basins to prevent the influx of insecticides and fertilizers into the rivers, and it will create wetlands and a waterfront ecological belt to provide habitats for wild animals and plants.

Looking back upon our experience, there is indeed evidence that biodiversity has increased following river restoration projects. Since the Han River Comprehensive Development Project in the late 1980's, the number of fish species in the Han River increased from 21 in 1990 to 71 in 2007 and that of bird species from 21 to 98 during the same period.

The Project is also expected to create

jobs and further economic growth, thereby broadening the horizon of the country's green growth.

## Building Green Earth Together

As a country that has overcome grinding poverty and ecological destruction, Korea has many experiences and lessons-learned to share with countries that are currently going through similar situations. We are fully committed to supporting such countries to make the climb toward green and sustainable growth, without making costly mistakes that many industrialized countries have made on their path to growth.

Korea will host the Tenth Conference of the Parties to the United Nations Convention to Combat Desertification in October 2011, in Changwon City. We hope that through this event, Korea's efforts and experience in successful reforestation during the past five decades will be shared with other countries.

The Korean government also supports the South-South Cooperation Programme for Development under the Convention on Biological Diversity. In the third Expert Meeting on South-South Cooperation for Development, which was held in Incheon, Korea in May 2011, we expressed our political and financial support for the programme.

In 2010, Korea established the Global Green Growth Institute (GGGI) to effectively support developing countries' transition to green growth. GGGI's main objectives include: enabling developing countries to formulate tailored green growth strategies suitable for their own national circumstances, sharing best practices and capacity-building.

The Korean government is committed to continuing and strengthening its endeavours to achieve green growth while collaborating with the international community in the spirit of 'Me First' which was proclaimed by the Korean President Lee Myung-bak. We cordially invite other countries to join in our efforts to contribute positively to the global efforts to eradicate poverty and halt the loss of biological diversity.

The heart of the matter is a matter of the heart. It is our lofty aspiration that all the countries work together towards green growth through a virtuous cycle of biodiversity conservation and green growth. ♪



# Committed to taking necessary actions for the environment

**B**iodiversity—the variety of ecosystems, species and genes—is the world’s natural capital. It is integral to sustainable development by providing vital goods and services. Biodiversity and development are critically interlinked and as such are recognized in the Millennium Development

Goals. Outcomes of the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) and the fifth meeting of the Conference of the Parties serving as the Meeting of the Parties to the Cartagena Protocol on Biosafety, held in Nagoya last year, represent significant contributions to the comprehensive implementation of the three objectives of the Convention, the worldwide commitment and the celebration of biodiversity.

The Nagoya outcomes—New Strategic Plan for Biodiversity and the Aichi Biodiversity Targets, Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the CBD, and the Resource Mobilization Strategy, are confirmation that we rely on ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components, taking into account their importance for sustainable development. Ecosystem services contribute to human welfare and represent part of the total economic value of the planet. It is necessary to continuously promote and improve understanding of the overall value of ecosystem services in order to bridge and bring nature from short-term need to the long-term social well-being.

Due to its specific geographical position on the dividing line between several biogeographic regions and due to its characteristic ecological, climatic and geomorphologic conditions, Croatia is one



of the richest European countries in terms of biodiversity. The great diversity of land, marine and underground habitats has resulted in a wealth of species.

Protected areas as core areas of the ecosystem services are just one key component, but many services are provided

outside protected areas. It is necessary to have healthy ecosystems, connected and resilient, which have capacity to cope with different disturbances.

In 2007, the Croatian Ecological Network was proclaimed over 47% of land territory and 39% of the territorial sea, as a system of interconnected or spatially close ecologically important areas having a balanced biogeographical spread, thus significantly contributing to the preservation of the natural balance and biodiversity, as well as contributing to Aichi Biodiversity Target 11. International ecologically important areas of Croatia will be proposed as a part of the European Union (EU) ecological network—NATURA 2000—the largest coherent network of protected areas in the world, representing Croatia’s contribution to the conservation of EU nature.

In 2011—the International Year of Forests, stepping into the Decade on Biodiversity, the UN and the CBD has given us a vehicle to support and an opportunity to stream up our conservation efforts and to work more on public awareness of biodiversity issues, especially on the Strategic Plan for Biodiversity 2011–2020 and the Targets.

In order to insure conservation of rich Croatian biodiversity and to ensure adequate implementation of the CBD goals at the national level, National Strategy and action Plan for the Protection of Biological and Landscape Diversity (NBSAP) has been adopted in 2008. This fundamental

document for nature protection lays down long-term objectives and guidelines for the conservation of biological and landscape diversity and protected natural values, and methods for implementation thereof, in accordance with the overall economic, social and cultural development of the Republic of Croatia.

As the *Millennium Development Goals Report (2011)* stated; we must take more determined steps to protect the ecosystems that support economic growth and sustain life on earth. Croatia’s efforts to achieve the MDGs, especially to halt the loss of environmental resources, will be further enhanced by cooperation with all stakeholders and sectoral dialogue. Croatia’s strategic orientation as part of Europe is to ensure effective management of nature and ecosystems, which makes the constituent part of economic activities and developmental aims, and also to support the aims of sustainable development and to reflect them in all political and developmental programmes.

As the Minister of Culture, bringing together natural and cultural heritage in Croatia, I strive to ensure that our country continues to play a constructive role in the conservation and sustainable use of Croatia’s natural assets. We are proud of efforts made, progress and substantial changes done, especially on all steps in transposing and implementing nature protection according to EU standards—a very demanding legislation aimed at protecting the most valuable, the most sensitive species and habitats and international framework set with the CBD. Our government is committed to taking necessary action in advancing environmental issues seriously. The protection and conservation of nature, including biodiversity, is recognized as one of the targets of the Republic of Croatia in The Strategy of Government Programmes, which directs the work towards achieving the most significant goals and which have the greatest effect on society. ✦



# Rebranding biodiversity for the decade ahead

The United Nations General Assembly, in its Resolution 65/161, proclaimed the period from 2011-2020 as the United Nations Decade on Biodiversity which coincides with the new Strategic Plan adopted by the Conference of the Parties to the Convention on Biological Diversity (CBD) for the same time period.

Parties to achieve the 2010 target was indeed exceptional. But it was clearly not enough. And the question we must ask as we consider the new strategic plan and its ambitious targets is: why?

The admirable strength of purpose and laser-like focus of the biodiversity community is also its Achilles heel as it leads toward insularity and separateness in a

This new way of thinking about biodiversity requires greater imagination and an emphasis on innovation of all kinds: new governance approaches to protected areas, the creation and identification of new markets and payment schemes for biodiversity goods and services, and land-use planning that embeds biodiversity into all territorial decision-making.



*“We need to re-conceptualize our entire view of biodiversity management... This new way of thinking about biodiversity requires greater imagination and an emphasis on innovation of all kinds: new governance approaches to protected areas, the creation and identification of new markets and payment schemes for biodiversity goods and services, and land-use planning that embeds biodiversity into all territorial decision-making.”*

The overwhelming majority of the planet’s inhabitants are totally unaware of these two facts and they likely care very little about either.

As such, this “decade of distinction” provides biodiversity-lovers the world over a unique challenge: how to rebrand biodiversity such that people sit up and take notice and pressure their Governments to take the achievement of the targets in the new Strategic Plan as a serious benchmark that must be achieved. Without this kind of renewed effort, the Strategic Plan runs a very high risk of becoming another failed effort of the global conservation community that relegates the cause of biodiversity to increasing insignificance on the global stage.

It was not for a lack of effort that the 2010 biodiversity target was not achieved. The biodiversity community is clearly one of the most passionate and hardworking group of stakeholders that I have ever met and the level of effort exerted by

world that calls for integration. Thus, going forward, we need to re-conceptualize our entire view of biodiversity management. In this new world view, protected areas are managed to serve multiple functions to society—conservation, ecosystem-based adaptation, ecosystem service provision—and are economically valued as such. They sit within larger land-use mosaics managed to sustain natural resources with protected areas providing the “ecological infrastructure” necessary for sustainable landscapes and seascapes. Biodiversity planning moves from strategies and action plans developed in isolation to biodiversity being embedded in all sectoral planning documents. Economic sectors are mainstreamed into biodiversity and not the other way around—biodiversity thus becoming a springboard for economic development. Only in this way will we be able to reach the transformative scale necessary to achieve any of the targets identified in the new CBD strategic plan.

I must share with you an inconvenient truth: There is not enough money in the world to address every threat to biodiversity through traditional financing measures. We need to embrace that fact.

This should not be a cause for alarm as the conservation community is marked by an entrepreneurial spirit, characterized by early ideas like debt-for-nature swaps and trust funds as the means to finance the protection of biodiversity. However, this is an area that is ripe for innovation and that is characterized by the current generation of conservation finance tools and approaches that recognize the economic value of biodiversity including biodiversity offsets, payments for ecosystem services, species and habitat banking, REDD+, certification etc. We have a great deal of experience in these areas at the level of pilots, but they must be taken to scale, with an eye towards maximizing the multiple social and economic benefits that biodiversity provides to society.



**Sha Zukang**, *United Nations Under-Secretary-General for Economic and Social Affairs*



# Looking toward Rio: an opportunity for biodiversity

Finally, we all know that changing our own individual behavior is very hard. Multiply that challenge times six billion and you can begin to imagine the difficulties we face in effecting the global behavior change necessary to achieve the conservation targets in the new CBD Strategic Plan. We have 20 years of experience to support the conclusion that the messaging of the biodiversity community is not working: linking biodiversity with loss and extinction leads to guilt not action.

To catalyze individual action we must build on the inherent awe that humans have for nature—embodied in many forms from the dry Zen garden of Ryoan-ji in Kyoto, Japan to the iconic tigers of India—and link action on biodiversity as providing a personal benefit rather than as a favor for others.

For decision-makers, the Millennium Assessment and TEEB study provide the “economic need” argument for biodiversity that they require to develop and implement policy change—the behavior change that is needed at the national level of each Party to the Convention for the strategic plan to be successful.

Thus, biodiversity needs rebranding in order to catalyze the individual and global actions necessary to achieve the targets in the CBD Strategic Plan. Rebranding biodiversity to elicit the passion and action required can take many forms, some of which we have already seen surface in the global community. The Plurinational State of Bolivia has passed the Law of Mother Earth which establishes new rights for nature; Bhutan measures a Gross National Happiness Index which includes consideration of living in healthy ecosystems as a fundamental part of economic and human development and human happiness; and the UK recently published the first analysis of the UK’s natural environment in terms of the benefits it provides to society and continuing economic prosperity. Each of these is an attempt, within a specific cultural context, to make biodiversity relevant with the public and policy makers, thereby catalyzing and institutionalizing action on biodiversity. Only in this way will humanity be able to conserve and sustainably use biodiversity as a contribution to the Millennium Development Goals. ❧

In less than a year, the international community will meet in Rio de Janeiro for the United Nations Conference on Sustainable Development (Rio+20). We must reflect on what we have achieved, what gaps and obstacles we face, and how we should move forward.

Back in 1992, Member States pledged to halt environmental degradation and to manage our biodiversity and natural

rate of loss of terrestrial, freshwater and marine biodiversity is more rapid than at any time in human history and shows no indication of slowing, and that this loss forms part of a wider wave of environmental change driven by ever expanding human activities which touch on virtually every component of our biosphere and the global climate system and which are taking place in an increasingly global-

*“Understanding the central role of biodiversity in a green economy in the context of sustainable development and poverty eradication needs to be built from the bottom up, in order to respond to national and local priorities and challenges.”*

wealth in a way that would enhance prospects for sustainable development. In Johannesburg in 2002, the international community endorsed the target to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at global, regional and national levels as a contribution to poverty alleviation, and to the benefit of all life on Earth.

In 2005, the Millennium Ecosystem Assessment concluded that there had been a substantial and largely irreversible loss in the diversity of life on Earth due to human action. Among the outstanding problems were the dire state of many of the world’s fish stocks and the growing threat to ecosystems from climate change. The challenge to protect our fragile ecosystems and the planet’s marine and terrestrial biodiversity remains undiminished today. Indeed, the biological diversity, which underpins the provision of ecosystem services essential for human well-being, is continuing to be lost at an alarming rate.

As highlighted in the third Global Biodiversity Outlook (GBO-3), the current

wealth in a way that would enhance prospects for sustainable development. In Johannesburg in 2002, the international community endorsed the target to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at global, regional and national levels as a contribution to poverty alleviation, and to the benefit of all life on Earth.

ized, industrialized and commercialized interconnected world. Humanity must urgently rebalance its relationship with Nature. Only then can we all survive as a civilization. Reversing biodiversity loss has to be at the core of securing renewed political commitment for sustainable development at Rio+20.

For Rio+20 to be successful, we need the kind of multilateral cooperation that was demonstrated at the Convention on Biological Diversity’s COP 10 in Nagoya where it adopted the Nagoya Protocol on Access and Benefit Sharing (ABS) after seven years of negotiations, and where it reached agreement on the Biodiversity Strategic Plan for the period 2011-2020. The vision of the Strategic Plan is a world “living in harmony with nature” where “By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”

Increased attention towards forests and biodiversity, by building on the results of the International Year of Biodiversity



(2010) and the International Year of Forests (2011), can provide a unique opportunity to strengthen implementation at the national level. The United Nations system should further enhance collaborative partnerships in supporting national governments and regional organizations to reach the goals and commitments originally launched in Rio 1992 and reaffirmed in Johannesburg in 2002. We must ensure that all our constituencies are fully empowered to deliver the promise of Rio.

A successful outcome of Rio+20 will be crucial to progress in protecting our fragile ecosystems and the planet's marine and terrestrial biodiversity. One of the reasons why the rate of biodiversity loss continues in its current path is the inadequate mainstreaming of biodiversity considerations into broader economic development policies and strategies. A shift towards a green economy through investments in sustainable and equitable use and conservation of biodiversity can create jobs and economic wealth. In addition, strengthening institutional framework for sustainable development can build on cooperation increasingly taking place across sectors at global, regional and national levels.

Furthermore, there has been a rapid accumulation of knowledge, experience and expertise on biodiversity in developing countries in recent years. Along this vein, understanding the central role of biodiversity in a green economy in the context of sustainable development and poverty eradication needs to be built from the bottom up, in order to respond to national and local priorities and challenges. International partnerships through enhanced support in finance, technology transfer and capacity building will further help developing countries in meeting this challenge.

In the end, a green economy should achieve dual convergence: upward convergence in living standards and human development across the globe, and downward convergence in "ecological footprints" in the impacts of our consumption and production patterns on the earth's vital life support systems. We have a choice to make. Let us make the right one, for the well-being of both the current and future generations. ✨

# Extending life to biodiversity conservation: from a year to a decade

**T**his year 2011 marks the launch of the United Nations Decade on Biodiversity (2011-2020). We are beginning this decade with a renewed agenda, a clear strategic plan and a commitment to join forces for biodiversity conservation. Building on the rich legacy of the International Year of Biodiversity in 2010, the Conference of the Parties (COP 10) to the Convention on Biological Diversity (CBD) agreed on a comprehensive framework for collective action. It is now our shared responsibility to implement the Plan effectively. The stakes are high. The



relations, economics and culture, it calls for holistic responses that cut across disciplines and policy domains, and tap all the synergies between them. Diversity in all its forms is vital for ecological and social resilience.

Global and national efforts to conserve biodiversity are still far from sufficient. This is partly because policy responses are not as multi-faceted as are the challenges posed by the loss of biodiversity.

From addressing the underlying causes of biodiversity loss, to building knowledge and capacity to better implement policy

*"We must use the UN Decade on Biodiversity to increase Member States' awareness of biodiversity and ecosystem services, as well as their capacity to monitor and assess biodiversity."*

loss or degradation of biodiversity, now occurring at an unprecedented pace at local and global levels, is a threat to our economies, our environment, our cultures and societies.

Biodiversity is the foundation of healthy ecosystems and sustainable human development. Sustainability and the preservation of biodiversity are part of the same equation. They are not dissociable. Although the link between biodiversity and human well-being is better understood, the complexity and diversity of the range of services that flow from biodiversity is still not fully appreciated.

The United Nations Educational, Scientific and Cultural Organization's (UNESCO) vision is clear: as biodiversity touches on all aspects of our lives—from human health and well-being to social

responses, UNESCO shall spare no effort in translating the Nagoya outcomes into tangible action.

Through its interdisciplinary mandate, UNESCO is determined to work at all levels to strengthen capacities for efficient biodiversity governance. We will address the educational, scientific, cultural and communication aspects of biodiversity with an integrated vision. We will capitalize on the all-important link between cultural and biological diversity, a prerequisite for sustainable development. We will endeavour to mainstream this link through the joint Programme with the CBD Secretariat. We will also continue to mainstream biodiversity into educational policies.

We will be present on the ground, exploring ways to preserve biodiversity by taking into full account social, economic



and cultural dimensions.

Throughout the Decade, our biosphere reserves and the World Heritage sites will be further developed as unique learning sites for the management of biodiversity. We have just celebrated the 40th anniversary of the Man and the Biosphere Programme, a flagship of UNESCO’s work in the sciences—driving our contribution to the debate on sustainable development, underpinning our policies to respond to the pressures of climate change. The World Network of Biosphere Reserves embodies UNESCO’s commitment to reconcile the conservation of biological and cultural diversity with social and economic processes. The Network consists of 563 sites located in 100 countries, of which four are in Japan, including the reserves of Yakushima Island and Mount Hakusan.

These “learning places”, in which ecological, socio-economic and financial assessments of biodiversity and ecosystem services will be undertaken, are also utilized as sites for educating people on biodiversity and ecosystem services. Biosphere reserves are today strategic locations for studying, identifying and implementing climate change

policies. These are the only United Nations designated areas dedicated to responding to climate change on the lines of intergovernmentally-agreed principles. They are places where partnerships with scientists, local and indigenous communities, local authorities, the private sector and civil society organizations, are developed to promote the sustainable use of biodiversity and natural resources.

Together, these sites constitute a unique network for testing green economy initiatives and addressing deforestation and forest degradation. These are places for innovation—implementing on the ground the concepts of sustainable tourism, renewable energy policies and organic agriculture.

UNESCO’s Intergovernmental Oceanographic Commission is another key stakeholder for improving the International capacity to monitor marine biodiversity, which is also under enormous threat.

We must use this Decade to increase Member States’ awareness of biodiversity and ecosystem services, as well as their capacity to monitor and assess biodiversity. This is why I have launched a UNESCO Biodiversity Initiative to

crystallize our work in education, science and culture for the preservation of biodiversity. UNESCO will strive to cooperate at all levels through the “One UN” initiative for Biodiversity in support of efforts by governments to implement their biodiversity commitments, including those under biodiversity-related conventions.

We are prepared to work in tandem with the United Nations family to take forward the Intergovernmental Science-policy platform on Biodiversity and Ecosystem Services (IPBES), in order to strengthen the biodiversity science-policy interface. This Platform will play a core role in strengthening knowledge, building capacity and identifying policy responses to promote biodiversity.

We all know that the pressing challenges of biodiversity cannot be addressed by any one country alone. Biodiversity speaks to your common humanity, to our shared planet and heritage. The United Nations Decade on Biodiversity provides an extremely important opportunity to mobilize communities, to develop sustainable solutions and raise the profile of biodiversity conversation worldwide. ✨



**Dr. Joan Clos**, *Executive Director, UN-Habitat*

## Planning of the city-region key to the preservation of biodiversity

**U**N-HABITAT was delighted at the adoption of the Plan of Action on Subnational Governments, Cities and Other Local Authorities for Biodiversity last October in Nagoya, Japan. It reaffirms the instrumental role of cities in reducing the global loss of biodiversity.

The Tenth Conference of the Parties to the Convention on Biological Diversity (COP10) provided a sobering reminder that we have failed to reduce the loss of biodiversity in the 18 years since the Rio

‘Earth Summit’. However, the adoption of the Plan of Action to reduce biodiversity loss at the local scale engaged a number of cities and regions at COP10 and the parallel City Biodiversity Summit in Nagoya last year. This gives us cause for hope.

These developments have advanced the increasingly important role of local governments in delivering sustainability.

Cities from Cape Town to Kolkata are taking measures that range from preserving the urban habitat of endangered plants to valuing the sewage treatment capacity

of natural urban wetlands. They have also reinforced UN-HABITAT’s longstanding position that the city is the critical spatial platform for implementing sustainability-oriented plans on the ground.

Cities are often located on prime biodiversity sites. Human and natural systems both avail themselves of watersheds and their fresh water supplies; wetlands and their storm protection capacities; and forests and their carbon capture capacities. Therefore, the association between cities and the biodiversity present within them is





of critical importance in implementing our mandate of promoting sustainable urban development.

The sustainability of urban and ecological systems is deeply intertwined. Both systems constantly intersect as they direct flows of their respective resources and populations. In this way urbanization impacts even distant biodiversity hotspots, as much as the fluctuations and demands of natural systems impact upon the most ‘artificial’ developed areas.

As prime production and consumption sites, cities leave sizeable footprints. Many of the resources they use end up as unrecycled waste, CO<sub>2</sub> or consumer waste. This often conflicts with the metabolisms of natural systems which are circular and often forced to absorb these unwanted byproducts.

But cities are also a significant lever for achieving biodiversity conservation targets. Growing cities around the world

are already home to half of humanity, even though they only cover 2% of planet’s surface area. When appropriately managed, increased urban density can reduce per-capita resource consumption and CO<sub>2</sub> emissions. More compact cities also allow for the conservation of larger functional ecosystems in peri-urban areas.

Ultimately, cities which in little over another generation are projected to be home to two-thirds of the global population, will continue to depend on the flow of ecosystem services that provide water, food, jobs, tourism and protection against natural disasters.

The survival of the urban poor often directly depends on these ecosystem services. In this way human poverty can be exacerbated by the loss of biodiversity that underpins many of these services.

Biodiversity preservation is thus also intrinsically part of UN-Habitat’s historic mandate to address Millennium

Development Goal 7, Target 7.D, which aims to improve the lives of slum dwellers around the world. Indeed, cities—particularly cities in the developing world—will have to harness their inherently innovative capacities to fuel the kind of sustainable growth that will deliver greater equitability. This will be particularly challenging for the developing world as energy prices are constantly increasing.

UN-HABITAT’s core role in reducing the loss of biodiversity lies in the development of the norms for and advocacy of strategic spatial planning. This kind of planning aims firstly to integrate urban development into landscape mosaics by keeping cities compact and maximizing large green patches in their surrounding regions. Secondly it prioritizes sustainable mobility solutions that connect these compact clusters through low-carbon public and non-motorized transportation.

In collaboration with the Secretariat of the Convention on Biodiversity (SCBD) and the Global Partnership on Cities and Biodiversity, UN-HABITAT is currently producing planning policies and regulatory frameworks for national and sub-national land-use plans which incorporate these principles.

For its part, toward the implementation of the Strategic Plan of the Convention on Biological Diversity 2011-2020, UN-HABITAT has already published its work, Supporting Local Action for Biodiversity: the Role of National Governments with SCBD. In parallel, ICLEI-Local Governments for Sustainability produced a companion publication targeted at local governments.

We are also developing a series of quick guides that will help cities and city-regions support the preservation of biodiversity hotspots and ecosystem services.

Lastly, UN-HABITAT is undertaking a comprehensive collection of global case studies on promising practices related to urban biodiversity. These will show the link between urbanization and biodiversity in the SCBD’s upcoming Cities and Biodiversity Outlook. We look forward to its launch at COP11 in Hyderabad, India in October 2012, as well as to our continued collaboration with the Global Partnership for Local Action on Biodiversity. ❧



## A view on biodiversity

**B**y signing the biodiversity convention we boarded for a long trip that should bring humanity to a new alliance with its planet. Historians will recall how the start was difficult, the many reservations countries wrote down before ratifying, and those who still have not joined. They will describe the first steps, year after year, the first commitments, the successes and failures, leading to the Nagoya achievements. It was first understood as a tribute to nostalgia or aesthetic considerations, sensitive people complaining about the loss of butterflies or seahorses, lamenting about the inevitable disappearance of their childhood world. Inevitable, that was the word of serious people engaged in serious matters, businesses, planning and developing. Then came the Millennium Ecosystem Assessment, understanding the cost of destroying nature and the first attempts to popularize the idea of ecosystem services.

Beyond the Aichi decisions the whole human economy should now adjust to ecology, the economy of nature. It doesn't mean strict conservation of the existing, it means human activities take place in the biosphere and must fit into the functional framework and rules of nature. I remember having been asked to assess the 1986 Sandoz chemical spill in the river Rhine that killed most of the fish. How do you compensate for six-year old eels? The answer was ecological engineering by improving the life carrying capacity of the river. The Rhine had for a long time been equipped for transportation or hydroelectricity. The result was an impoverished ecosystem. Sandoz agreed to finance restoration of fish nurseries, dead end branches, wetlands, and riparian forests to enhance the ecological productivity of the river. Today, salmon are back.

The point with biodiversity is diversity. It is not just about a list of separate species, it is about the links they have together, and with their habitat. Ecosystems rich in species are generally more productive and more resilient, which is important, for instance, for agriculture. Ecosystems

rich in species generally offer a stronger resistance to epidemics because animals unaffected by a germ offer a barrier to its diffusion while huge herds of one affected species will spread it. There have been studies confirming this fact with Nile fever in the United States. And, of course, we know that these healthy ecosystems provide soil, water, animals, wood, fresh air, climate stability, organic waste, mineral recycling and so forth, that our human economy couldn't afford to produce at a reasonable price. For those travelling to Costa Rica, they know that the salary of the forest warden is included in the price of the bottle of water they purchase because forests guarantee freshwater. We must now agree on a method to include the cost of ecosystem services in the economical costs of human activities affecting ecosystems. It can be done in the next five years. Already our statisticians have agreed on a common framework for economical and environmental impact accounting—the System of Environmental Economic Accounting (SEEA).

But the trip doesn't stop here. Comparing economics and ecology brings us to surprising parallels. On one hand, nature has evolved with zero growth of energy and matter. Nature has always managed with roughly the same amount of solar energy through the season cycles and the same amount of light atoms and trace elements found on the Earth's surface. Nevertheless evolution took place, bringing a world of everlasting complexity and resiliency. Humans tend to do the contrary. Can we learn something here? I remember an Organisation for Economic Co-operation and Development workshop where the conclusion was that the international community should try diverse economic models instead of striving to follow the economic fashion of the day. Diversity helps to overcome a crisis because different solutions can compete or become complementary. But also it is true that you find diversity when you get away from the airports and the hotels.

Philosophers tell us we also learn from



nature as a system where logics can be circular or paradoxical instead of linear. And we can witness that slowly people are thinking in a more comprehensive way, that our specialists on water are talking with our specialists on energy, because the more you want water, the more you will need energy, and you need more water to get the last drops of oil in a well, for capturing shale gas or for cooling a reactor. In the 1970s Barry Commoner wrote down some very simple principles: everything goes somewhere, there is no free meal, nature knows better... But we still have to battle. Human economics and politics are short-term. The theory is that the future doesn't have much worth. So economists have invented the discount rate to diminish the cost of future impact, action or restoration, ignoring tipping points or biological losses. Sir Nicholas Stern created a big argument with his colleagues when he used a low discount rate for assessing future damage of climate change. In his view our children will perhaps have to pay more than our generation because nature would have lost part of its capacity to provide free services. In the biodiversity economy future has a big value.

I believe we are on the path of a new alliance with nature. It strikes me that humanity has not domesticated any new animals since Neolithic times and that we are still using the same crops. People laugh when I say that one day we could milk whales because they have a lot of milk. Let's think about it. ❧



# Conserving biodiversity and combating desertification are essential in a green economy and for sustainable development



Last year during the observance of the International Year of Biodiversity, I stressed the importance of synergy in initiatives to fight biodiversity loss and desertification. Biological diversity provides valuable services to drylands ecosystems. The opposite is also true. The inter-dependence of these two systems cannot be overstated in terms of risks that would result from ignoring their linkages and benefits accrued towards meeting a number of development challenges such as poverty alleviation, food security, climate

biodiversity, we cannot ignore the impacts of desertification, land degradation and drought.

It is estimated that more than two billion men and women live in the drylands. They are among the poorest of the poor in terms of access to both financial and natural resources, such as water. Desertification, a common problem in the drylands, aggravates and accelerates a downward spiral of poverty. Persistent land degradation is exacerbated by climate change, unsustainable agricultural

Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD). As for the UNCCD, the Convention text stipulates that the affected country parties need to take into account the conservation and sustainable use of biodiversity, in accordance with the provisions of the CBD, when developing their national strategies for action to combat desertification and/or mitigate the effects of drought.

Both Conventions, along with the United Nations Framework Convention on

*“Biodiversity provides valuable services to drylands ecosystems. The opposite is also true. The inter-dependence of these two systems cannot be overstated in terms of risks that would result from ignoring their linkages and benefits accrued towards meeting a number of development challenges such as poverty alleviation, food security, climate change adaptation and mitigation, water availability and energy conservation.”*

change adaptation and mitigation, water availability and energy conservation. Today, I remain fully convinced that significant benefits would arise from such synergy.

Drylands ecosystems have a large and diverse heritage of flora and fauna, including major domesticated agricultural crops. Africa alone is home to more than 50,000 known plant species, 1,000 mammal, and 1,500 bird species. However, as desertification takes its toll, the biological diversity of the drylands ecosystems is deteriorating, with some of the loss of forests, rangelands, wetlands, and fish and wildlife populations occurring at truly alarming rates.<sup>1</sup> If we are to conserve

practices and unbalanced social, political and economic opportunity. This, in turn, is a threat to food security and leads to the loss of land productivity and a decrease in the resilience of the population.

However, the fate of the drylands is not sealed. The rehabilitation and recovery of degraded land in the drylands is possible, if timely and focused technical assistance and advice to affected populations are provided. With proven packages of support, particularly on sustainable land management, we can ensure that vulnerable areas are able to implement measures to combat desertification which generate tangible solutions.

The importance of synergy in implementation is well recognized by both the

Climate Change, emerged from the United Nations Conference on Environment and Development (Rio Earth Summit) in 1992. At that time, the international community agreed to pursue the common vision of a sustainable future reflected in these groundbreaking treaties. Ten years later, in Johannesburg, the international community strengthened its commitment by encouraging the three sister Rio Conventions to continue exploring and enhancing synergies, giving due regard to their respective mandates in the elaboration and implementation of their plans and strategies.<sup>2</sup>

In 2012, 20 years after the Rio Earth

<sup>1</sup> World Bank (2004)

<sup>2</sup> Johannesburg Plan of Implementation, Paragraph 41 (c)



Summit, the world will assess what has been achieved, and the challenges that remain. In the intervening period, the social, economic and political environments have evolved. The adoption of the Millennium Development Goals (MDGs) has increasingly harmonized development policy and agendas. The international community has recognized the need for intensified action on critical issues such as climate change mitigation and adaptation, the liberalization of global trade in agriculture, the emerging food, water and energy security issues, and the growing numbers of environmental refugees and migrants. All these concerns impact profoundly on the achievement of the MDGs.

Considerable progress has been made towards the objectives of the UNCCD. Desertification/land degradation, once viewed as a local problem requiring local solutions, is now recognized as a complex environmental and developmental challenge of global proportions. The adoption

of the 10-year Strategy, in 2008, led to some substantial improvements in the implementation of the Convention such as the use of an indicator-based reporting system by the Parties. Yet, desertification persists and efforts to eradicate poverty among drylands populations trail expectations. Climate change is adding to the complexity and making desertification one of the greatest environmental challenges of modern times.

Against this backdrop, the United Nations General Assembly declared 2010-2020 the United Nations Decade for Deserts and the Fight Against Desertification. I do not think it is a coincidence that the Assembly also declared the United Nations Decade on Biodiversity (2011-2020) for the same period. The collaboration of all actors in the implementation of the two Decades should be mutually supportive for overall implementation of the Conventions. It makes perfect sense for the existing synergy to be transferred to the observance

of these Decades to promote shared values, concerns and challenges until we achieve sustainable development.

Initiatives to combat desertification and biodiversity loss contribute to climate change mitigation and adaptation and, in turn, to greater sustainable development. The countries that are Party to the UNCCD and its sister Rio Conventions are aware of the strength that comes with synergy. With the United Nations Conference on Sustainable Development to be held in Rio de Janeiro next year focusing on green economies in the context of sustainable development and poverty eradication, it is a timely moment to recall the origins of these Rio Conventions.

Some 20 years ago, legally binding international agreements were made to address these sister issues. Our success will be best assured if, together, we take advantage of synergies and address critical environmental and development challenges holistically. ✎

**Christiana Figueres**, *Executive Secretary of the UN Framework Convention on Climate Change*

## Women are responding to global biodiversity challenges

It is well known that climate change, the loss of biodiversity and desertification are today amongst the biggest challenges facing society. Less known is the fact that climate change, biodiversity loss and desertification first and foremost impact women as one of the most vulnerable groups in developing country societies. At the same time, women are today rising to the challenge and are increasingly shaping the responses to these challenges, at all levels of society and policy-making.



At the local level, women in most developing countries are responsible for most food production, which is being affected by more and more incidences of natural disasters such as floods and drought. Food production depends on a healthy biodiversity, which in turn is impacted by rising global temperatures and soil degradation. But women can also provide many practical solutions to these problems and can shift current patterns of production and consumption towards more sustainable paths. For example, women in local

communities can insist that solar cookers be used for cooking where possible, and that if firewood does need to be harvested for cooking, that the forests are sustainably managed.

Gender is also playing an increasingly important role in the international arena. At the United Nations Climate Change Conference in Cancun in December 2010, the countries of the world adopted the Cancun Agreements. Cancun resulted in the most far-reaching collective effort the world has ever seen to reduce carbon emissions. Decisions taken in Cancun aim to provide developing countries with the finance and technology they need to both adapt to the inevitable effects of climate



*“It is clear that the issue of gender can only be advanced when different groups in all three Conventions work together, share experiences and set common goals.”*

change and to limit their emissions.

Significantly, gender issues feature in the Cancun Agreements. The decision texts explicitly recognize the vulnerability of women to climate change impacts and the importance of gender equality for effective action on all aspects of climate change. This represents an important paradigm shift in the way gender issues are represented in international climate change negotiations.

This paradigm shift is also reflected in the way thematic work is dealt with under the United Nations Framework Convention on Climate Change (UNFCCC). The UN Climate Change Secretariat has established a special gender team and

plans to integrate gender concerns and perspectives into all relevant policies and programmes. Relevant work is already underway in the case of the Nairobi work programme on impacts, vulnerability and adaptation to climate change, National Adaptation Programmes of Action (NAPAs), Reducing Emissions from Deforestation and Forest Degradation (REDD), and the Kyoto Protocol’s Clean Development Mechanism (CDM). With CDM, this is done by identifying currently approved CDM methodologies, technologies and measures that could directly benefit the lives of women and children in developing countries.

Initiatives are underway to address the

gender link in preparing UNFCCC publications such as brochures, newsletters, technical papers and web platforms so that these may be more balanced, objective and sensitive to the gender issues.

The climate change secretariat is committed to continuing the process of integrating gender implications into our daily work, and we look forward to strengthened gender collaboration with our sister conventions.

Work is also being undertaken to strengthen cooperation among the three Rio Conventions (the UN Climate Convention, the UN Convention on Biological Diversity and the UN Convention to Combat Desertification) to ensure effectiveness, complementarity and the optimal use of resources.

The three Conventions have all received clear mandates to mainstream gender from their respective Conferences of the Parties as the supreme decision making bodies, and through other governance structures, including the Global Environmental Facility. Also, they have jointly agreed to lift gender as a cross cutting priority leading up to and during the Rio plus 20 Summit next year.

It is clear that the issue of gender can only be advanced when different groups in all three Conventions work together, share experiences and set common goals. At the same time, governments also need to work on the ground to incorporate gender considerations into climate change action and need the knowledge, planning tools and capacity to do so.

Thankfully, colleagues working in the field of gender and sustainable development are not starting from scratch, but have three decades of experience to build on. These are three decades which we can look back on with pride, because they have led to a sea change in the societal awareness of gender issues, and allowed us all to mainstream gender into sustainable development. Countries and observers to the UNFCCC have all contributed to these changes. I am convinced that ultimately, a greater role for gender will be a significant factor in helping us achieve the long-term objectives of our Conventions and providing the necessary responses to the challenges of our time.✍



## Conservation of agro-biodiversity: Looking back and looking ahead

In 2012, we will be taking stock of the progress made during the last 20 years in the conservation and enhancement of nature and natural resources, since the United Nations Conference on Environment and Sustainable Development held at Rio de Janeiro in June 1992. The Earth Summit, as the Rio Conference is popularly known, resulted in the adoption of a Convention of Biological Diversity (CBD), in addition to a Framework Convention on Climate Change, and an Agenda 21 detailing the pathway to sustainable human security. Later, a Convention on Desertification also came into existence. Every nation will be drawing a 20 year balance sheet on achievements and failures. In the area of biodiversity, the Nagoya Protocol on Access and Benefit-sharing, the Strategic Plan for Biodiversity 2011-2020, and the Strategy for Resource Mobilization adopted at the 10th meeting of the Conference of Parties (COP 10) to the CBD held at Nagoya, Aichi Prefecture, Japan, represents a significant milestone in saving biodiversity for preserving lives and livelihoods. We owe a deep debt of gratitude to the CBD Secretariat for their untiring efforts to get the Aichi Targets accepted as a global common minimum programme for halting biodiversity loss. Since I have been involved in the biodiversity conservation movement for over 60 years, I would like to summarize briefly my tryst with biodiversity's destiny.

I began my research in the field of agro-biodiversity in 1947 at the Indian Agricultural Research Institute (IARI), New Delhi. The experimental material consisted of species and varieties of non-tuber bearing *Solanum* (Family Solanaceae). *Solanum melongena*, the eggplant (brinjal) belongs to this group. I was amazed at the variety of eggplants, from different parts of India, both in quantitative and qualitative characters. The goal of my

study was to understand the genetic relationships among non-tuber bearing *Solanums*. In 1949, Professor J. B. S. Haldane visited my experimental field and observed: 'I have never seen such variability in quantitative characters as in eggplant; this plant is ideal for studies in the field of quantitative genetics.' He further observed that 'while Indian farmers are nurturing genetic heterogeneity in their fields as part of their preference for risk-distribution agronomy, scientists seem to be worshipping genetic homogeneity.' Genetic homogeneity enhances genetic vulnerability to biotic (pests and diseases) and abiotic (drought, salinity and flood) stresses and this is why in the earlier systems of cultivation, mixed cropping and crop variety mixtures were preferred.

In 1949, I went to the Agricultural University, Wageningen, Netherlands, to continue my work on Solanaceae, but this time on tuber-bearing *Solanum* species, particularly on potato (*Solanum tuberosum*). The Dutch farmers cultivating potato in the polder lands were facing serious damage to the crop from the golden nematode (*Heterodera rostachiensis*). Professors Dorst and Toxopaeus, with whom I was working, suggested that I should work on breeding potato varieties resistant to the golden nematode. I found from literature that the species *S. polyadenium* from Peru possessed resistance to the golden nematode. This species was in the Commonwealth Potato Collection maintained at Cambridge, UK, by Professor J. G. Hawkes. I obtained seeds of this and several other species from Professor Hawkes and started crossing them with a popular Dutch potato variety, *Beintje*. Since *S. polyadenium* was a diploid ( $2n = 24$ ), and *S. tuberosum* was a tetraploid ( $2n = 48$ ), I had to double the chromosome number of *S. polyadenium* in order to cross it with the cultivated potato. This involved a complex procedure,



which later came to be known as the "Swaminathan artificial stigma" method.

The genetic diversity in *Solanum* species fascinated me and I decided in 1950 to go to Cambridge to work on the Commonwealth Potato Collection. From 1950-52, I did extensive research on tuber-bearing *Solanum* species collected from South America and started to unravel the genetic interrelationships among them. I also traced the origin of the cultivated potato, *S. tuberosum*. This work earned for me the Ph.D. degree of the University of Cambridge in 1952.

In November 1952, I was invited by the University of Wisconsin, USA, to join the Department of Genetics in order to assist in the establishment of an Inter-regional Potato Introduction Station at Sturgeon Bay in Lake Michigan, to house the collection made by Dr. Donovan Correll of the US Department of Agriculture. From 1952-54, I undertook extensive gene transfer research from the wild species of tuber-bearing *Solanum*, using several novel cytogenetic techniques. One of the crosses involving the front-resistant species, *S. acaule* from the Lake Titicaca region of Peru-Bolivia border, resulted in the variety Alaska Frostless released for cultivation in Alaska.<sup>1</sup>

The work carried out during 1947-54 on both tuber-bearing and non-tuber

<sup>1</sup> Swaminathan, M.S. 2010. *Science and Sustainable Food Security*. Singapore: World Scientific Publishing Co. Pte. Ltd.



bearing *Solanum* species led to my conviction that we should do everything possible to conserve agro-biodiversity for future generations. On my return to India from Wisconsin in 1954, I joined the Central Rice Research Institute, Cuttack, to work on the breeding of high-yielding varieties of rice based on crosses between *japonica* and *indica* strains. The aim was to transfer genes for fertilizer response from *japonica* varieties to *indica*. This programme gave rise to varieties like ADT-27 in Tamil Nadu and Mashuri in Malaysia. There were however several problems like semi-sterility and the breeding of rice varieties with high yield potential had to wait until 1964, when the Taiwan variety, Taichung Native-1 (TN 1), containing the *Dee-gee-woo-gen* dwarfing gene became available. I was also fascinated by the genetic variability maintained by tribal families of the Koraput district in Orissa.

Vogel had given seeds of this material to Dr. Norman Borlaug who was working in Mexico on the breeding of high-yielding and rust-resistant varieties of spring wheat. The history of the introduction of Borlaug's material into India and the subsequent development of outstanding wheat varieties like Sonalika and Kalyan Sona are described in the book *Wheat Revolution—A Dialogue*.<sup>2</sup>

The essential point I wish to make is that biodiversity is the feedstock for successful plant breeding. Most of the successful varieties of rice, wheat, potato and other crops may have 50 or more landraces in their pedigree. Because of the availability of genetic variability, a strategy could be developed in the 1960s to checkmate the spread of leaf, stem and stripe rusts in wheat in north India. On becoming the Director of IARI in 1966, one of the first steps I took was

(CGIAR). I was then Vice-Chair of the Technical Advisory Committee (TAC) to CGIAR. Sir John Crawford of Australia was the Chair of the first TAC set up in 1971. Both NBPGR and IBPGR (now named Biodiversity International) have rendered a very valuable service in genetic resources collection and conservation. Also, I took steps to establish the National Bureaus of Animal and Fish Genetic Resources and later the National Bureau of Forest Genetic Resources.

I was the Principal Secretary of the Ministry of Agriculture during 1979-80. During that period, the Forestry Division was an integral part of the Ministry of Agriculture and therefore I had the overall responsibility for shaping the programmes of the forestry sector. One of the earliest steps I took was to review the permission granted for an electricity project in the Silent Valley Rain forest area of Kerala.

*“Reaching the unreached and voicing the voiceless will have to become a mandatory public policy in the area of biodiversity conservation.”*

In 1954, the Koraput farm families were sustaining nearly 3000 strains of rice but now it has come down to about 300, as a result of gradual genetic erosion. This emphasizes the need for *ex situ* preservation, while not relaxing on *in situ*, on-farm conservation.

I joined the Indian Agricultural Research Institute, New Delhi, late in 1954 and initiated work on the breeding of high-yielding varieties of wheat. Dr. B. P. Pal and his associates were then engaged in breeding wheat varieties for resistance to stem, leaf, and stripe rusts (*Puccinia* sp.). I tried different methods like crossing the bread wheat (*Triticum aestivum*) with subspecies *compactum* and *sphaerococum* but these crosses yielded dwarf plants with dwarf panicles and consequently had a low yield potential. In 1959, I came to know of the work of Dr. Orville Vogel of the Washington State University, Pullman, USA, in breeding the semi-dwarf winter wheat variety Gaines by incorporating the dwarfing gene from Norin-10, a variety bred by Dr. Gonziro Inazuka of Japan. Dr.

to create a Division of Plant Introduction, to strengthen the ongoing work in the areas of plant exploration, collection and conservation. Extensive collections were made both in rice and wheat to preserve for posterity a sample of the genetic variability now existing in these crops. During this period, I initiated a programme for the collection and conservation of rice varieties from the northeastern region of India. This collection, known as the Assam Rice Collection, had over 7000 varieties and proved to be a veritable mine of valuable genes.

On becoming the Director General of the Indian Council of Agricultural Research (ICAR) early in 1972, I initiated steps to set up a National Bureau of Plant Genetic Resources (NBPGR) at the national level and an International Board for Plant Genetic Resources (IBPGR) at the global level through the Consultative Group on International Agricultural Research

<sup>2</sup> Swaminathan, M.S. (Ed.) 1993. *Wheat Revolution: A dialogue*. Macmillan India Ltd., Madras 164pp

This is a unique tropical rainforest and is the home of rich biodiversity. After a careful study of the benefits which the project could confer in the fields of electricity generation and irrigation, I submitted a report to the Cabinet of the Government of India in 1979 advising that the electricity generation project which will cause immense harm to the rainforest should be given up. I was aware that the acceptance of this suggestion by the Government of Kerala would be difficult unless I provided alternative pathways of achieving the short-term goals for which the State Government was willing to sacrifice this unique biodiversity paradise. Therefore I would like to quote the principal recommendations which I made in 1979, which led to this project being abandoned and the whole area set aside as a National Park.

The entire area of 39,000 hectares consisting of (a) Silent Valley Forest, (b) New Amarambalam Reserve Forest, (c) Kundas Forest, and (d) Attapadi Reserve Forest, should be developed into a



National Rain Forest Biosphere Preserve. The cost of developing a National Rain Forest Biosphere Preserve should be borne by the Government of India, since the preservation of this unique forest area will be to the benefit of both Kerala and the entire nation. The Silent Valley Environmental Monitoring Committee already constituted by the State Government could become the National Rain Forest Biosphere Preserve Planning and Implementation Committee and should start the work immediately under the overall guidance of NCEPC. If developed along proper lines, the Silent Valley Rain Forest Biosphere Preserve can become a sanctuary for valuable genes in several medicinal and plantation crops, such as pepper and cardamom. This whole region has also been found to be a reservoir of useful genes in rice conferring resistance to some major pests. Therefore, urgent steps should be taken to prevent the erosion of valuable genes from this area.

In my report on the need to conserve the Silent Valley Rainforest, I mentioned, “If steps are not taken to satisfy the legitimate socio-economic aspirations of the people of the area, mere talk about

ecology and environment will be met with cynicism and with the question, “Who is more important—man or monkey?” On the other hand, if we proceed with the implementation of the project without taking advantage of alternative methods of providing energy, employment and irrigation, will future generations forgive us for destroying a 50-million year old genetic heritage, particularly at a time when the solar energy option is not an illusion? The alternative pathways available immediately for providing power, irrigation and jobs at no ecological risk will, in my view, help to achieve the desired social goals more speedily and economically. It should not be beyond our political, intellectual or financial capability to find solutions which can enable the present day human population of Phalगत and Mallapuram districts to experience a better quality of life without destroying a priceless biological endowment”.

“Development without destruction need not be an idle dream. If however, the project is rushed through leading to the destruction of the forests and to the loss of valuable biodiversity, the Silent Valley project will become one more

testimony to the statement, “Every new source from which man has increased his power on earth has been used to diminish the prospects of his successors. All his progress has been made at the expense of damage to the environment which he cannot repair and could not foresee.”

During my tenure as Director General of the International Rice Research Institute, Los Banos, the Philippines (1982-88), I initiated steps to enlarge and streamline the International Rice Germplasm Centre. IRRI now preserves over 100,000 strains of rice. My strategy for conservation was to map the biodiversity hot spots and initiate systematic steps to save the genetic diversity occurring in such endangered habitats. An example is the rice collection made in the interior parts of Myanmar with the help of army personnel since civilians were not allowed to go to some of these areas. The army personnel were trained in genetic resources collection at Yezin.

In 1983, I served as President of the XV International Congress of Genetics held in New Delhi. I chose “Genetic Conservation: Microbes to Man” as the focal theme for the Congress. In my Presidential Address, I suggested that





we should establish a global Cryogenic Gene Bank under perma-frost conditions to serve as a “Noah’s Ark” in the field of conservation. This proposal fructified when the Government of Norway set up a Global Gene Vault at Svalbard, near the North Pole in 2008. A similar Gene Vault has been set up at Chang La in Ladakh by the Defence Research and Development Organisation of India (DRDO) in 2009. These facilities involve low operational cost and serve as repositories of valuable genetic material. In spite of the growing awareness of the need for conserving biodiversity, its loss is continuing unabated due to habitat destruction, invasive alien species and industrial agriculture. A Biodiversity Literacy Movement is therefore an urgent need.

Cryogenic preservation does not allow evolution. *In situ* conservation involves both preservation and evolution. Therefore, *in-situ* conservation and *ex situ* preservation are both important. In 1989-90, I assisted the Commonwealth Secretariat and the Government of Guyana in establishing the Iwokrama Rainforest Conservation programme in one million hectares of prime rainforest made available by the Government of Guyana. In this programme, as well as in many others with which I have been associated, I introduced the “4C principle”,

i.e., conservation, cultivation, consumption and commerce. The “4C principle” generates an economic and social stake in conservation.

All over the world there is increasing realization of the need to have an integrated conservation strategy involving *in-situ* and *ex-situ* methods as well as community conservation on the lines I had indicated in my Volvo Prize Lecture (see figure below).

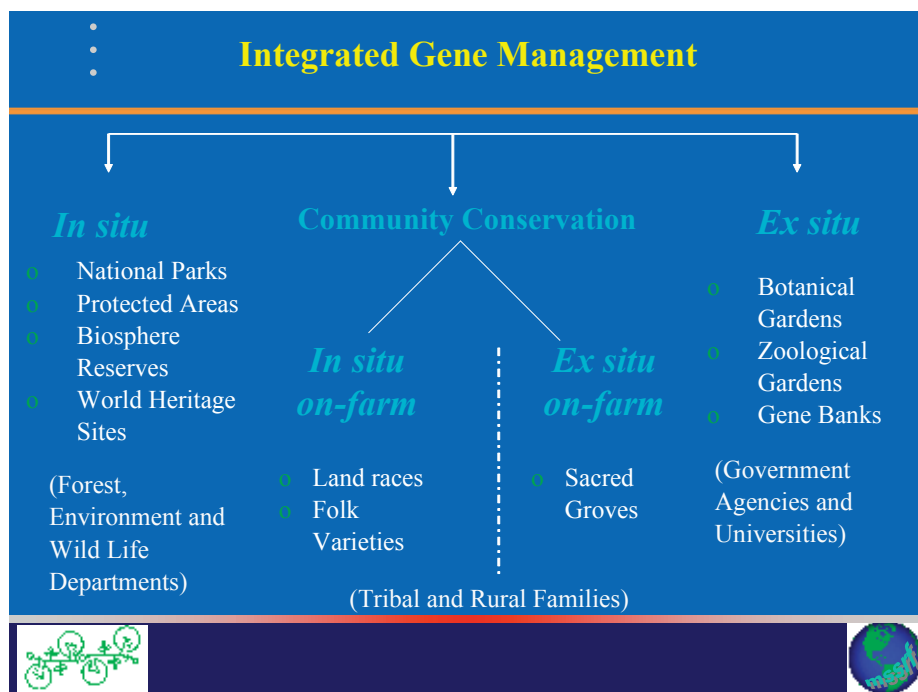
The role of local communities in the conservation and enhancement of biodiversity received inadequate attention and appreciation in the past. Therefore, in the general conference of FAO held in Rome in 1979, I stressed the need for ending the enigma of the poverty of the primary conservers coexisting with the prosperity of those who use their knowledge and material. This led ultimately to the establishment of the FAO Commission on Plant Genetic Resources at a meeting of the FAO Council chaired by me in November 1983. Also, the concept of Farmers’ Rights was developed and this was given a legal status under the FAO-sponsored International Treaty on Genetic Resources for Food and Agriculture which came into operation in November 2001.

In the early nineties, the M S Swaminathan Research Foundation (MSSRF) started the preparation of draft legislation

for the integrated protection of farmers’ and breeders’ rights. My first draft of such a Bill was supported in an international dialogue held at MSSRF, Chennai in 1994.<sup>3</sup> In 1996, I revised this draft by including farmers’ rights in the title of the Act. Thus, was born the Plant Variety Protection and Farmers’ Rights Act adopted by the Parliament of India in 2002.<sup>4</sup> Following this, the Plant Variety Protection and Farmers’ Rights Authority was set up and the Authority adopted and implemented my suggestion for honouring primary conservers with the Genome Saviour Award.

The community conservation methodology involved promotion of a gene bank (*in situ* on-farm conservation of landraces), a seed bank, a grain bank and a water bank in areas rich in agro-biodiversity. This initiative won for the tribal communities of Koraput in Orissa the Equator Initiative Award at the UN Summit on Sustainable Development held at Johannesburg in 2002. Although the UPOV convention has not yet accepted the concept of farmers’ rights, it is my hope that my plea that UPOV should become a Union for the Protection of Breeders and Farmers’ Rights will become a reality in the near future. Breeders and farmers are allies in the struggle for feeding the ever-growing global population and hence their rights should not only be not antagonistic, but should be mutually reinforcing.

During 1984-90, when I was President of the World Conservation Union (IUCN) we took steps to prepare a Draft Global Biodiversity Convention. The Draft was discussed and approved at the IUCN Conference which I chaired and which was held at San Jose in Costa Rica in February 1988. Also, the Keystone Dialogues on Plant Genetic Resources held under my chairmanship during 1989-91, articulated the concept of recognition and reward for primary conservers. The Biodiversity Convention recognizes the principles of prior informed consent and benefit sharing. The challenge now lies in getting all nations to accept the concept of farmers’ rights and introduce appropriate



3 Swaminathan, M.S. (ed.) 1995. *Farmers’ Rights and Plant Genetic Resources: A dialogue*. Madras: Macmillan India Ltd.

4 Swaminathan, M.S. (ed.). 1996. *Agro-biodiversity and Farmers’ Rights*. Delhi: Konark Publishers Pvt Ltd.



legislation for the concurrent recognition of breeders' and farmers' rights on the pattern of the Indian legislation.

When I was in the Philippines during 1982-88, I observed that valuable mangrove forests were being removed for establishing aquaculture ponds. Mangroves serve as bio-shields during coastal storms and tsunamis and promote sustainable fisheries. I therefore helped to establish an International Society for Mangrove Ecosystem (ISME) in 1989 with the help of UNESCO and the Government of Japan. During my period as Founder-Chairman of ISME (1989-92), a Charter for Mangroves was prepared. In association with the International Tropical Timber Organization (ITTO), MSSRF organized an international training programme on Mangrove Genetic Resources Conservation. Also, research was started in 1992 on the identification and transfer of genes for seawater tolerance from *Avicennia marina* to rice and other crops by a team of molecular geneticists led by Dr. Ajay Parida. This work has now yielded several salinity-tolerant rice varieties. Recombinant DNA technology helps in transferring genes across sexual barriers and hence no plant or living organism is useless. For example, *Prosopis juliflora*, considered a noxious weed, has provided genes for drought tolerance. The new genetics has brought to an end the era of reproductive isolation of species.

### Looking Ahead

My association with biodiversity conservation and utilization over 63 years has reinforced my conviction that we must do our best to halt genetic erosion, promote biodiversity literacy and make biodiversity conservation everybody's business. Biodiversity is a public good resource and should not be privatized. The global Convention on Biodiversity and FAO's International Treaty for Genetic Resources both emphasize the need for recognizing and rewarding the invaluable contributions of tribal and rural families to biodiversity conservation and enhancement. This is why delivering the Sir John Crawford Memorial Lecture in Washington DC in 1990, I pleaded for converting the Union for the Protection of Plant Varieties

(UPOV) into a Union for the Protection of Breeders' and Farmers' Rights. The farmer is often a breeder and conservator, in addition to being a cultivator. If today, there are nearly 150,000 strains of rice in the world, it is only because of community conservation.

Agro-biodiversity is the result of interaction between cultural and biological diversity and hence the conservation of cultural diversity and traditional knowledge are equally important. The traditional methods of conservation like sacred groves and temple trees should be revived, since they integrate the spiritual and practical dimensions of biodiversity conservation.

Climate change has reinforced the urgency of conserving traditional crops and wisdom. In October 2010, some 18000 participants, representing the 193 Parties to the Convention on Biological Diversity, who attended the Nagoya biodiversity summit in Japan, reiterated the urgency of meeting the unprecedented challenges of the continued loss of biodiversity in an era of climate change. The Strategic Plan of the CBD and the "Aichi Targets" adopted by the meeting includes 20 major targets organized under five strategic goals that address the underlying cause of biodiversity loss, reduce the pressures on biodiversity, safeguard biodiversity at the ecosystem level, enhance the benefits provided by biodiversity and provide for capacity building. The Nagoya Protocol included a plan to protect biodiversity by setting targets for 2020. Nations agreed to make 17% of the globe's land area and 10% of coastal and marine areas into protected regions, as opposed to the current levels of 13% and 1%, respectively.

When I was President of IUCN, I used to remark that "conservation without resources becomes just conversation". Fortunately at Nagoya, Japan led the resource mobilization drive by committing a \$2 billion fund for achieving the "Aichi Targets" of halving the rate of biodiversity loss by 2020. I hope other countries will follow not only with money but also with emotional, spiritual and political commitment.

Experience has shown that without education and social mobilization,

regulation alone will not work. I have participated in numerous national and international conferences and workshops during the past 60 years where well-intentioned resolutions and targets have been adopted. Even with reference to the UN Millennium Development Goal No 1, i.e., reducing poverty and hunger by half by 2015, progress has been poor in many countries. Unless community understanding and participation is combined with national and global resolutions, preventing biodiversity loss will remain a receding goal. For giving local communities space in the management of Biosphere Reserves and National Parks, we should adopt a trusteeship mode, with people and government becoming trustees of these invaluable assets. I got this done in the case of the Gulf of Mannar Biosphere Reserve in Tamil Nadu, India by getting its management placed under a Gulf of Mannar Biosphere Trust, with both government and community leaders serving as Trustees. This project was supported by the Global Environment Facility.

In 2020, there will be a review of the progress made in achieving the "Aichi Targets". Considering past accomplishments, there will be disappointment once again unless there is serious effort for making biodiversity conservation a community-led movement. In most of these conferences, administrators, experts and members of civil society organizations participate. They prepare excellent declarations, but these are not followed up by taking the message to those who are the key actors in the conservation movement at the local level. Reaching the unreached and voicing the voiceless will have to become a mandatory public policy in the area of biodiversity conservation.

The tribal women of Koraput in India are showing how we can convert biodiversity hotspots into biodiversity happy spots by launching a biohappiness movement involving concurrent attention to conservation, sustainable use and equitable sharing of benefits. I hope their voices of sanity and hope will be heard at COP 11 scheduled to be held in Hyderabad in 2012, since otherwise targets and resolutions will continue to remain as desirable but unaccomplished objectives. ❖



Kishore Rao, *Director, World Heritage Centre*



## Significant achievements await us

The evidence that humanity has been celebrating the diversity of life on earth for several tens of thousands of years can be found all around us. The thought-provoking animal paintings at Lascaux and surrounding region in the south of France are up to 32,000 years old and known worldwide. Less known, but equally impressive, are the Matobo Hills of Zimbabwe, and the Petroglyphic Complexes of the Mongolian Altai, which depict interactions of people with animals and the landscape 13,000 and 6,000 years ago, respectively. Similar sites are found scattered around the world, further attesting to the intimate relationship that has always existed between humans and life forms around them.

States of America, Mount Wuyi in China and the Osun-Osogbo Sacred Grove of Nigeria all celebrate the spiritual connections between people and nature.

Today, nature protection, now called biodiversity conservation, is considered a worthy objective by all governments of the world, as can be attested by the widely ascribed biodiversity conventions such as those for World Heritage, and Biological Diversity (187 and 193 parties respectively). But as demand for forest resources, agriculture lands and underground minerals and hydrocarbons grows exponentially, proponents of protected areas find themselves increasingly needing to justify why natural areas should be conserved in the first place, mostly in

Perhaps the principal exception to this trend is manifested through the World Heritage Convention. Though justified against technical criteria, in the end, a World Heritage site is recognized above all for its outstanding value to all of humanity—its Outstanding Universal Value in the parlance of the Convention. A particular World Heritage site may provide tangible benefits to local stakeholders in the form of tourism jobs, as a centre for the reproduction and dispersal of game animals, or for other environmental services, but only the intangible values of a particular World Heritage site can be so evenly enjoyed by all of humanity at the same time—it is these values that are celebrated under the Convention. In this regard, the list of World

*“The World Heritage Convention provides a rigorous intergovernmental mechanism to help identify the most outstanding ecosystems and habitats, and assures a permanent monitoring process in regards to their state of conservation.”*

As global populations grew, and as people turned from hunting and gathering, to agriculture, our capacity to modify and occupy the landscape expanded. Gradually, humans began to test the bounds of nature’s bounty, as their growing impact on the natural environment began to have material repercussions on their wellbeing.

But beyond their straightforward utilitarian value, humans also maintain spiritual relationships with natural areas, a testament to the intangible values we continue to derive from such places, many of which are World Heritage sites. Tongariro National Park in New Zealand, which symbolizes the spiritual links between this community and its environment attest to these intangible values. Similarly, the Mijikenda Kaya Forests of Kenya, Papahānaumokuākea in the United

States of America, Mount Wuyi in China and the Osun-Osogbo Sacred Grove of Nigeria all celebrate the spiritual connections between people and nature. Today, nature protection, now called biodiversity conservation, is considered a worthy objective by all governments of the world, as can be attested by the widely ascribed biodiversity conventions such as those for World Heritage, and Biological Diversity (187 and 193 parties respectively). But as demand for forest resources, agriculture lands and underground minerals and hydrocarbons grows exponentially, proponents of protected areas find themselves increasingly needing to justify why natural areas should be conserved in the first place, mostly in

Indeed, there seems to be a trend whereby those intangible values human societies had universally attributed to “sacred places” are no longer taken seriously as an argument in favour of creating or maintaining protected areas.

Heritage sites are the modern world’s “sacred sites”—universally understood to be so special, that they need to be protected from harm for the benefit of current and future generations worldwide.

The World Heritage Convention is a powerful, rigorous and effective intergovernmental instrument that contributes to the implementation of the Strategic Plan of the Convention on Biological Diversity (CBD), and more specifically, to those of the Aichi Biodiversity Targets. The CBD recognizes that *in-situ* conservation of ecosystems and habitats is a fundamental requirement for biodiversity conservation, while the World Heritage Convention not only provides a rigorous intergovernmental mechanism to help identify the most outstanding such ecosystems and habitats, but also assures a permanent monitoring process in regards to their state of



conservation. The intergovernmental World Heritage Committee regularly enters into dialogues with national governments in regards to assuring the maintenance of the conservation standards required under

the World Heritage Convention.

The Secretariats of the World Heritage and Biological Diversity Conventions have been cooperating for many years, yet the scope for further collaboration remains

large. I look forward to supporting the contribution of the World Heritage Convention towards the implementation of the Aichi Biodiversity Targets, and am confident that significant achievements await us. ❖



**Anada Tiéga**, *Secretary General, Ramsar Convention on Wetlands*

## Aichi Targets, water and wetlands

**T**he Secretariat of the Ramsar Convention on Wetlands welcomes and values the recognition of the role of water and wetlands in the joint activities between the Convention on Biological Diversity (CBD) and the

provided by wetlands for biodiversity, climate change adaptation and mitigation, socio-economic development, and food and water security.

The Aichi Targets set the new objectives for a stronger collaboration between

Ramsar embodies a broad interpretation of the categories of wetlands covered in its mission, including lakes and rivers, “swamps”, wet grasslands, peatlands, oases, estuaries, deltas, tidal flats, salt pans, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fish ponds, rice paddies, and reservoirs. Thus the scope of the Ramsar Convention effectively encompasses all inland waters as well as the marine and coastal programme of work of the CBD, and all habitats, including forests, protected areas, and agriculture biodiversity, irrespective of salinity, except for deepwater marine areas.

*“Sustainable management of the wider environment, including land-based activities, water quality and sedimentation are key elements to consider in the conservation and sustainable use of biodiversity.”*

Ramsar Convention. We trust that increasing achievements will enhance the implementation of both conventions through concrete actions promoting the ecosystem approach in the implementation of the Strategic Plan for Biodiversity (2011-2020), the Aichi Biodiversity Targets, and the 2009-2015 Ramsar Strategic Plan.

The year 2011 commemorates the 40th anniversary of the Ramsar Convention, and it is an opportune time to take stock and update our work, and to set future directions that are consistent with the desires of Contracting Parties, as well as with current and emerging global challenges, as a contribution to the environment and sustainable development linkages. Therefore, beyond our current Strategic Plan, we need to clarify how a long-term vision of the Convention can enhance the recognition, the maintenance, the restoration and the wise use of the vital ecosystem services

the CBD and the Ramsar Convention, especially through joint efforts to achieve Target 14: “By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable”.

The core business of the Ramsar Convention is to ensure that wetlands continue to provide valuable ecosystem services to a wide range of users, including natural areas that support biodiversity and contribute to climate change adaptation and mitigation, farmers who are using 70% of available freshwater, households, cities, industries, fishermen, tourism operators and livestock, and the Convention recognizes 42 types of wetlands as key natural infrastructures for providing these ecosystem services.

The ecosystem approach adopted by the CBD is a holistic concept that encourages actions towards a better integration of water as a cross-cutting asset that determines the functioning and extent of productive and healthy ecosystems and habitats. Through wetland functioning, water establishes and influences the connectivity between terrestrial, freshwater, coastal, marine and open ocean ecosystems. The influence of water on all kinds of ecosystems underscores the reality that wetlands are an integral part of the landscape and relevant seascape and that the management of water use on land is an important element in managing river basins and coastal systems.

The interdependence between water, wetlands and biodiversity calls for joint actions between all biodiversity-related conventions, especially the CBD and Ramsar, to apply the ecosystem approach to the management of inland water



ecosystems as well as to marine and coastal ecosystems.

We are encouraged to note that the review of the joint work plan between CBD and Ramsar will examine how to pay closer attention to hydrological linkages, or the “water-cycle”, highlighting this as the major ecological connection between “inland” and “coastal” ecosystems. These linkages were explicitly reflected in CBD Decision X/28 in, inter alia, paragraphs 10(b), 10(l), 21, 25(a) and 46(b). Better recognition of water as a “cross-cutting” subject is a significant step forward in breaking down artificial barriers between programmes of work and promoting more ecosystem level perspectives. Sustainable management of the wider environment, including land-based activities, water quality and sedimentation are key elements to consider in the conservation and sustainable use of biodiversity.

The Ramsar Convention will continue to contribute to the conservation and wise use of biodiversity through many actions, including:

- Encouraging and supporting sustainable water allocation schemes to maintain, restore and wisely use healthy wetlands that provide water, better human health and livelihoods.
- Developing and maintaining an international network of wetlands that are important for the conservation of global biological diversity, including waterbird flyways and fish populations, and for sustaining human life, by ensuring that all Contracting Parties appropriately implement our Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance and by appropriate management and wise use of those internationally important wetlands that are not yet formally designated as Ramsar Sites but have been identified as qualifying for that status.

We in the Ramsar Secretariat look forward to continuing our close collaboration with the CBD, and with the other biodiversity-related conventions, especially in our efforts to reach the Aichi Biodiversity Targets in the coming years. ❖

## Local sustainable development solutions for people, nature and resilient communities

**A**s a global community, we find ourselves confronted with cross-cutting challenges to sustainable development, to the health of our planet’s ecosystems, and to the wellbeing of the world’s most vulnerable and marginalized peoples. Biodiversity loss, ecosystem decline (including, deforestation and forest degradation), and climate change are all challenging the rural poor, who depend directly on the environment for their livelihoods, health and wellbeing.

The ability to adapt to environmental, social and economic change—and to effectively deal with uncertainty—is needed now more than ever before. Strengthening the resilience of people and ecosystems to shocks, strains and climate variability is obviously a major development priority going forward.

That we urgently need renewed commitment to development solutions that are environmentally and socially sustainable is abundantly clear. The question is: What is needed now to catalyze transformative change, to advance solutions for people and the environment, and to build resilience?

One answer to this question for the United Nations Development Programme (UNDP) is identifying, supporting and scaling up local solutions and community-based best practice. The local level is where governments can most effectively build resilience and foster adaptive capacity, and where successful biodiversity-based development solutions often originate.

For the poor in most rural settings, ecosystems and biodiversity are their principle assets. Many local and indigenous communities have learned to parlay these assets into sustainable sources of livelihoods that do not compromise



environmental integrity. Quite to the contrary, UNDP’s experience shows that local efforts to protect biodiversity and sustainably manage ecosystems can raise their productivity and improve ecosystem stability, while simultaneously increasing the subsistence income they yield to the poor.

To realize the potential of local action and innovation, however, steps must be taken to bridge on-the-ground realities with national policymaking. Policies that have no resonance at the local level will not succeed, and local solutions developed in isolation will not be scaled-up. An action agenda to create responsive enabling conditions is needed.

Governments must be supported to create an enabling policy environment. Local groups need incentives to turn their ecosystem assets into sustainable sources of growth, and governments must ensure secure land and resource rights and create a regulatory environment that is friendly to small nature-based businesses.

At the same time, it is essential to build capacity at the local level. Local ecosystem-based initiatives require technical, business, governance and institutional support to effectively manage their environmental assets.



Local groups must have access to environmental finance. Existing sources of finance are insufficient to effectively catalyze scaling-up. There are, however, emerging opportunities to improve the flow of environmental finance to local actors, including through climate finance mechanisms such as reducing emissions from deforestation and forest degradation (REDD+).

Lastly, we must foster learning and knowledge sharing among local actors. Experience shows that community-to-community learning can greatly speed the spread of best practices. It is equally critical to ensure that knowledge-sharing between local groups and policymakers is enabled.

Taken together, these enabling conditions set the stage for scaling-up the number and effect of local initiatives. Such scaling-up can bring landscape-level change to ecosystems, reshape local economies, and increase economic, social

and environmental resilience.

The UNDP oversees one of the largest biodiversity, climate change and development portfolios in the world. The UNDP-GEF Small Grants Programme (SGP), for example, has funded over 10,000 locally-initiated projects, has rapidly expanded (based on government demand) to 120 countries, and has emerged as one of the world's most effective delivery mechanisms for local support. Likewise, the Equator Initiative has identified and supported 130 community-based initiatives—leaders and innovators of high-impact local solutions—to raise their profile, be positioned as knowledge leaders, and connect with their peers to share best practices. A significant body of experience informs the view that local innovation is worth the investment and that demand for scaling-up (from governments and communities alike) is higher than ever.

Poverty reduction and environmental conservation strategies cannot and will

not succeed without being rooted in the demands, capabilities and actions of local organizations. Solutions will not come from governments alone, but will be forged by local communities, with governments enabling through policy reform and capacity enhancement.

Looking ahead to the UN Conference on Sustainable Development (Rio+20), we know that a business-as-usual outcome will not be sufficient and that we must unequivocally deliver a new paradigm of inclusive development that makes the most of the rapidly closing window to accelerate achievement of the Millennium Development Goals (MDGs).

UNDP is committed to working with national governments to scale-up local solutions in biodiversity, ecosystems and climate change to achieve the MDGs. Local investment is the key to unlocking the ingenuity and building the resilience that will be required to meet the challenges of our changing world. ✦

**Takashi Kawamura**, *Mayor of the City of Nagoya, Japan*



## Nagoya – Our biodiversity efforts and the United Nations Decade on Biodiversity

**F**irstly, we very much appreciate your kind support and encouragement toward people affected by the Great East Japan Earthquake which occurred in March. The City of Nagoya has been sending staff to the affected areas since immediately after the earthquake. Rikuzentakata City in Iwate Prefecture particularly suffered tremendous damage, and we have been making efforts since April to provide them with full support for the reconstruction of the city and the restoration of its administrative functions.

As a local government, the City of Nagoya considers the United Nations Decade on Biodiversity (UNDB) to be an ideal opportunity for various stakeholders including local governments

to promote and strengthen their efforts for the conservation of biodiversity. The Japanese national government is also in the process of establishing a committee (tentatively titled the “Japan Committee for the UNDB”) to advance national efforts for the Decade. The committee will be composed of representatives of various stakeholder organizations including a network of Japanese local governments.

Inclusion of representatives of local governments in the committee shows that the important roles local governments can play in the conservation of biodiversity have become well-accepted in Japan. We hope we can also support this national campaign as much as possible. As a part of this, back to back with the first

nationwide biodiversity meeting to be held in Nagoya this October to commemorate the Decade on Biodiversity, the City of Nagoya will hold a biodiversity symposium on the topic of recovery from the earthquake and biodiversity conservation. We hope this symposium, open to public attendance, will raise awareness about the importance of taking into consideration the coexistence of human beings and nature when moving forward with city planning for rebuilding the disaster areas.

Additionally, as the chair of the Cities Advisory Committee of the CBD’s Global Partnership on Cities and Biodiversity, the City of Nagoya will work hard to promote international collaboration in regard to cities and biodiversity. We are planning



*“The City of Nagoya considers the United Nations Decade on Biodiversity (UNDB) to be an ideal opportunity for various stakeholders including local governments to promote and strengthen their efforts for the conservation of biodiversity.”*

to hold an Advisory Committee meeting in Nagoya next March, in order to provide an opportunity for the members of the Global Partnership to come together to discuss preparations for the next City Biodiversity Summit to be held in India at COP 11. We hope that we can contribute to the success of the next City Biodiversity Summit.

In addition to organizing events, we have already begun specific efforts drawing upon the results gained from COP 10. The hosting of COP 10 last year provided an opportunity to greatly advance efforts

through activities by citizens to conserve and restore nature in their neighborhoods throughout Nagoya. In order to allow these activities to continue to develop, we have just begun work this April toward establishing a biodiversity promotion center. This center will accumulate information and materials and also promote citizens' conservation activities such as the eradication of invasive species and surveys of organisms. We are sure that the Decade is an excellent chance for Nagoya's ongoing initiatives for conserving biological diversity.

Last year, the City of Nagoya developed “The 2050 Nagoya Strategy for Biodiversity” as a long term guideline for making the city sustainable and in harmony with nature. Utilizing the opportunities given to us by the United Nations Decade on Biodiversity, we will continue our conservation efforts and strive toward the realization of the vision for Nagoya laid out in “The 2050 Nagoya Strategy for Biodiversity” as a city of abundant, sustainable lifestyles supported by diverse species and ecosystems. ♡



Luciano Ducci, *Mayor of Curitiba, Brazil*

# Global and local actions to protect biodiversity

All together for biodiversity. Only in this way, through this global commitment, will we be able to effectively protect the different forms of life.

All of us who have undertaken this commitment must work tirelessly to put in place effective measures. These are concrete local actions in our daily lives. Actions that stem from public authorities but carry enough meaning and scope to involve every citizen.

The major global and national actions stemming from the endeavors of each nation are essential. However, they must always be linked to the awareness of our own role and responsibility in this process.

Five years after having received the participants to the eighth meeting of the Conference of the Parties (COP 8) to the Convention on Biological Diversity (CBD)—and after two meetings on Cities and Biodiversity held in Curitiba—cities have started a process of exchange. We have exchanged actual experiences in urban planning and environmental practices targeted at the preservation of different forms of life.

One example of this exchange of experiences is the Global Partnership on Cities and Biodiversity initiative supported by the CBD Secretariat, in which cities and international organizations have proposed to discuss the role of collectivities in this process.

### Local action

The main objective of our administration is building a sustainable society. Only in this way can the development of our cities take place with respect for the environment.

This construction is part of our local culture. For many years Curitiba has been putting in place an environmental agenda that extends beyond specific environmental programs. Urban planning, public transportation and strong social programs are all linked to the concepts

of environmental management.

Over the years the set of actions implemented has resulted in a material area of 77 million square meters of preserved urban forest, equivalent to 18% of the surface of the municipality. Part of this area is located in the city's 35 existing conservation units. They are our urban parks.

### BioCity

In 2007, we took another quantum leap in sustainability with our Urban Biodiversity Program—the BioCity.

The BioCity Program enhances the concepts of environmental management and shows that awareness of sustainability can—and must—permeate all areas of municipal administration.

*“Curitiba has, for many years, been putting in place an environmental agenda that extends beyond specific environmental programs. Urban planning, public transportation and strong social programs are all linked to the concepts of environmental management.”*







Hélène Mandroux, *Le Maire de la Ville de Montpellier, France*

Among the actions of the program is the replacement of exotic invasive plant species with indigenous species, in particular in parks, which also contributes to the preservation of local biodiversity.

In a little more than three years, BioCity has revitalized over 600 parks, woods, squares and mini-parks, in addition to creating an unprecedented model of preservation in natural urban areas: the Private Reserves of the Municipal Natural Heritage.

Owners of private land with 70% of native vegetation are encouraged to preserve them in exchange for incentives, such as tax exemptions and the right to transfer the building potential—an original and efficient form of associating economic return to environmental preservation.

Another important tool is our different environmental education programs which create awareness, inform and establish practices so that adults and children know how each one of us can best contribute, each and every day, to a better city.

#### Climate Change

Curitiba is also working towards establishing a public policy for climate change. In 2009 we established the Curitiba Climate Change Forum, and a specific action plan is currently under way.

The Forum provides a space where organized civil society, as represented by universities, NGOs, industries and other institutions, can debate with the city government the best way to alleviate greenhouse gas emissions and help adapt the city to protect its population and the local biodiversity.

Curitiba works with determination in the quest for sustainability and proves that local action can serve as component tools in major projects for the preservation of different forms of life around the world.

I highlight the importance of pooling our efforts, especially during the United Nations Decade on Biodiversity, a period that coincides with the duration of the Strategic Biodiversity Plan 2011-2020, adopted by COP 10 last year, in Nagoya, Japan. May the plan's challenging targets increasingly inspire us in the task of protecting biodiversity. ♡

## La perte de biodiversité nous concerne tous

**E**nrayant la perte de la biodiversité est l'affaire de tous : gouvernements nationaux, entreprises du secteur privé, gouvernements locaux et citoyens. Il faut que tous interagissent pour coopérer et modifier les comportements collectifs et individuels, s'adapter si nécessaire. C'est bien dans cet esprit que le premier objectif d'Aichi pour la diversité biologique a été défini. Les élus des villes occupent une place stratégique pour remplir ce premier objectif puisque la politique qu'ils mènent dans les centres urbains impacte directement 50% de la population mondiale. Nous, responsables politiques locaux, avons donc une responsabilité écrasante en matière de sensibilisation et d'éducation des citoyens pour leur



*« Montpellier entend montrer sa détermination et sa volonté d'adhérer pleinement aux objectifs ambitieux d'Aichi pour la décennie 2011–2020. »*

faire prendre conscience de la valeur de la diversité biologique et des mesures à prendre pour la préserver afin qu'elle continue à rendre les services essentiels pour la vie des êtres humains et en particulier des habitants des villes.

Faut-il rappeler que ces derniers consomment de façon directe ou indirecte 75% des ressources naturelles de la planète ? À cette forte dépendance aux matières premières issues du monde vivant s'ajoute l'impact sur l'environnement engendré par le fonctionnement des centres urbains en matière de pollution par exemple.

C'est pourquoi j'ai inscrit dans la politique de la ville de Montpellier un plan pluriannuel d'actions en faveur de la biodiversité qui s'inscrit parfaitement, dans la limite de ses compétences territoriales, dans les objectifs d'Aichi pour la décennie

2011-2020. Ce plan laisse une grande place à la sensibilisation et l'éducation, où toute initiative citoyenne est la bienvenue. Ce plan comporte également, parmi une centaine d'actions, un certain nombre de mesures visant à protéger les milieux naturels, les milieux aquatiques de toute pollution.

Afin de dépasser les limites territoriales, une place importante est également donnée au dialogue avec le milieu scientifique. Montpellier a la chance d'accueillir une communauté scientifique en matière de biodiversité, d'environnement et de recherche agronomique de renom international et dont les recherches s'inscrivent également de façon claire dans les objectifs d'Aichi dans le domaine de la diversité génétique des plantes cultivées, des animaux d'élevage domestique. Je suis

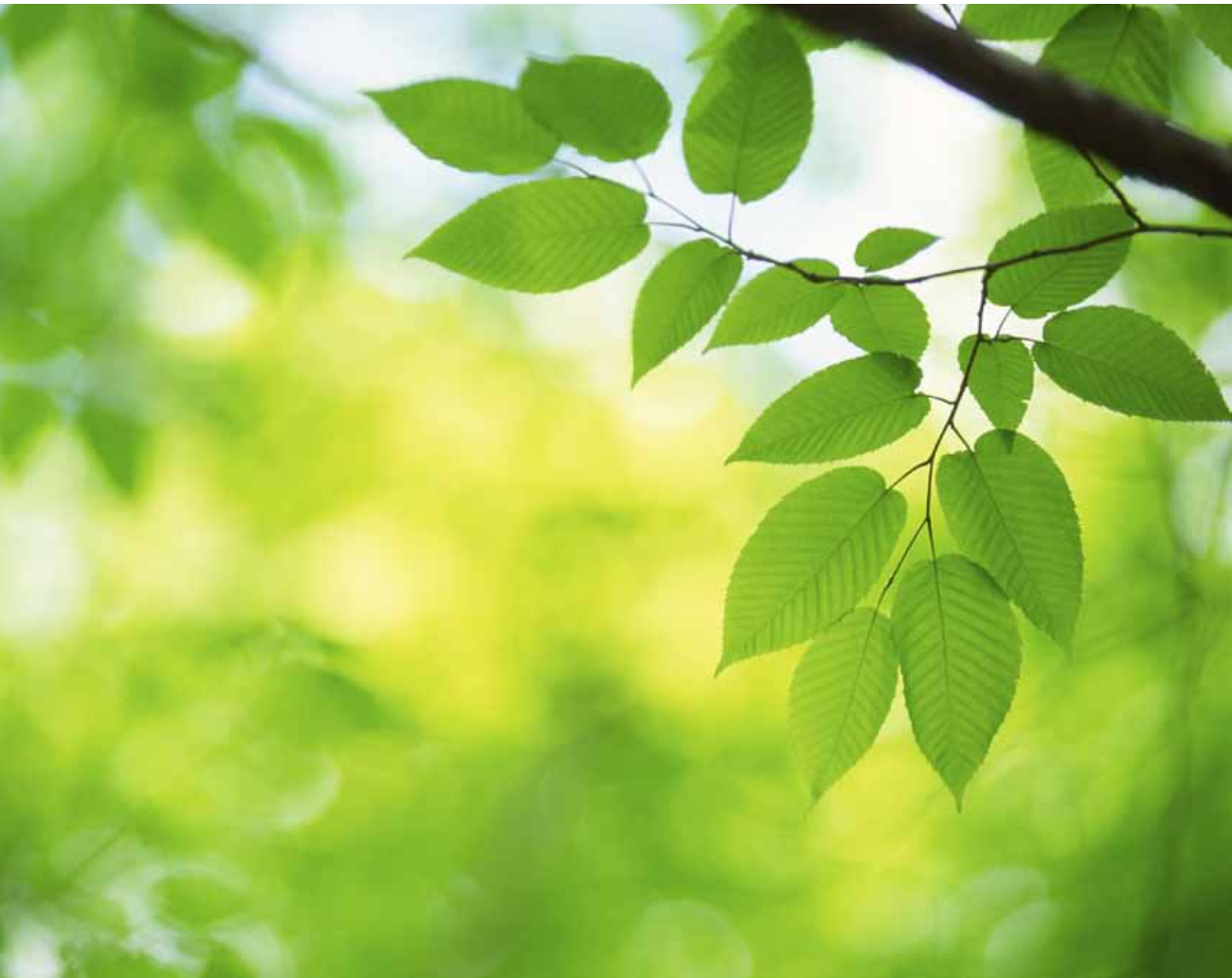


très fière que ma ville accueille désormais le GCRAI (Consortium mondial pour la recherche agronomique et le développement). Cette implantation est aussi le symbole des initiatives de coopération qui peuvent naître entre le Nord et le Sud, et dans le même esprit de la prise en compte du protocole de Nagoya et le partage juste et équitable des services rendus par la diversité biologique.

C'est dans ce même esprit que nous accueillerons à Montpellier en mai 2012 le Congrès Mondial d'Ethnobiologie. La

tenu de ce congrès dans notre ville sera l'occasion d'organiser en marge de celui-ci une manifestation pour le grand public rassemblant des communautés autochtones. Celles-ci présenteront aux visiteurs leur savoir faire, leurs connaissances et leurs pratiques traditionnelles vis-à-vis des ressources naturelles qui constituent leur environnement. En soutenant la tenue de ce congrès et en initiant à sa marge des actions de sensibilisation de nos concitoyens, nous nous inscrivons largement dans les objectifs d'Aichi.

À travers toutes ces actions, Montpellier entend montrer sa détermination et sa volonté d'adhérer pleinement aux objectifs ambitieux d'Aichi pour la décennie 2011-2020, en apportant sa modeste contribution et en s'efforçant d'être un élément moteur pour entraîner d'autres initiatives locales qui pourront contribuer à atteindre les objectifs fixés à Nagoya fin 2010. C'est ce rôle que j'entends jouer en tant que membre du comité consultatif de l'initiative Villes et biodiversité de la CBD aux côtés de Curitiba, Nagoya, Montréal, Bonn et Mexico. ❖





**XI<sup>th</sup> Conference of Parties**  
CONVENTION ON BIOLOGICAL DIVERSITY  
**HYDERABAD INDIA 2012**



Photo: Gisela Talamas/CBD



Photo: ECA: Economic Commission for Africa



Photo: ECA: Economic Commission for Africa



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Convention on Biological Diversity

