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**CHAIRMEN'S REPORT: TRONDHEIM CONFERENCE ON BIODIVERSITY 2010: GETTING
THE BIODIVERSITY TARGETS RIGHT - WORKING FOR SUSTAINABLE DEVELOPMENT**

Note by the Executive Secretary

1. The Executive Secretary is circulating herewith, for the information of participants in the fourteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, and for participants in the third meeting of the Ad hoc Open-ended Working Group on Review of Implementation of the Convention, the Chairmen's report from the Trondheim Conference on Biodiversity 2010 held from 1 to 5 February 2010 in Trondheim, Norway.
2. The document is circulated in the form and language in which it was received by the Secretariat of the Convention on Biological Diversity.

* UNEP/CBD/SBSTTA/14/1.



Trondheim
Conferences
on
Biodiversity

CHAIRMEN'S REPORT

– short version with main conclusions and recommendations

Trondheim conference on Biodiversity 2010:
Getting the biodiversity targets right
- working for sustainable development
Trondheim, Norway, February 1-5, 2010

Final Chairmen's report, conference presentations and more information about the Trondheim Conferences on Biodiversity is available on the conference home page at www.trondheimconference.org.

CONCLUSIONS AND RECOMMENDATIONS FROM TRONDHEIM CONFERENCES ON BIODIVERSITY: "GETTING THE BIODIVERSITY TARGETS RIGHT – WORKING FOR SUSTAINABLE DEVELOPMENT"

Trondheim, Norway, 1 – 5 February 2010

Since 1993, the Trondheim Conferences on Biodiversity have provided a valuable forum for science-policy dialogue. The sixth Trondheim Conference was held on 1 – 5 February 2010 in Trondheim, Norway, and gathered more than 300 participants from 100 countries, representing governments, UN entities, the scientific community, and relevant institutions and organizations.

The sixth Trondheim Conference focused on the need for speeding up implementation of the Convention on Biological Diversity (CBD) by setting new targets for the future. Participants examined the status of biodiversity and considered how implementation of the convention could be improved.

The conference program was developed to include relevant scientific presentations, drawing on experiences at different levels and on output from key meetings related to post 2010 targets.

The conference was hosted by the Norwegian Ministry of the Environment in collaboration with the United Nations Environment Program (UNEP) and the Secretariat of the Convention on Biological Diversity (SCBD), and was organized by the Norwegian Directorate for Nature Management (DN).

The outputs of the conference will hopefully be a valuable contribution to negotiations on post 2010 biodiversity targets at the fourteenth meeting of the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA14) and the third meeting of CBD's Working Group on Review of Implementation (WGRI3), both to be held in Nairobi in May 2010. The conclusions and recommendations of the conference will also be conveyed to the 11th special session of the Governing Council of UNEP and the Global Ministerial Environment Forum, both to be held in Bali, Indonesia, in February 2010, as well as the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity in October 2010. The conference was also a general contribution to the International Year of Biodiversity, and may contribute to other relevant meetings in 2010, including the UN General Assembly Special Session on Biodiversity, the UN General Assembly Special Session on the Millennium Development Goals, the Global Environment Facility (GEF), climate change negotiations under the UN Framework Convention on Climate Change (UNFCCC), the Food and Agriculture Organization, other multilateral environmental agreements, and biodiversity efforts under the G20.

The two conference chairmen, Peter Schei and Finn Katerås, are responsible for the conclusions and rec-

ommendations presented in this synthesis of the conference. These conclusions and recommendations are based on the presentations made during the conference, findings from group discussions, written input and advice from participants. In particular, valuable and constructive input was provided by the 'friends of the chairs'¹.

The chairmen identified twelve major findings and related messages, and these are summarised as follows:

1. The 2010 target has inspired valuable action, but will not be reached in full.
2. Biodiversity loss and degradation of ecosystem services have increasingly dangerous consequences for human well-being, even survival for some societies.
3. Urgent action is needed to address the loss of biodiversity, especially to avoid tipping points.
4. Biodiversity is the living basis for sustainable development.
5. Inaction is more expensive in the long run than investing in action now.
6. Economic development and food security depend more than we realize on biodiversity and on ecosystem services.
7. Biodiversity and climate change are inextricably linked.
8. All parties must strengthen and broaden implementation of the CBD.
9. Now is the time to scale up our science and knowledge.
10. We need to communicate better that biodiversity is fundamental for human well-being.
11. Substantially more resources are needed for capacity building and improved implementation.
12. 2010 calls for new and more strategic biodiversity targets.

In the sections below, supplementary text is provided to illustrate and support these messages.

The conference has hopefully provided insight and inspiration, and all participants are encouraged to use these conclusions and recommendations, and other

¹ A list of the 'Friends of the Chairs' is provided in the full Chairmen's Report.

conference outputs, as appropriate in national implementation and in international co-operation.

The 2010 target has inspired action, but will not be reached in full

Biodiversity is in decline globally, and the rate and scale of the decline is unprecedented. At population, species and ecosystem level roughly 1 % of biodiversity is lost each year, and except in areas where biodiversity is already low the general trend appears to be towards increasing rates of loss.

At the global level we have not met the 2010 Biodiversity Target², although the situation has improved for some habitats and species, not least due to conservation measures. For example at the species level, 20 % of the bird extinctions which would otherwise have occurred have been prevented partly by conservation actions, while at the habitat level, protected areas have been shown to be effective in halting and even reversing deforestation.

The 2010 target has had political impact by helping to trigger some valuable responses. However, major and more rapid efforts would have been needed to achieve a significant reduction in the rate of biodiversity loss.

The decline of biodiversity is being largely driven by our inability to effectively address the underlying pressures and drivers of biodiversity loss. In addition, the increasing effects of climate change are compounding the negative effects from fragmentation, overexploitation, pollution and invasive alien species. Some climate change impacts are unavoidable in the next decades, making it impossible to avoid some biodiversity loss

Several factors were identified that contribute to shortcomings in meeting the global 2010 target, including:

- Being insufficiently strategic in the design of the target framework;
- Insufficient funding and support for implementation of policies to tackle biodiversity loss;
- Failure to mainstream biodiversity into agriculture and other key sectors responsible for land-use change;
- Not convincing the public and decision-makers of the importance of biodiversity, ecosystem services and of the need for urgent action.

Biodiversity loss and degradation of ecosystem services have increasingly dangerous consequences for human well-being, even survival for some societies

Loss of biodiversity already threatens life support systems with serious consequences for food and water

² This target was set in 2002 and committed countries to by 2010 “achieve a significant reduction of the current rate of biodiversity loss at global, national and regional levels as a contribution to poverty alleviation and to the benefit of all life on earth”.

security, health, livelihoods and the well-being of all people:

- The impact is most serious for many poor people, who are directly dependent on products from natural systems. Indigenous Peoples and other communities directly dependent on nature for their livelihoods, health and other ecosystem services suffer most acutely from biodiversity loss.
- The continued loss of biodiversity has been estimated to cost society about 7 % of the global GDP by 2050. In other words we lose trillions of dollars of natural capital every year.
- The widespread loss of coral reefs is already resulting in the loss of livelihoods, food resources and coastal protection for many societies
- Biodiversity loss also erodes the cultural values which all human societies place on nature and deprives us of our natural heritage.

Urgent action is needed to address the loss of biodiversity, especially to avoid tipping points

Biodiversity provides resilience for humanity in an era of rapid global change. Pressures from a number of driving forces threaten to push earth systems beyond safe “planetary boundaries”. New knowledge warns of dramatic changes in life support systems. Reversing or even recovering from these changes once they have occurred can be extremely difficult and costly, if not impossible. There is a need for decision makers and the public to better understand risk (probability x consequence) and uncertainty. When approaching tipping points there is a need to take action in line with the precautionary approach, being aware also that there will not always be warning of all ‘tipping points. If the current trends persist over decades several of these boundaries could be crossed with serious implications for human wellbeing and security.

- *Coral reefs:* The combination of ocean acidification and coral bleaching on top of other pressures is already leading to some losses of coral reefs. There is a risk of large scale collapse of coral reefs, which would have direct livelihood implications for an estimated 500 million people and marine food chains. This must be prevented. This requires urgent action to reduce pressures on coral reefs resulting from land based pollution and overfishing in order to increase the resilience of coral reefs, the increased establishment of effective marine protected areas, as well as urgent action to reduce greenhouse gas emissions.
- *Tropical rainforests:* Risks of large scale irreversible collapse of the tropical rainforests, such as the Amazon, with implications on regional climate, indigenous and local communities and biodiversity, can be prevented by halting deforestation as soon as possible and immediately investing in restoration. Limiting deforestation and greenhouse gas emis-

sions is necessary to reduce the risk that this tipping point will be crossed.

- *The Arctic*: Global warming impacts are most visible in Arctic marine ecosystems, where summer polar sea ice is already being lost at alarming rates and may disappear almost entirely in a few decades. Melting permafrost threatens to undermine tundra ecosystems. This situation requires much improved management of these regions and their natural resources to reduce pressures on these ecosystems and the people whose lives and livelihoods depend upon them.

Biodiversity is the living basis for sustainable development

Biodiversity and development are critically interlinked as recognized in the Millennium Development Goals. The effective conservation and sustainable use of biodiversity and the fair and equitable sharing of use of genetic resources offers pathways of addressing many of the world's current challenges and the enhancement of the green economy.

- Biodiversity is the major component of the natural capital our sustainable development depends upon. Biodiversity and ecosystem services must therefore be integrated into the general economy, at all levels of government, society and business. There is a need to increase focus on biodiversity in relation to key economic parameters, such as job creation and employment
- Economic assessments and valuation may be a powerful tool for decision making and efficient policy setting, and the ongoing study on The Economics of Ecosystems and Biodiversity (TEEB) provides very useful tools and terms. It should be noted, however, that ecosystems are indeed a part of biodiversity as defined by the CBD.
- This includes developing and implementing new policy instruments based on economic information and values of ecosystem services, leading to integration of biodiversity concerns into economic decision making and to investments in ecological infrastructure.
- Distributional aspects are also crucial, including concern for future generations and for mitigating the disproportionate impact of biodiversity loss on poor and marginalized people.
- It is also important that in the majority of countries, the survival of women, their well-being and empowerment depend on biodiversity.
- The protection and restoration of ecosystems, if at all possible, such as forests, mangroves, coral reefs and wetlands offer cost-effective ways to reduce the negative impact of global change and have the potential to create employment while enhancing food and water security, and promoting poverty alleviation.

The preliminary results of the TEEB project, by illustrating the economic value of biodiversity and ecosystem services, reinforce this message and will be very useful in communication with economic sectors and with the public.

Inaction is more expensive in the long run than investing in action now

The preliminary results of the TEEB study show, that in most cases, it is significantly more expensive to restore or rehabilitate degraded ecosystems than to maintain healthy and resilient systems in the first place. Staying within ecologically sustainable boundaries and preventing tipping points can help us avoid huge economic losses and threats to human well-being.

- Current fisheries policies are presently not sustainable in many areas, and lead to an estimated net benefit loss of \$50 billion/year puts at risk 27 million jobs and the health and well-being of more than 1 billion people.
- Better valuation of biodiversity and ecosystem services and integration of these values in the general economy are required to make the importance of biodiversity to development explicitly clear to decision-makers. Further novel approaches, such as payment for ecosystem services mechanisms, as well as the removal of perverse subsidies offer opportunities to better account for the value of biodiversity in national economic accounts. However economic incentives must be seen alongside regulation and direct action, taking the precautionary principle as major guideline.
- We need to reform subsidy policies and to remove environmentally harmful subsidies, as this makes sense both from an ecological and an economic viewpoint.
- Supporting traditional sustainable resource management and customary use practices, and restoring degraded ecosystems would deliver livelihood and ecosystem benefits for many local communities.
- Investing in local community development and environmental projects could also contribute to local climate mitigation measures and local adaptation in response to climate change.

Economic development and food security depend more than we realize on biodiversity and on ecosystem services

There are many economic sectors that directly and indirectly depend on biodiversity and on ecosystem services. The long-term sustainability of many sectors depends on biodiversity, and therefore they need to be involved in developing jointly with other stakeholder approaches for their own sustainable use and corresponding policies in order to share ownership to the overall national biodiversity policies.

Sectors should develop and adopt their own biodiversity-relevant targets and tools for accounting biodiversity and ecosystem services in their day-by-day activities. This will require a dialogue based on mutual understanding, mechanisms for horizontal co-operation between sectors, as well as common terminology. Horizontal co-operation should be encouraged at the UN/global, regional, national and local levels. The United Nations Environmental Management Group (EMG) serves as a good example for horizontal co-operation at the global level.

- Economic incentives and a clear regulatory framework (both "carrots" and "sticks") are necessary to stimulate both the public and the private part of economic sectors to contribute to the conservation and sustainable use of biodiversity.
- In light of a growing population and changing land use, more emphasis should be put on the role of the agricultural sector and how biodiversity management and food security can be integrated to increase food production and other services from agricultural ecosystems. Food security will not be achieved without biodiversity, as our diet depends on the diversity of crops. Effective use of crops and livestock genetic resources is essential to maintain or increase yields, particularly in an era of climate change. Sustainable agriculture has to contribute to wider ecosystem functions and with additional stress from climate change we need to design new sustainable and resilient farming systems for the future.
- Fisheries and the use of other marine living resources are also highly dependent on healthy ecosystems and new specific sustainable policies and sound management practices need to be developed.

Biodiversity and climate change are inextricably linked

Climate change affects biodiversity, and changes in biodiversity and ecosystem functioning affect climate change. Climate change, coupled with meeting human needs such as food and water security, poses a significant challenge to the conservation and sustainable use of biodiversity.

Biodiversity and the ecosystem services it provides gives important opportunities to bring the biodiversity and climate change agendas together.

- Changes in climate exert an additional pressure and have already affected biodiversity. 10 per cent of species will face an increasingly high risk of extinction for every 1°C rise in global mean surface temperature (up to an increase of about 5°C). Coral reefs, cloud forests, montane and arctic ecosystems are particularly threatened.
- Biodiversity plays a key role for ecosystem functionality and resilience. The resilience of many eco-

systems (their ability to adapt naturally) is likely to be exceeded by an unprecedented combination of climate change, fragmentation and direct ecosystem changes.

- Biodiversity can help people adapt to climate change in cost efficient ways. This can also generate social, economic and cultural co-benefits and help maintain resilient ecosystems.
- Biodiversity can help people mitigate climate change. Activities to increase forest conservation and to reduce emission from deforestation and forest degradation (REDD+) have the potential to deliver significant benefits for forest biodiversity and forest dwelling people if mechanisms are designed appropriately.
- There are opportunities available for substantial climate change mitigation through large scale ecosystem restoration, and building on REDD+ and on restoring grazing and agricultural lands we could possibly remove up to 40 ppm CO₂-equivalents from the atmosphere over a 50 year period
- There is a need to remove perverse incentives and to promote clear criteria for sustainable biofuel production.
- The moratorium on ocean fertilization must be respected.

All parties must strengthen and broaden implementation of the CBD

Implementation at the national level has been variable. However the trend is positive. One hundred and sixty seven parties have completed National Biodiversity Strategies and Action Plans (NBSAP). Only 12 CBD Parties have not or are not in the process of NBSAPs. While the design and content of many of the earlier NBSAPs was over-ambitious, with long lists of un-prioritized and un-funded activities that were not communicated effectively to the wider audience, newer NBSAPs are better prepared, more focused, more oriented towards on mainstreaming, and have a greater emphasis on self-reliance.

- Obstacles remain to a large extent the ones that were listed in the Strategic Plan from 2002 including; (i) lack of financial human and technical resources, (ii) lack of economic incentives, (iii) lack of mainstreaming and horizontal cooperation and (iv) lack of public education and awareness at all levels.
- Few countries meet the guidance from the ninth meeting in 2008 of the Conference of the Parties to the CBD (COP9) for fully effective NBSAPs. However there is a wealth of experience among countries and many examples of good practice. Many countries have developed supporting tools, covering most of the essential elements for success. Therefore there is a large – and generally untapped -- potential for improving implementation through mutual learning. A knowledge network with a well

developed clearing house mechanism could help reach this potential

- There are numerous biodiversity-related conventions, and there is a need for cooperation among these both at the international and national level to enhance synergy and coherent decision-making and implementation. There is a need to continue development and use of collaborative mechanisms and innovative tools
- There is a need to promote regional collaboration and to stimulate exchange of experiences in implementation.
- At the national level, strong, well run, well positioned, well connected and agile institutions are a key to success. They can help ensure access to and effective use of knowledge (“knowledge brokers”) and act as facilitators and catalysts of change in the development and application of new approaches and policies. Efficient spatial (land-use) planning is an essential ingredient, drawing upon good geographical biodiversity information.

Stronger business and industry involvement is needed, as companies and corporations both affect and rely on biodiversity and on ecosystem services. More efforts are needed to encourage business actors to reduce biodiversity loss, taking into account both business self-interest and national obligations. Clear and transparent rules of the game are needed to secure that biodiversity concerns are internalized in costs and decisions, using both “carrots” and “sticks”.

Now is the time to scale up our science and knowledge

Due to the seriousness of the situation where biodiversity loss is now undermining the functioning of key ecosystems and their services, there is an urgent need to strengthen biodiversity science and improve the science-policy interface. The proposed Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) could be an essential mechanism to increase the scientific fundament for CBD implementation. This international effort should be complemented by corresponding and compatible activities at the regional and national level.

However the lack of knowledge must not be used as an excuse for not taking action.

- We need to have a finger on the pulse of nature to avoid tipping points and to avoid crossing critical ecological boundaries. Investment in scaling up our science and knowledge is therefore critical in these areas, as well as in how to secure resilient ecosystem services and maintain critical ecological infrastructure, on identifying ecological, economic and social losses, and synergies between different drivers of change.
- Traditional knowledge of indigenous peoples and local communities, women's distinct contributions and innovations from young people are all valuable

and necessary contributions. The activities and educational campaigns of civil society are part of a broad-based constituency for biodiversity actions.

It is also important to develop an improved ‘society-policy interface’, including civil society participation from indigenous peoples, local communities, farmers and fishermen, business and industry, and NGOs.

We need to communicate that biodiversity is fundamental for human well-being

If we cannot communicate effectively, we cannot engage with the sectors that depend on and/or impact on biodiversity nor create the necessary public awareness.

Without effective communication we will not create the will to bring about the necessary change from “business as usual”. The direct involvement of stakeholders, including other sectors, in developing and communicating key messages is required to create a sense of ownership and understanding.

Biodiversity must become everybody's business, and we must show how it is linked to health, money, food, security, livelihoods and climate change. We need to better understand our target groups, and address their underlying motivations and affective dimensions. There is a need for understandable, targeted and relevant information to key sectors and to the general public, as well as increased educational efforts at different levels.

The International Year of Biodiversity (IYB) should also be used as an opportunity for the biodiversity community to encourage people to discover the biodiversity that surrounds us, to realize its value, our connection to it and the consequences of its loss and not least to act to save it.

Substantially more resources are needed for capacity building and improved implementation

Calls have been heard to improve and harmonize the commitments made globally on biodiversity conservation and sustainable use. With much of the knowledge and resources held in developed countries, it is many of the developing countries that have to face the realities of implementing universal policies with limited available capacity.

- This situation calls for an increased international effort in capacity building, more financial support and efficient co-operation between countries.
- It is important to direct more efforts at reaching and involving economic sectors in order to address both direct and underlying drivers affecting biodiversity, and at creating a more common understanding and enhanced co-operation.
- Priority must be given to overcoming key obstacles identified at the national and international levels,

and to create public pressure and support for necessary political will and action.

A major investment in capacity building is needed. This will be essential to help countries translate the new strategic plan into national biodiversity targets and to integrate them into revised and updated NBSAPs.

There is a need for greater resource and technology transfers, for publicly accessible knowledge sharing systems, and for agreed national and international mechanisms for fair and equitable benefit sharing. Access to and use of Global Environment Facility (GEF) resources need to be enhanced, and there is a need for the development of new and innovative financial resources.

2010 calls for new and more strategic biodiversity targets

There is need for strong and inspirational global targets, which are also relevant to national needs and priorities, to drive the action required to avoid irreversible loss and the passing of tipping points.

- Targets should be developed covering all three objectives of the CBD, and be relevant to other multilateral environmental agreements (MEA) and sectors to promote ownership and collaboration.
- The targets should address both direct and underlying drivers of change, i.e. both underlying causes and direct pressures. The approaches by TEEB should be encouraged and developed further, and the policy challenges posed by TEEB should be reflected in new targets and in the new Strategic Plan.
- Targets should communicate urgency and seriousness, encourage governments and industry to find solutions, and stimulate science to develop new knowledge
- There is a need to highlight ecosystem services and economic benefits and potential contribution for biodiversity, to address environmental and socio-economic challenges such as climate change, food security, human health, and poverty reduction. Targets should encourage consistent policies that can ensure food security, water security and eco-security. It is very important to involve sectors in developing targets, both to create ownership and to ensure different needs and perspectives are taken into account.
- Recognizing women's roles as primary land and resource managers is central to the success of biodiversity conservation and sustainable use, and gender aspects need to be reflected in new targets.
- There is a need to avoid illusory targets, to have measurable targets; to measure what matters, and to provide a common framework of indicators.
- There is a need to set specific targets for particular challenges, and to develop sub-targets that can be adapted to local circumstances.

- The targets should be simple, short and in clear language, few in number and no more than 20
- The targets must have clear milestones and effective reviews of progress. Targets should therefore be developed in tandem with indicators, with indicators that are clearly linked to the targets at both global and national levels. They must provide an effective framework for the setting of targets at national level. Capacity building and the sharing of experience must be ensured, with the use of indicators and metrics improved building on current collaborative work at national and international levels. There is also a need for coordination of indicators and data, and the Biodiversity Indicators Partnership could serve as a good approach here.

Countries and the global community should draw extensively on the many valuable efforts already undertaken to develop better and more strategic post 2010 biodiversity targets. This includes ongoing efforts by the CBD Secretariat and by UNEP, as well as input from important meetings such as the January 2010 UK/Brazil informal expert workshop in London on 'updating of the Strategic Plan of the CBD for the post 2010 period' and UNESCO's 'International Year of Biodiversity Science-Policy Conference' in Paris at the global level and the European Union Conference in Madrid on 'Post 2010 Biodiversity Vision and Targets'.

"I have decided not to be a pessimist on behalf of nature and biological diversity. We can't permit us the decadence it is to be pessimists. Pessimism is merely another word for disclaiming liability, another word for laziness. Midway between pessimism and optimism is what is called hope, and the practical extension of hope is what we call struggle. Just as the struggle for human rights never ends, the struggle to preserve the biological diversity of the planet will never be over."

Jostein Gaarder (Norwegian author), Trondheim Conference on Biodiversity, 1 February 2010