



The Trondheim Conferences on Biodiversity
The Seventh Conference
Trondheim 27-31 May 2013

Ecology and Economy for a Sustainable Society

The seventh Trondheim Conference on Biodiversity

Trondheim, Norway, 27–31 May 2013

Report of the Co-Chairs

Moment of opportunity

SUMMARY

Throughout the Trondheim Conference participants provided excellent examples of success in all areas of discussion. These successes and the experience that they bring are a valuable resource to draw on in applying the lessons learnt more widely. A key message, therefore, is that we have much of the experience that we need and are constantly gaining more - and we know that behaviours can be changed.

The report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, released the day before the Trondheim Conference was closed, places sustainable development at the core of this agenda, and achieving sustainable development is identified as one of five transformative shifts needed to ensure a prosperous future. Twelve goals are enumerated, goal nine being to manage natural resource assets sustainably, including by safeguarding ecosystems, species and genetic diversity.

Seizing the opportunity to invest in biodiversity for human well-being and development

It is increasingly recognised that biodiversity and ecosystem services are fundamental to human well-being, playing an essential role in food security and supporting many of the world's poorest people. The current financial climate in many parts of the world is clearly a significant problem, but it might also be considered a 'wake-up call' highlighting the unsustainable nature of many human activities, including the use of the environment. Fortunately evidence shows that human behaviour can be changed with the right motivations, and these motivations need to be identified.

Biodiversity and ecosystems services play such a fundamental role in human well-being that they should be fully reflected in the framework of Sustainable Development Goals (SDG) currently being discussed at the intergovernmental level. In addressing this and engaging with the SDG process it is clearly an advantage to be able to draw on an existing strategic plan for biodiversity. This plan has already been adopted by Governments and is recognised by many MEAs and the United Nations.

Meanwhile, whatever the final form of the SDGs, indicators and metrics facilitating assessment of progress in their achievement will be needed, together with baselines for comparison, and this again is an area where the biodiversity community has experience.

Recognising and measuring the true values of biodiversity and ecosystem services

Decisions made at all levels will lead to more sustainable outcomes if there is a clear recognition not only of who benefits from the decisions made, but also who carries the environmental costs. National and company accounting need to take full account of the costs of converting natural assets, as well as the revenues gained, and when use is made of biodiversity and ecosystem services there needs to be a true understanding of the value of using those resources, including all externalities. There also needs to be an understanding of the risks associated with failure to act.

Methods for recognising the values of biodiversity and ecosystem services need to be more widely adopted and integrated into national reporting, reducing the reliance on GDP. If this is coupled with an improved understanding of the values of ecological infrastructure, this may well result in society being more prepared to pay the real costs of investing in it. In this regard, resource mobilization for the Aichi Targets needs to take mainstreaming of biodiversity to a higher level, as this will determine the availability of biodiversity funding at both domestic and global levels.

Understanding the interplay between ecology, economy and society

Governments have fundamental responsibilities that essentially encompass environment, economy and society, and they are therefore well placed to take a lead in integration across sectors. The establishment of governance arrangements, with active coordination between sectors combined with appropriate safeguards is a part of this, and establishment of governance arrangements is at least as important as putting policies in place that maximise synergies among sectoral interests. Coherence of biodiversity and social safeguards across international institutions and within the CBD framework can be a means of addressing underlying causes of biodiversity loss and promoting equity. In addition there is a need to engage business as a key partner.

Development of common objectives across sectors, and increased efforts to develop and implement mutually supportive activities are essential. However at some point trade-offs inevitably need to be made between the needs and interests of different sectors. Win-win scenarios are not always possible. Meanwhile there are excellent examples of the benefit of removing incentives and subsidies that are harmful to biodiversity and ecosystem services, and this work needs to be built on.

Strong common messages will promote a more coherent approach among different sectors at the international level, leading to more consistent support and advice at the national level. Effective communication is essential in increasing collaboration and cooperation between sectors, and consideration needs to be given to a much stronger multicultural approach to understanding values, and to including them in communication and education strategies. Increased understanding of the interactions between environment, economy and society could also create the enabling environment for accessing further resources for achieving the Aichi targets.

Aligning policies, incentives and business within safe ecological limits

Improving processes for capture, management and assessment of data, information and knowledge are important in providing the basis for decision making. In this regard it is important to use and build on existing knowledge products, tools and experience, and to strengthen the science-policy interface. Meanwhile major new datasets and analyses are providing tools which lead to improved understanding of the complexities and impacts of a global economy and trade. Understanding of 'safe ecological limits' is increasing, but much more needs to be done to ensure that policy makers understand the implications of such limits in decision making. The exploration of different scenarios can be very valuable for exploring and communicating the potential impacts of a range of policy options

SEIZING THE OPPORTUNITY TO INVEST IN BIODIVERSITY FOR HUMAN WELL-BEING AND DEVELOPMENT

In *The Future We Want* adopted at Rio+20 it was recognised that biodiversity and ecosystem services play a fundamental role in global development. However it was also recognised that the severity of global biodiversity loss and degradation of ecosystems was undermining global development through the ways in which it affected food security, nutrition, water supply and health, both now and in the future. This is one among several concerns that has led to discussion on the development of Sustainable Development Goals (SDGs) which integrate the economic, social and environmental dimensions of sustainable development. There is also close alignment with the *Strategic Plan for Biodiversity 2011-2020*, and in particular Goal A which is concerned with addressing the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society. Discussion of these major issues in Trondheim led to the following key considerations and conclusions:

- **It is increasingly recognised that biodiversity and ecosystem services are fundamental to human well-being, playing an essential role in food security and supporting many of the world's poorest people.** Critical human needs from food security to poverty reduction and from health to livelihoods are heavily reliant on biodiversity and ecosystem services, and many examples of the links between environment, economy and society can be identified, including within the knowledge and practises of indigenous and local communities. As Minister Jayanthi Natarajan said in her opening remarks, "*biodiversity is vital to social and economic development*". The importance of biodiversity and ecosystem services is such that there are significant risks if steps are not taken to ensure their conservation and sustainable use.
- **The current financial climate in many parts of the world might be considered a 'wake-up call' highlighting the unsustainable nature of many human activities.** However this might also be seen as an opportunity for rethinking. The economic crisis of the past few years has put a temporary brake on exponential growth, constraining budgets in the developed world and slowing growth in most developing economies. As Rachel Kyte Vice President for Sustainable Development the World Bank put it, this "*could be a good time to review our approach to natural capital so that it becomes a capital asset rather than a free or invisible resource*".
- **Evidence shows that human behaviour can be changed with the right motivations, and it is important to work with those who understand how.** In the words of Assistant Professor Stanley Asah of the University of Washington, "*it's not that difficult to change behaviour*" provided we have sufficient understanding of how people are motivated and influenced. This includes considering the impact of uncertainty on their willingness to act. Improved understanding of how decisions are taken is necessary for effectively addressing some of the drivers of biodiversity loss. In this regard more attention needs to be paid to the contribution that could be made by the social and behavioural sciences.
- **Biodiversity and ecosystems services play such a fundamental role in human well-being that they should be reflected in the SDG framework.** However, the final shape of the SDG framework is still undecided, so flexibility in identifying how biodiversity and ecosystem services are to be reflected is needed. Biodiversity and ecosystem services are essential to human development, including ensuring sustainability and eradicating poverty. Indeed Rebeca Grynspan, the Associate Administrator of the United Nations Development Programme, stated that "*the loss of biodiversity and degradation of ecosystems undermine the development that we have struggled to achieve*". Biodiversity is a safety-net for the poor, and a source of resilience to those lifted out of poverty.
- **Engagement with the SDG process can draw on the fact that there is already a strategic plan for biodiversity, adopted by Governments and recognised by many MEAs and UN bodies.** The fact that the *Strategic Plan for Biodiversity 2011-2020* and its 20 Aichi targets have already been adopted by Parties to the Convention on Biological Diversity (CBD) is a good basis for integrating

biodiversity and ecosystem services into the SDGs. Not only is Goal A in the strategic plan largely concerned with the importance of biodiversity to other sectors, but there are also specific targets addressing sustainability in key sectors such as agriculture, forestry and fisheries, and another target on ecosystems that provide essential services such as water, and contribute to health, livelihoods and well being. The strategic plan has also been welcomed by the United Nations General Assembly and Rio+20, and the UNGA has declared 2011-2020 the International Decade of Biodiversity as a means of contributing to the implementation of the strategic plan.

- **Whatever the final form of the SDGs, indicators and metrics facilitating assessment of progress in their achievement will be needed, together with baselines for comparison.** Such measurements can help inform or adjust policies and behaviours accordingly, and provide a basis for periodic reporting on progress at both national and global levels. These indicators and metrics will allow goals and targets to be measured.
- **Resource mobilization for the Aichi Targets needs to take mainstreaming of biodiversity to a higher level as this will determine the availability of biodiversity funding at both domestic and global levels.** Increased understanding of the true values of biodiversity and ecosystem services will help to promote investment at home and abroad, while at the same time many important initiatives are generating the necessary concrete information on possible win-win scenarios for biodiversity with several production and consumption sectors. Resource mobilization needs and opportunities are closely linked to the review of National Biodiversity Strategies and Action Plans (NBSAPs) which should involve the range of relevant sectors, and should also be captured in country-specific resource mobilization strategies.

RECOGNISING AND MEASURING THE TRUE VALUES OF BIODIVERSITY AND ECOSYSTEM SERVICES

The formulation of national policies and the decisions taken in implementing such policies are heavily influenced by human behaviour, and by economic considerations. Many of these policies and decisions impact biodiversity and ecosystem services, so it is necessary to ensure that they take full account of the many values of biodiversity. Recognising that the mainstreaming of biodiversity would be enhanced by a better awareness and understanding of the economic and human dependencies on ecological infrastructure, the conference considered a range of different approaches for achieving this, including the following:

- **Decisions made at all levels will lead to more sustainable outcomes if there is a clear recognition not only of who benefits from the decisions made, but also who carries the environmental costs.** It is difficult to understand the trade-offs between economic, social and environmental agendas, and between long-term and short-term gains, without information on the costs and benefits, and on who gains and who loses. It is therefore necessary both to understand and to communicate the true value of benefits from the natural environment, otherwise the value of what nature essentially delivers for free will be under-appreciated. However, in focusing on benefits, the intrinsic values of biodiversity and other non-economic values must not be overlooked. All these sorts of issues might be addressed in national planning processes, and in particular in review of NBSAPs.
- **National and company accounting need to take full account not only of the revenues gained from use of natural assets, but also of the costs incurred as a result of their conversion.** As Minister Bard Vegar Solhjell concluded in his stage-setting speech, *“neither company nor national accounts explicitly include the benefits that society derives from ecosystem services, nor the costs to the economy and our well-being of degradation of these services”*. There are numerous cases where natural resources are used in delivering goods and services, but where their use and the depletion of those resources (or the cost of their replacement) is either not accounted for or only partially accounted for in government accounting or in company balance

sheets. This again results in not fully accounting for – or appreciating - the values of biodiversity and ecosystem services.

- **When use is made of biodiversity and ecosystem services there needs to be a true understanding of the cost of using those resources, including all externalities.** When use of natural resources is accounted for this is usually based on the explicit costs of its transformation, and not on the full range of values of those resources. For example the value of freshwater is significantly more than the cost of extracting it, not least because the cost of replacing the ecosystems services that the water supply is dependent on could be very significant if they were lost.
- **Methods for recognising the values of biodiversity and ecosystem services need to be more widely adopted and integrated into national reporting, reducing the reliance on GDP.** Essentially GDP is a measure of economic performance, but it is widely used to infer overall societal well-being. However it does not take account of natural (or even human) capital. This means that a country could demonstrate successful economic performance while at the same time undermining its sustainability as a result of resource depletion. Meanwhile biodiversity and ecosystem services are often regarded as the ‘GDP of the poor’. Methods for integrating and recognising natural capital exist, and need to be more widely adopted. At the same time national statistics need strengthening in order to provide the necessary information.
- **An understanding of the values of ecological infrastructure should result in society being more prepared to pay the real costs of investing in it.** There is a wide gap between the values of the global benefits that humankind derives from biodiversity and ecosystem services, and what is paid to conserve and use the ecological infrastructure. In some cases this is because the real costs are not understood, but in other cases it is because they have not been taken account of within policy and decision making processes. A better understanding of values may well lead to more investment, and in this regard it is important to ensure that ministries of finance and planning understand that investment in biodiversity and ecosystem services makes good sense.
- **There are excellent examples of success, and these examples need to be drawn on so as to apply lessons learnt more widely.** There is already experience in using mechanisms such as natural capital accounting, national ecosystem assessments and national TEEB studies to synthesise the necessary knowledge, gain improved understanding of the values of biodiversity and ecosystem services, and integrate this into the policy and decision-making landscape. Guidelines are available, and there is experience that can be built upon. Many of these examples are directly relevant to the development and implementation of NBSAPs, and indeed a number of national NBSAP activities are themselves excellent examples of success to build on. In the same way there is significant experience of policy instruments such as REDD+, Payment for Ecosystem Services, and ecological fiscal transfers.
- **Mainstreaming biodiversity across sectors requires enabling conditions for countries at local and national level.** These enabling conditions include access to the necessary technical and financial resources, and to the experience of others in carrying out such activities. In addition, for developing countries in particular, they need a wide range of capacity building activities, and the transfer of technologies.

UNDERSTANDING THE INTERPLAY BETWEEN ECOLOGY, ECONOMY AND SOCIETY

Economic policies are developed by society with the primary intention of advancing production, consumption, infrastructure, employment and resource distribution, and creating stable and open trading and financial systems. While such policies inevitably impact on biodiversity and ecosystem services, it is widely recognised that a healthy environment is an essential component of sustainable society. With this in mind Goal A of the *Strategic Plan for Biodiversity 2011-2020* is concerned with mainstreaming biodiversity across government and society. In this context the conference

considered how to increase understanding of the interplay between ecology, economy and society, and how such an increased understanding might be built upon, coming to the following conclusions:

- **The establishment of governance arrangements, with active coordination between sectors combined with appropriate safeguards is at least as important as putting complementary policies in place.** While policies may be complementary in principle, unless there is active coordination between sectors there is a risk that implementation will be rather less coordinated. This can be exacerbated where there are not legal and governance structures in place to underpin that complementarity, and where decision makers have experience in one sector but not the other. As Arni Mathiesen, Assistant Director-General, Fisheries and Aquaculture Department, Food and Agriculture Organization of the UN, put it *“policy and governance should be put in place to increase sustainability within different sectors and to address the linkages between them”*.
- **Governments have fundamental responsibilities that essentially encompass environment, economy and society, and they should take a lead in integration across sectors.** Governments have a mandate to grow their economies, but at the same time they have the responsibility to invest in their countries’ assets whether human, manufactured or natural. These are the assets which provide opportunities for future growth. These mandates and responsibilities are unfortunately seen too often as conflicting rather than complementary, and this can cause tensions for the ministries and departments responsible for different sectors, but this does not have to be the case. Cooperation and collaboration in the development and implementation of NBSAPs is one mechanism for helping to ensure complementarity.
- **Development of common objectives across sectors, and increased efforts to develop and implement mutually supportive activities are essential.** Agricultural biodiversity plays an essential role in sustainable agricultural production yet at present it is largely under-valued, and in many cases threatened. Meanwhile agriculture is probably facing the most profound challenges in the 10,000 years since settled agriculture began. FAO projects a need for a 60% increase in food production to keep pace with population growth, yet at the same time weather conditions are becoming increasingly unpredictable. This is clearly an area where collaboration between focal points in different sectors during the development and implementation of NBSAPs may play a valuable role.
- **However at some point trade-offs inevitably need to be made between the needs and interests of different sectors.** It is certainly possible to develop common objectives across sectors, and to increase efforts to develop and implement mutually supportive activities as is being done in a range of cases as part of reviewing NBSAPs. Indeed in a number of sectors there are excellent examples of win-win scenarios. However win-win scenarios are not always possible and in such cases the options and implications need to be very carefully considered before a decision is taken.
- **There are excellent examples of the benefit of removing incentives and subsidies that are harmful to biodiversity and ecosystem services, and this work needs to be built on.** Subsidies have been widely used (particularly in the agriculture and energy sectors) as economic instruments intended to sustain or increase access to resources. However these same subsidies can have unintended impacts on the environment as well as on economy and society over time, and these need reform.
- **Strong common messages will promote a more coherent approach among different sectors at the international level, leading to more consistent support and advice at the national level.** There is a range of international biodiversity-related agreements and institutional arrangements covering all major sectors. There is a real need to increase synergy and policy integration at the national level, and to help ensure that Governments take a consistent and coherent position on issues across the different international agreements and institutions. Such synergies will provide

a mutually supportive framework for action, including within development and implementation of NBSAPs.

- **The private sector should be a strong partner in ensuring a sustainable future, and it would be valuable to broaden engagement.** There are many examples of the private sector taking a strong interest in increasing understanding of their use of biodiversity and ecosystem services, and the impacts that their activities have, and specific examples were presented concerning PUMA and the Tata group amongst others. These are most effective when carried out with multiple partners, and as Prasad Menon of the Tata Group put it *“there is a need to work towards bringing in responsible programmes in a participatory manner”*.
- **Effective communication is essential in increasing collaboration and cooperation between sectors.** While it is widely recognised that biodiversity and ecosystem services are critical to sustainable development, barriers of language and understanding between ecology, economy and society tend to create silos and reduce collaboration where that collaboration is essential. Communication therefore has a critical role to play, through increased dialogue, delivery of key messages in a common language, and through effective use of indicators and metrics. And amongst those messages one of the key ones is the potential for all to gain. As Braulio Dias, the CBD Executive Secretary put it, *“I firmly believe that one of the best ways we can make progress is to identify and promote win-win approaches that help solve the problems that societies and governments struggle with”*.
- **A much stronger multicultural approach to understanding values, and to including them in communication and education strategies should be considered.** For indigenous peoples and local communities cultural diversity is an expression of the social and ecological settings of the world, and in the words of Brigitte Baptiste, Director General of the Humboldt Institute in Colombia, *“each language, each ecological narrative frames a view that must be taken into account to solve the adaptation challenges every society is facing ahead. Those dimensions have a meaning because they arise from particular knowledge systems that have evolved as social learning processes”*.
- **Increased understanding of the interactions between environment, economy and society could also create the enabling environment for accessing further resources for achieving the Aichi targets.** Recognition of the importance and values of biodiversity and ecosystem services will not only remove unintended impacts, but will hopefully also lead to more positive actions for ensuring the conservation and sustainable use of biodiversity within the context of national priorities. In this regard activities relevant to multiple sectors are very valuable, and many initiatives are already generating valuable lessons on possible win-win scenarios for biodiversity with production and consumption sectors.
- **Coherence of biodiversity and social safeguards across international institutions and within the CBD framework can be a means of addressing underlying causes of biodiversity loss and promoting equity.** Specific substantive and procedural safeguards that respond to the risks and opportunities of each biodiversity financing mechanism are needed, and safeguarding efforts can be made more effective by harmonizing different safeguards in scaling-up biodiversity financing.

ALIGNING POLICIES, INCENTIVES AND BUSINESS WITHIN SAFE ECOLOGICAL LIMITS

Biodiversity and ecosystem services provide many benefits to society, but are at the same time affected by a wide range of actors in the public, private and non-governmental sectors who are often operating separately and within somewhat different rule and value systems. It therefore becomes important to ensure that any impacts on biodiversity are sustainable, and lie well within safe ecological limits. The conference therefore explored how alignments and mixes of policies, incentives and business strategies can help cut development pathways towards a sustainable

society. This included taking a more detailed look at case studies in the three sectors. Key considerations and conclusions included:

- **Improving processes for capture, management and synthesis of data, information and knowledge are important in providing the basis for decision making.** Such processes range from the improved collection and use of national statistics, to the ways in which use is made of the newly established Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Improving the processes for the capture and synthesis of knowledge relevant to biodiversity and ecosystem services is important in delivering the data, information and knowledge on which many of the other activities discussed are based.
- **It is important to use and build on existing knowledge products, tools and experience, and to find ways to share knowledge and experience widely.** Significant knowledge products already exist, and their use can contribute substantially to decision making. At the same time initiatives such as the World Bank's WAVES partnership (Wealth Accounting and the Valuation of Ecosystem Services) is creating a global community of practice to support countries in developing national capital accounting described earlier. Similar communities of practice are supporting ecosystem assessment practitioners, and those carrying out national TEEB studies. However there are many types of knowledge and experience, and traditional knowledge and practice have an essential role to play, as have activities such as the Farmers Field Schools.
- **Major new datasets and analyses are providing tools which lead to improved understanding of the impacts of a global economy and trade.** With an increasingly complex global economy and international trade, it is difficult to fully understand the impacts of policies and decisions because the impacts often occur in places far removed from the place of consumption. However new methods for compiling and combining data are delivering new insights which increase understanding of complex trade patterns and implications. Methods such as global trade analysis and environmental footprints of human activities need to be more widely used in order to understand and potentially reduce environmental impact, including through increased dialogue with companies with respect to the impacts of supply chains. However it is important to be cautious in how this data is applied so that trade barriers are not inadvertently introduced.
- **Understanding of 'safe ecological limits' is increasing, but it is necessary to ensure that their implications for policy makers are more clearly understood.** There are known to be 'tipping points' at a variety of scales in social-ecological systems beyond which recovery of particular species or ecosystems is compromised. There are well documented examples of this in fisheries, and a range of other potential tipping points have been identified. Taking account of these, safe ecological limits need to be agreed by society, informed by science.
- **The exploration of different scenarios can be very valuable for exploring and communicating the potential impacts of a range of policy options.** Projections of possible future changes in biodiversity and ecosystem services can be based on various scenarios of future socio-economic trajectories or changes in direct drivers. Such scenario exercises can be useful in exploring the likely impacts on biodiversity and ecosystem services of different policies, and in communicating this to a wide range of stakeholders.

THE TRONDHEIM CONFERENCE

Since 1993, the Trondheim Conferences on Biodiversity have provided a valuable forum for dialogue amongst stakeholders on key issues relating to implementation of the Convention on Biological Diversity (CBD). However, while society has stepped up efforts to stem the loss of biodiversity and recognise the importance of healthy ecosystems, human pressure on the biosphere has continued to rise. In the twenty years since the Trondheim Conferences began, the world's human population has grown by 25%, there has been a huge increase in consumption and production (as indicated by a 75% increase in global GDP), and trade has tripled. Such factors are significant in driving land-use change, and in leading to over-harvesting, pollution, climate change and invasions of alien species. All of this contributes to a continuing erosion of the biosphere.

Recognising the importance of mainstreaming biodiversity considerations across government and society, the seventh Trondheim Conference focused on the means for addressing the first strategic goal of the *Strategic Plan for Biodiversity 2011-2020* adopted by the CBD Conference of the Parties in 2010. Some 330 participants from around 120 countries, deliberately chosen from both the biodiversity and economic planning sectors, considered the ways in which biodiversity contributes to a sustainable society, and the ways in which a careful alignment and mix of policies, incentives and business strategies can help deliver development pathways that lead to a more sustainable society. Participation also included development agencies in addition to those more closely associated with the Trondheim Conferences in the past. The Government of Norway hosted the Conference in cooperation with the CBD-secretariat, FAO, UNDP, UNEP, and the World Bank.

With the active support of a 'Friends of the Co-Chairs' group chosen to represent the full range of conference participants, the conference Co-Chairs prepared this report as a means of conveying the key messages from a diverse range of presentations and discussions, and from some very active panel discussions, parallel sessions and round tables that allowed every participant the opportunity to make input. This summary report cannot hope to cover the richness of the contributions made by participants, particularly in the parallel sessions and roundtables but the essence of these discussions is hopefully included, and more detail will certainly be included in the final report.

While the Co-Chairs' report was considered by participants on the final day of the conference, the two conference chairs, Tone Solhaug and Ivar Baste, are ultimately responsible for the conclusions and recommendations presented in this synthesis of the conference proceedings.

ANNEX: IDEAS FOR IMPLEMENTING THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

The CBD High Level Panel which last year reported on resource requirements for implementing the *Strategic Plan for Biodiversity 2011-2020* concluded that investment focused on achievement of Aichi targets 1-4 would contribute significantly to achievement of other targets through tackling the fundamental issues of increasing awareness (target 1), integration into other sectors (target 2), securing appropriate market incentives (target 3) and moving towards sustainable consumption and production (target 4). Based on a number of questions asked relating to each of the targets, conference participants working in small groups identified activities that could be taken. The wealth of ideas suggested included the following types of issue:

- **Aichi Target 1 on awareness.** Participants identified the value of clearly identifying target groups, and then focusing on their particular needs. They recognised the value of embedding biodiversity into training and education at all levels, and in ensuring that the more formal training was complemented by a range of related informal activities. Participants were also concerned to see the full range of communication media used, and attention paid to the most effective means for reaching each particular audience. It was suggested that more innovative ways could be developed for celebrating the International Day for Biological Diversity (22 May), and a number of specific suggestions were made on particular themes or issues to be highlighted, and specific calls for action that could be made.
- **Aichi Target 2 on mainstreaming.** Participants identified a range of approaches for identifying how the biodiversity and economic planning sectors can be got to work together more closely, including through establishing new structures and approaches for building a shared understanding, and finding better ways to visualise or demonstrate the values of ecosystems. However a number of suggestions were also made on finding better ways to use existing mechanisms, and how to learn from current difficulties in identifying and removing barriers for integrating biodiversity values. There were also a range of suggestions made on how better use could be made of the data, information, knowledge and experience that was already available in finding better ways of recognising the true values of biodiversity and ecosystem services.
- **Aichi Target 3 on incentives and disincentives.** Participants answered questions that were specific to different sectors.
 - With respect to fisheries and ocean management, participants identified a range of policy mixes supporting biodiversity including regional collaboration on protected areas, robust policies at all levels for enforcing sustainable use, ensuring investment in building the knowledge base and community-based management. With respect to transforming incentives and subsidies they discussed incentives for not fishing, certification schemes, stakeholder engagement, communication and impact management, increasing taxes and removing or reforming subsidies, and increasing synergies between international agreements.
 - With respect to agriculture, participants identified a range of policy mixes supporting biodiversity including direct economic incentives to end users, structural incentives, policies and strategies, legal frameworks, and improved knowledge and innovation. With respect to transforming incentives and subsidies they discussed removal of perverse incentives, strengthening positive incentives, improving regulatory frameworks, enhancing knowledge and capacity and encouraging integration of international frameworks.
 - With respect to forest management, participants identified a range of policy mixes supporting biodiversity including collaborative management, strategic combinations of frameworks and policy tools, encouragement of land use practices that benefit biodiversity, conservation and restoration. With respect to transforming incentives and subsidies they discussed subsidy and incentive reform, collaboration and cross-sectoral approaches, better

alignment of principles, goals and rules, stronger accountability and enforcement mechanisms, investment in green forest enterprises, and promoting non-timber values.

- **Aichi Target 4 on sustainable consumption and production.** Participants answered questions from the perspective of different type of stakeholder, and what might be preventing them from sustainably using resources, and why.
 - Those representing economic planning administrations identified poor operationalization and implementation of programmes, lack of awareness and understanding, lack of institutional capacities and appropriate technologies, lack of political will and direction, lack of integrated approaches, short term objectives and conflicting interests. They saw a need for improved policies and strategies, technical, financial and scientific support, improved cooperation, and capacity building and awareness.
 - Those representing business identified lack of clear business case, lack of support and incentives, lack of a level playing field, and lack of awareness. They saw a need for stable and reliable policy and regulations, incentives, support for green initiatives, regional agreements and collaboration, and support for research.

Participants were also asked how biodiversity should be reflected in and contribute to the development and achievement of the SDGs. Responses were quite wide ranging, including biodiversity as a solution, demonstration of the practical possibilities of integration, and facilitating cross-sectoral governmental processes to bridge SDGs and biodiversity.

The excellent suggestions made on all questions will be made available in the full report of the Conference.