



Sectoral and Cross-Sectoral Integration of Biodiversity in Denmark

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1. Introduction

Denmark reported¹ on legal and institutional framework, spatial planning, municipal cooperation, agriculture, forestry, fishery and aquaculture policies, extraction of raw materials, infrastructural development, such as railways and highways; financing and expenditure; fiscal policy; education; international co-operation, such as international agreements, multilateral assistance, and bilateral assistance.

2. Legal and institutional framework

The following laws create the legal framework for nature and biodiversity conservation in Denmark. The Nature Conservation Act provides Denmark's main legislative framework for nature conservation. It comprises four pillars: general protection for habitats; coastal zone protection; land acquisition and specific regulatory powers for the protection of nature. Natura 2000 and Ramsar sites are established under this act. It protects: natural lakes over 100 m², watercourses that have been designated as protected areas, heaths, bogs, moors, salt marshes, swamps, coastal meadows, humid permanent grassland and uncultivated dry grassland of more than 2500 m².

The Forest Act allows for the protection of natural forests in both state forests and privately owned forests. The Planning Act offers protection of the open land and coasts. It is realised through national plans, regional plans, municipality plans and specific local plans within municipalities. These plans may contain provisions for green corridors and afforestation areas.

The Hunting and wildlife Management Act regulates the hunting of game species and permits the designation of protected areas for wildlife and birds.

The Environmental Liability Act regulates for the prevention and remediation of environmental damage (or the imminent threat of such damage) to biodiversity, water, protected species and habitats. It introduces a regime of strict liability for the polluter with an obligation to remediate the damage.

The Marine Environment Protection Act allows the Ministry of defence to take action in case of an oil spill that could inversely impact the marine environment, including Natura 2000 and marine reserves. The Fisheries Act aims to protect the marine resources and areas by setting aside spawning in marine species habitats. Under this act, quotas to limit the fishing of fish or shellfish species may be established. The Act on Environment Objectives sets out the framework for protecting water bodies from deterioration and for the planning and future management of international nature protection areas.

Several other laws have an important but indirect impact on nature and biodiversity conservation.

¹Denmark (2010). Fourth Country Report to CBD, January 2010, 104 pp.

These include the Acts on: Environmental Assessment of Plans and Programmes; Operations; Fertilisation; Watercourses; Environment Protection; Rural Development Support; Environment and genetic Engineering.

The Ministry of Environment co-ordinates the implementation of the Action Plan for Biodiversity and Nature Conservation (2004-2009) and is responsible for ensuring compliance with the National Strategy on Biological Diversity. As such, it is responsible for the conservation and restoration of endangered species, including the genetic variation within wild species. The ministry is in charge of the conservation of EU habitat and bird protection areas as well as the development of economic instruments and environmental indicators to support conservation.

Through the Forest and Nature Agency and the Agency for Spatial and Environmental Planning the ministry manages important habitats. It is also responsible for international negotiations on nature conservation. The Ministry of Environment is also responsible for administering the subsidies to the forest sector, including those that promote biodiversity in forests. These subsidies include private afforestation, reforestation, close to nature management and green forest planning.

The Ministry of Food, Agriculture and Fisheries is responsible for assuring the sustainable management of marine and freshwater fisheries. Also, via the National Land Fund, the ministry manages certain kinds of nature restoration and afforestation projects and areas with special natural assets. It is responsible for the conservation and sustainable use of farm plant and animal genetic resources.

3. Spatial Planning

The Planning Act (1992) applies to all of Denmark's land and coastal areas but not its marine area. Since 1971, the public administration has been based on a division of responsibility between the national, regional and municipal levels. At the national level, the Minister of Environment presents after every parliamentary election a national spatial planning report with policy guidelines for national territorial development. This report aims to ensure that the planning synthesises societal interests with respect to land use and contributes to protecting the country's nature and environment. The regions deal mostly with hospitals and have only a marginal role in relation to environmental protection. Municipal planning governs comprehensive municipal planning, detailed local planning and permits for construction and changes in land use in rural zones.

Denmark is divided into urban zones, summer cottage areas and rural zones. Special rules apply to development in rural zones where agriculture is the priority economic activity. Whereas new independent dwellings, urban businesses and institutions require a rural zone permit, new agricultural buildings can be built without a permit. This protects recreational and valuable landscapes, and ensures that agriculture retains good production opportunities.

Special rules for planning are in place for coastal zones. The Danish coasts (including what are now summer cottage areas) have been remarkably protected by a 100-metre protection zone since the 1930s. This Zone is enlarged to 300 metres in open coastal areas. In urban areas, the protection zone, from 0 to

300 metres, has to be designated by a special Coastal Protection Committee. A special three-kilometre coastal area planning zone is determined in the Planning Act. The planning zone requires justification by special planning or functional reasons prior to locating buildings and construction works in coastal areas. The aim is to keep them as free as possible of development and installations that do not need to be located near the coast.

Through the Planning Act the municipalities are obliged to include guidelines in their municipal plans for the management of the nature protection interests, including the geographical positions of nature areas of high conservation value, ecological corridors and potential nature areas and ecological corridors.

Moreover, the municipal plans must also include guidelines for designation of reforestation areas, wetlands and the use of streams.

Under the Planning Act the Danish government has issued 2 orders, which implement the EU Directive on Environmental Impact Assessment and the EU Directive on Strategic Environmental Assessments.

All projects, plans and programmes that may have a significant effect on natural and environmental values of national interest are therefore subject to such assessments. Effects foreseen in such assessments must be mitigated to the extent it is described in Danish law. This includes rules for dispensation under certain circumstances.

4. Municipal cooperation

Count down 2010 declaration

On the 25.th of January 2008, the region of Southern Denmark and 16 municipalities in the South of Denmark, signed, as the first municipalities in Denmark, the Countdown 2010-declaration on biodiversity. This means that the region and the municipalities have committed themselves to support the target of halting the loss of biodiversity before 2010.

Region South Denmark has been chosen to be one among 5 European model regions, which are to promote the biodiversity.

Some of the municipalities have so far worked out detailed plans for how the count down 2010 target will be achieved at ground level.

Nordic municipal cooperation

The municipalities of Hedensted, Herning, Holstebro og Kolding are involved in a Nordic cooperation, which exchanges experiences and carry out concrete biodiversity projects. The outcome of the cooperation will be reported before 2010. The project is financed by the Nordic Council of Ministers and consists of 13 municipalities in total.

Agriculture, forestry, fishery and aquaculture policies

5. Agriculture

In 2008 about 63,4% of the total area of Denmark (i.e 27330 km²) is used for agriculture. The percentage seems to be decreasing slightly. The primary agricultural sector produced 1.5% of GDP in 2005, and has been on a steady decline since the 1960's. In the 1990's it represented 4.5% of GDP. The adoption of intensive farming increased the average size of holdings from 16 ha in 1965 to about 55 ha in 2005, while the number of holdings decreased from about 200.000 to 46.2700 during the same period.

It also increased the number of livestock (less cattle but more pigs), though the number of livestock units has been almost the same through all the years.

Several Danish policies aim to reduce the environmental impact of agriculture by promoting organic farming, re-establishment of wetlands, environmentally sound farming practices, the controlled use of genetically modified organisms, and the reduced use of pesticides and nutrients.

For instance, farmers are encouraged to take wetlands out of agricultural production and reestablish them. Farmers are compensated for the loss of farmland value or offered a corresponding area of farmland elsewhere.

Under the Rural Districts programme it is possible for landowners to achieve payment for certain activities aimed at improving the environment. One of these activities is management of grasslands and nature areas. The figures for the period 2006-2009 are:

- 2006: Contracts on 58.729 ha for periods between 5,10 and 20 years.
- 2007: Contracts on 100.400 ha for periods between 5,10 and 20 years.
- 2008: Contracts on 92.500 ha for periods between 5,10 and 20 years.
- 2009: Contracts on 85.000 ha for periods between 5,10 and 20 years is expected. The precise figures are not known yet.

The Danish agreement on Green Growth contains a set of initiatives aimed at the promotion of a market-based organic sector:

- Frameworks for a market-based development of the organic sector will be developed so that in 2020 the organic sector will have more than doubled compared to the 2007 level. The organic sector is thus expected to comprise 15% in 2020 compared to 6% in 2007.
- Funds to the area-based grants will be increased so that they can support an annual growth in the organic sector up to 18,000 ha. Initiatives to promote sales of organic foods, etc. must be strengthened.
- A number of simplifications were introduced at the last revision of the Ecology Act in 2008. Nevertheless, there is a continued need for simplification of the regulations governing the organic sector.

Therefore a diversely composed committee will be appointed that is to investigate the possibilities for further simplification and ease of administration within the organic sector. The Parties will discuss the committee's report on simplifications, which will be available at the beginning of 2010.

- The registration fee for the organic logo for large scale kitchens will be withdrawn in order to promote use of organic raw materials in the catering industry.
- A special starter pool will be established for organic biogas totalling DKK 15 million from 2010 to 2012, cf. item 2.3.
- The initiative will be evaluated in 2013 to assess whether there is a need for additional measures.

6. Forestry

Denmark is pursuing a policy of doubling the national forest cover in 80-100 years. For the time being, the forest cover increases at a pace of around 2000 ha/year, which is about half of what is needed to achieve the target. A new subsidy scheme which has just been put in place will make it economically more attractive for private landowners to plant new forest. The priority areas for afforestation are those where groundwater needs to be protected as a source of drinking water.

In general the forest management has started to shift towards sustainable management, which is a challenge considering that many forests are very homogenous and look like plantations. An important objective of the National Forest Programme (2002) is to promote a conversion to "close to nature forestry". An action plan for the introduction of close to nature forestry in the state forests (2005) identifies the use of native or other well-adapted tree species, the retention of permanent forest cover by avoiding large clear-cuttings, the use of natural regeneration, development of diverse forest structures, and single tree management as the key principles for the close to nature policy. The exploitation of all state forests (25% of Danish Forest) is now environmentally certified according to national FSC and PEFC standards. This confirms the trend towards emphasising non-timber and environmental values.

7. Fisheries

The activities of fishing fleet in Denmark account for 0,13 % of the Gross Domestic Product, whereas the entire fisheries sector including aquaculture, fish processing and the wholesale branch accounts for 0,4 %. The number of commercially active vessels in the Danish fleet fell substantially in the period 2005-2007. This is also the case for employment as well as for the total value of landings.

The Common Fisheries Policy in the European Union aims at a progressive implementation of an ecosystem-based approach to fisheries management, which contributes to efficient fishing activities within an economically viable and competitive fisheries industry, while minimising the impact of fishing on marine ecosystems.

The national legislation aims at utilising fishing opportunities while ensuring that Danish quotas are not exceeded. The Fisheries Act covers the protection of fish stocks, regulations on commercial and

recreational fisheries, first hand sales and duties. The recreational fishery is regulated by means of restrictions on the amount and kind of gear used. National measures include the release of fish and research by the fees charged for fishing permits.

The Common Fisheries Policy in the European Union shall apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimise the impact of fishing activities on marine ecosystems.

The process to designate additional Natura 2000 sites in Danish marine waters has begun. Some existing marine Natura 2000 sites will be extended and new areas will be designated, especially in the North Sea. When the sites are designated and approved, Natura 2000 management plans will be drawn up and the fisheries in these areas will be regulated as appropriate.

8. Aquaculture

The regulation on the European Fisheries Fund which was adopted in 2006 will allow numerous possibilities to provide financial support to sustainable development of aquaculture during the period 2007-2013. Council Directive 2006/88/EC on animal health requirements for aquaculture animals provides a new and improved legal framework to address health issues in aquaculture.

Regulation No 708/2007 concerns the use of alien and locally absent species in aquaculture, and Regulation No 834/2007 concerns the organic production and labelling of organic product, including organic production in aquaculture.

The demand for more effective technologies to reduce pollutants in effluents and more effective use of extracted water has led to a shift from many small farms to fewer but larger operations. Fish farms are required to obtain water extraction permission and an environmental approval. Fish Farm owners must send the government information about the type and amount of feed and drugs used and the results of the freshwater fish farm's self regulation. Denmark must also perform an environmental assessment of the fish farms in accordance with the EU Habitats and Birds Directive and the Ramsar Convention.

A large number of complaints are registered against fish farms because of concern about their impacts on the local water environment due to the presence of nutrients from leftover food and antibiotics. Nonetheless, waste feed and discharges of phosphorus and nitrogen were halved for fish production between 1989 and 2006 (NERI 2004).

The Danish agreement on Green Growth contains a set of initiatives within aquaculture. A grant pool totalling DKK 100 million will be established from 2010 to 2015 as a supplement to the existing support options in the Fisheries Funds. The pool is dedicated to the most advanced recirculating technologies (FREA - full recalculated aquaculture facilities or model fish farms type 3) and can operate with a higher funding percentage (40%), due to the greater environmental advantages and investment uncertainty associated with this type of facility.

An aquaculture committee will be appointed with the remit to investigate the aquaculture industry's long-term business and environmental conditions.

9. Extraction of raw materials

Extraction of raw materials in Denmark is regulated through the Raw Materials Act.

At sea extraction can only take place within certain geographically limited areas. These areas have to be biologically assessed before extraction can take place. It is obligatory to make an EIA before extraction can take place in Natura 2000 areas and Ramsar sites. Extraction can only take place if the EIA shows that the extraction will not make it harder to achieve a favourable conservation status for the species and nature types for which the areas have been designated.

Outside marine Natura 2000 areas, EIAs are not obligatory. Whether an EIA will have to be conducted, depends on the amount of extraction, more than 1 mill m³ pr year or a total of 5 mill m³ for the whole license result in an EIA. Also the outcome of a screening for possible significant environmental effects may result in an EIA or a change in the geographically limits of the area.

Raw materials which are being extracted are sand and gravel. Around 8 mio. cubic metres are being extracted each year from the sea. Extraction of larger boulders has not taken place since 2002 and it is envisaged to ban extraction of boulders from the marine environment, within the coming years.

On land, the Regional authorities are responsible for making plans for the extraction of raw materials and for defining geographically limited areas in which extraction of raw materials can take place. These plans must be subject to an SEA.

On land the Municipalities are obliged to include considerations for nature protection, when they give permissions for the actual extraction of raw materials. If the extraction takes place in Natura 2000 areas and Ramsar sites, extraction can only take place if the activity doesn't make it harder to achieve a favourable conservation status for the species and nature types for which the areas have been designated.

The authorities must also make sure that no breeding and resting places for animals listed under the habitats directive's annex IV are destroyed and that the listed species are not disturbed.

Furthermore the authorities are obliged to make an environmental rehabilitation plan for the areas where extraction has taken place.

10. Infrastructural development

Railways

Recently, the Danish Government launched a major plan for infrastructure development. The plan makes the following statements in relation with integration of biodiversity into the transport sector:

The Government will structure the planning process of new, major infrastructure projects in such a way that a preliminary assessment uncovers the traffic effects, economic effects, and impact on nature and environment. This will establish the foundation for the overall assessment of whether to proceed with the projects. If it is decided to proceed with a project, the thorough environmental assessment (EIA) will determine how the project will be carried out- amongst others how to mitigate effects on the environment.

Regarding projects within the existing infrastructure impacts on nature will be reduced if possible.

The impacts of existing infrastructure will be reduced by establishing wildlife corridors, bridge paths, wildlife fences, warning signs and reduced speed on locations with large numbers of wildlife.

With regard to the integration of biodiversity into planning of new railways, the main process is the application of environmental impact assessments on projects (EIA's). Further, the European Natura 2000 directives have played a role of integrating biodiversity into railway planning procedures.

As to integration of biodiversity into rail infrastructure management, rail Net Denmark provides the following information:

Rail Net Denmark is removing trees along the railway up to 6 meters from the tracks to allow the engine drivers to see the surroundings and the signals along the tracks.

A positive side effect is that removing trees allows smaller bushes with flowers and berries to sprout up. These open and brighter areas with wild bushes and flowers attract insects, birds and smaller wild animals and also function as habitats and corridors for wildlife along the tracks.

Rail Net Denmark is also controlling invasive plants like giant hogweed, which is spreading and choking other plants along the tracks.

Highways

The Danish Road Directorate (DRD) has the overall responsibility for the planning, construction, operation and maintenance of state roads in Denmark. Local authorities however have the responsibility for roads owned by the municipalities.

As a general rule, the aim of the DRD and the Danish Ministry of Transport is that the mobility and energy consumption in Denmark is sustainable regarding environment and nature.

When DRD is planning a new state road or an extension of an existing state road biodiversity (species protected by the Habitats and Bird Protecting Directives, red listed species, species protected by Danish law, but also species not protected by international or national law having problems with fragmentation) is assessed. This especially applies to roads where an EIA is carried out. Actions to minimize impacts of the road on biodiversity (fauna tunnels etc) are integrated in the project.

Concerning roads in rural areas DRD is obliged to ask the Ministry of Environment for permission to carry out the project (due to the Nature Protection Law) before the beginning of the construction work. Protecting biodiversity is part of the permission.

Success stories:

In Denmark there is an increasing awareness of the importance of monitoring, knowledge and EIA-methods.

Monitoring

In 2007 the DRD financed an investigation and follow-up assessment by the National Environmental Research Institute on placement and effect of fauna passages at the motorways in Northern Jutland (<http://www.dmu.dk/Pub/FR631.pdf>).

In 2005-2008 the DRD financed a Ph.D study on the pollutant transport from highway surfaces caused by rain and the ability of drainage ponds to hold back matter that may contaminate the environment (surface water).

In 2009 the DRD will initiate a monitoring program for five newly build wildlife passages.

EIA-methods

In 2008 DRD and the Ministry of Environment in cooperation initiated a project developing a biological model to calculate biological connectivity of moor frog (*Rana arvalis*) in order to qualify EIAs. The project is supposed to continue for another 3 years. The model will be designed to handle other species than moor frog and other amphibians also.

In 2009 the DRD will initiate a study developing a method to assess impacts on bats.

Knowledge

In 2008 DRD financed a study on great crested newt colonization of human made ponds and ponds adapted by humans.

In 2009 DRD finishes a study on points of conflict between state roads and important nature areas / green corridors. Actions to minimize the conflict and enhance the mobility of animals have been assessed for all points of conflict. Carrying out the proposed improvements will minimize the barrier effect of the state roads. Currently many state roads cross green corridors but do not allow animals to cross the road safe (because of a lack of fauna passages, embankments along streams etc). When extending existing roads conditions are changed to the better.

In 2008 DRD took the initiative to start the project group Wildlife and Traffic within Conference of European Directors of Roads. One of the goals of this project group is to exchange knowledge. Time schedule is 2009-2011.

Guideline

The DRD in cooperation with national authorities and NGOs have made a guideline on fencing along state roads. One of the goals of the new strategy for fencing is to minimize the barrier effect of roads.

The DRD aims to revise the Danish guideline Fauna and Human Passages in near future.

Actions that need to be taken to enhance implementation of biodiversity:

In order to enhance the integration of biological diversity in planning, construction and operation of state roads in Denmark a great interaction between the action taken on the state roads (eg. fauna passages) and other physical planning of the landscape by local authorities is preferred (e.g. range of rural and urban areas). This interaction helps to protect green corridors crossing state roads.

11. Financing and expenditure

Financing for nature and biodiversity protection in Denmark consists of both direct in-kind funding.

The main sources of direct funding are public funding (state, counties until end of 2006, municipalities, EU and private funding. The Nature Conservation Act provides funds for acquisition of property to implement major nature restoration projects and state afforestation projects. The act also provides loans or subsidies to municipalities (and provided them to counties until the end of 2006), as well as to organizations and private landowners who wish to tend and restore natural areas and improve the opportunities for recreational activities. In-kind or voluntary funding is generally through management or monitoring activities by the public.

Total government expenditure on nature conservation including county and municipality expenditures was DDK 2528 million in 2005, up from DDK 2118 million in 2000. Total figures after 2005 are not available. However the Counties were closed down by the end of 2006 and an unspecified part of the resources they used on nature protection went to the municipalities and to the state.

While overall public funding has increased for nature protection, contributions from the national government dropped from DDK 1 012 million in 2000 to DDK 968 million in 2005.

In the last ten years, public funds were distributed roughly into 40% for nature conservation, 40% for afforestation and 20% for recreational activities (Enemark 2002). The number of personnel involved in nature conservation and protection was reduced by 20% (from 1271 in 2002 to 1024 in 2006).

Table 1: Public expenditure for nature protection 2000 – 2005 (DDK million)

-	2000	2003	2005
Total national government expenditure	1012	912	968
County expenditure	809	975	1101
Expenditure by municipalities	297	353	458
Total	2118	2240	2528

Management of state-owned areas included. Source: MoE, National Forest and Nature Agency

Since 1999 Denmark has benefited from EU funding for many projects associated with nature and biodiversity. The EU Common Agricultural Policy (CAP) programmes, and especially the Rural Development Programme, exert a very strong influence on nature by promoting multifunctional agriculture including agri-environmental incentives etc.

Additional, the EU LIFE programme has contributed significant funds for nature conservation projects. In view of the importance of the forest for producing ecological services like the regeneration of ground water government funding of DDK 6,5 million is made available annually for private landowners for consultation purposes and developing plantations. The low rate of reforestation leads one to believe that the incentive programmes could not compete with the return on investments from competing sectors, such as agriculture or industrial livestock production.

No data are available on private funding for nature conservation or protection in Denmark.

However three organisations are major actors in nature protection through land purchase and management: the Danish Bird Protection Foundation (with more than 850 ha in 18 bird sanctuaries), The Aage V. Jensen's Foundation (several properties in the country) and the Nordea Foundation (through sponsoring private and state projects). Several other large private foundations exist and contribute to Danish nature conservation and research.

12. Fiscal policy

In recent years the Danish Government has worked to integrate biodiversity conservation and sustainable use into a number of major fiscal policy decisions, including most recently in the decisions on investment in infrastructure and on tax reform.

In January 2009 the Government thus decided on a 12-year financial framework for public expenditure in the transport sector until the year 2020. The agreement also lays down the principles for the specific allocation of the financial framework. It is stated as one of the principles that bridges, roads, and railways cannot be allowed to destroy irreplaceable nature.

Furthermore the Government reached an agreement with the Danish Peoples party on a reform of the tax system in March 2009. One feature of the reform is an increase in a range of environmental taxes, including increases in several taxes which are expected to have a beneficial effect on biodiversity conservation. For example, it was decided to raise the rates for the emission of nitrogen, phosphorus and organic material under the waste-water tax. In addition it was decided to raise the taxes for a number of green house gases. In total the reform is expected to raise the level of green taxes by approximately 1.1 billion Euros, including revenue from CO2 quota auctions.

There have also been taken steps to integrate biodiversity conservation and sustainable use into the advice the Government receives on its economic policies. The Environmental Economic Council was thus established by law in 2007. The council has 24 members representing unions, employers, NGOs and the Danish Government and is presided over by four independent university professors. The chairmanship

prepares reports for the council which contains analyses on different environmental issues with relevance to the Danish or Global economy.

13. Education

Nature schools and eco bases

Nature schools and eco bases are facilities placed in nature areas where environmental education can take place. In many instances, the facilities have a specific person in charge of the teaching and the activities on the spot.

The idea is to teach the pupils in all subjects on the spot and to integrate environment and nature considerations in all the subjects.

The nature schools and eco bases are often established in a cooperation between the municipalities and the ministry of environment and serve schools, kindergartens, clubs etc.

The state is involved in 11 eco bases, and 35 nature schools through out the country. Many more exists though and are run solely by the municipalities.

Nature Guides

In 2006, over 950.000 people participated in more than 36.000 events, led by 310 nature guides.

New figures for 2007 and 2008 are not available at the moment, but it is expected that participation has been at an equal or greater level in the years following 2006. See more (in Danish): <http://naturvejledernet.skovognatur.dk/Naturvejlederordningen/Beretning/aarsrapport2006.htm>

Education material

The ministry of environment has published a wide range of educational materials for schools. A few initiatives will be high lighted here.

A series of education materials are available under the title, "follow the fox". The material is differentiated to suite the needs of both younger and older pupils and teachers. The ministry of environment is also in a process developing educational material to new subjects as national parks; which is a new concept in Denmark

Every year, a Forest Day is held, with events about forestry and forest biodiversity scattered all over the country. In relation to the Forest Day, a school book about an aspect of forest biodiversity is published and made available to schools. The books are focus on information for pupils in 1. to 3. grade. See more (in Danish): http://www.skovognatur.dk/Ud/Undervisning/Materialer/foelg_raeven/Materialer.htm

See more (in Danish): <http://www.skovognatur.dk/Ud/Undervisning/Materialer/Emma/EmmaOgRaeven.htm>

The Danish ministries of Environment and education have made a 3-year partnership agreement with the Danish Outdoor Council, about promoting an education programme, called Green Flag – green School. The agreement implies that Denmark will be spending DDK 6,6 mio. targeted on education in 500 Danish schools on nature, environment and sustainability. The schools will have to be sustainable and the pupils will be taught about sustainability. The Green Flag School started in 1994 and is part of an international network of so called Eco-Schools, which encompasses millions of pupil in around 28.000 schools in 46 countries from China, Japan, Africa, Europe and USA. See more (in Danish): www.groentflag.dk

Biology is taught in elementary school, high school and university. The general state and the trend of development of the knowledge about nature in the Danish population is not known. However there is no reason to believe that it should be increasing.

International co-operation

14. International agreements

By 2009, Denmark has ratified almost all international conventions concerning nature and biodiversity, including the Convention on biological Diversity with all three elements (i.e. genes, species and ecosystems) and the protocols on genetically modified organisms and access and benefit sharing.

Denmark has worked towards the objective of halting the loss of biodiversity by 2010 in accordance with the targets set at the Gothenburg EU summit in 2001 and the World Summit on Sustainable Development in Johannesburg In 2002. Denmark is a signatory of the Ramsar, the Washington and the Bonn Conventions, which are implemented through various government programmes.

Denmark is also a party to all the regional agreements that are important to it, including: the Wadden Sea Seal Agreement, the African-Eurasian Waterbirds Agreement, the Agreement on the Conservation of European Bats, and the Agreement of the Conservation of Small Cetaceans of the Baltic and North Sea. Denmark has also signed the UNECE forest initiatives as well as the regional conventions (e.g. Oslo, Helsinki and the Bern and landscape Conventions of the Council of Europe.

In 2004 Denmark ratified the Convention on the Law of the Sea and the Agreement related to implementation of its part XI. Denmark has not ratified the International Convention for the Control and Management of Ship's Ballast water and sediments, but expects to do so in 2011.

15. Multilateral assistance

Denmark's international development assistance supports projects that encourage the conservation of nature and biodiversity and are consistent with the Convention on Biological Diversity objectives of substantially reducing the loss of biodiversity by 2010. It has identified priority issues to advance biodiversity and nature conservation: sustainable forest management and combating illegal logging; mutually supportive efforts to combat climate change and preserve biodiversity; integration of biodiversity considerations in climate change mitigation and adaptation; establishment of a global

network of protected areas on land and at sea; combating and preventing the introduction of invasive alien species; development of an international regime on access and benefit sharing.

In 2005, Danish development assistance totalled DDK 12.6 billion corresponding to 0.81% of GNI. Denmark continues to be among the major contributors of development assistance and has undertaken to grant 0.8% of GNI in development assistance over the coming years.

Table 2: Danish ODA contributions to implementation of the CBD over the period 2001-2005 (DDK mill.).
Source: Danida's annual reports 2001-2005

-	2001	2002	2003	2004	2005
Bilateral Aid	745	470	438	1112	935
Multilateral Aid	1332	1418	1241	1255	1260
Total	2077	1888	1679	2367	2195

Denmark's multilateral environmental assistance supports efforts made by a number of international fora to promote sustainable development.

Two international events in particular established the agenda for the multilateral cooperation on environment and sustainable development: the Rio conference in 1992 and the Johannesburg summit in 2002.

Continuous efforts to implement and further develop the results from these meetings are, at the international level, primarily made by the EU, UN fora, international organisations and at meetings at conventions and protocols. Denmark participates actively in the global dialogue in these for a.

Denmark financially supports developing countries' participation in this process and assists them to implement and comply with the decisions made. The main focus is on central issues covered by international conventions and partnerships such as water, water resources, energy, protection of biodiversity, climate, chemicals and sustainable land management. Important multilateral partners in environmental assistance over the last decades include GEF, UNEP, IUCN and IIED.

Added to these is cooperation with particularly the World Bank, the regional development banks and UNDP concerning integration of environment into the organisations' overall work as well as support to specific activities in the environmental field.

GEF is one of the most important global tools for financing global environmental protection. GEF is financed through assessed contributions. GEF furthermore manages a number of voluntary funds to which Denmark contributes. In total Denmark has provided more than USD 150 million to the GEF since 1991.

The cooperation with UNEP focuses in particular on the organisations' efforts to develop and strengthen global environmental agreements, strengthen the national environmental instruments and develop policies and strategies. Denmark is working to make UNEP's efforts focused and efficient – for example by enhancing the developing countries' capacities to both contribute to, and make use of, global

environmental agreements. UNEP is financed through voluntary contributions. The Danish support involves an annual, general contribution supplemented by earmarked funding.

The support to IUCN and IIED is aimed amongst others at securing their participation in the international dialogue on policies for nature conservation, poverty/environment and trade/environment. Another priority is helping the organisations to focus their work and to integrate it further into the other efforts for environmental development at country level. Table 3 presents the CBD relevant multilateral assistance for 2005 based on total Danish contributions to those multilateral institutions/programmes whose institutional objectives support the CBD.

Table 3: CBD-relevant support to Multilateral Institutions in 2005 (DDK mill.).

Institution / programme	2005
Global Environmental Facility	65,2
World Bank	503,4
African Development Bank	179,0
Asian Development Bank	57,8
Inter-American Development Bank	10,0
UNDP/specific programmes	370,0
UNEP	31,0
UNEP/centre for Water and Environment	4,0
IUCN	20,0
IIED	5,0
IWGIA International Work Group for Indigenous Affairs	14,9

Source: Danidas Annual reports 2001-2005

16. Bilateral assistance

Denmark's bilateral development assistance currently focuses on 15 developing countries (programme countries) based on long term national strategies on poverty reduction. Sub-Saharan Africa remains the major recipient of Danish bilateral aid. In 2001 bilateral assistance totalled DDK 6,409 million, equivalent to 47,1% of total Danish ODA, while the bilateral aid for 2005 amounted to DDK 7,230 million, or 57,2% of total Danish ODA.

Bilateral assistance is usually concentrated on between two or four sectors in each programme country. Sector programme support makes it possible to focus resources, work and long term initiatives and, in cooperation with the recipient country (including government authorities and civil society), build up knowledge and skills in order to ensure better sustainability of the results.

One key bilateral activity in support of the CBD is the environmental support given to countries in Asia, Africa and Latin America. In Asia, the Danish support programme includes Bhutan, Cambodia, Indonesia, Malaysia, Nepal, Thailand and Vietnam. In Africa, the following countries receive environmental support: Egypt, Kenya, Mozambique, South Africa, Tanzania, Zambia and the South African Region. In Latin America, There are environmental support programmes in Bolivia and Nicaragua, in addition to a Central American Regional environmental support programme. Furthermore, as environment is mainstreamed in Danish development assistance, it remains an important element in a number of other programmes, including sector programmes on agriculture, water and sanitation etc. The Danish bilateral assistance to

programme countries is in response to the recipient countries' own priorities and is based on individual country strategies that describe the framework for cooperation, including objectives, targets and priorities for each country. In general, these country strategies include priorities that are in line with the CBD.

Support to key commitments in the CBD

The CBD includes a number of shared commitments for maintaining the worlds' biological diversity. Articles 6-20 of the CBD specify the key obligations of each contracting party. An overview of how Denmark has supported developing countries' efforts to fulfil some of those obligations is given in table 4 below, which links the key commitments in the CBD to CBD to Danish development assistance. All the countries listed have a Danish cooperation agreement in which one or more components support a specific CBD commitment.

Table 4: Key commitments in the CBD linked to Danish development assistance

CBD articles	Key Commitments	Examples of Danish Environmental support
6, 10 and 11	Developing national biodiversity strategies, plans or programmes. Establish policies which act as incentives for the conservation and sustainable use of biodiversity.	Bhutan, Bolivia, Cambodia, Indonesia, Kenya, Mozambique, Nicaragua, Malaysia and Laos (support to greening of PRSP and mainstreaming of biodiversity into national policies and plans).
7	Identifying and monitoring biodiversity in accordance with Annex 1 of the CBD including monitoring of: Ecosystems and habitats, Species and communities, Described genomes and genes	Malaysia (university collaboration, mapping of biodiversity), Nicaragua (protected areas, research agreements, national environmental information system), Vietnam (environmental information system, marine protected areas network)
8	Supporting in situ conservation measures encompassing the: Establishment of protected areas, rehabilitation and restoration of degraded ecosystems and promoting the recovery of threatened species; Protection of indigenous peoples and their knowledge systems; Mitigation of potentially hazardous exotic species and biotechnology products	Bhutan, Malaysia, Nicaragua, Tanzania, Thailand and Vietnam (PA management). Bolivia (PA establishment, national PA systems, natural resources management in indigenous peoples territories, support to demarcation and collective land rights). Cambodia community based natural resources management, integrated coastal areas management). Central America (local level natural resources management). Mozambique (community based natural resources management)
9	Complementing the protection of natural habitats through ex-situ conservation measures	Regional forest seed sector programmes (Cambodia, Laos, Vietnam), Malaysia (captive breeding), Nicaragua (tree seed centre)
12, 17 and 18	In accordance with the special needs of developing countries, establish programmes for: Scientific and technical education; Exchange of information, technical and scientific cooperation to support implementation of the CBD.	Bolivia, Malaysia, South Africa, Tanzania and Thailand (University collaboration on forest management). Central America (research collaboration). Indochina (University collaboration with Cambodia, Laos and Vietnam)
13	Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media and in educational programmes.	Bolivia, Cambodia, Nicaragua, South Africa, Thailand and Vietnam (environmental education in schools, public awareness)
14	Introduction of Environmental Impact Assessment (EIA)	Bolivia (EIA support as part of decentralized environmental management, SEA on mining sector). Ghana (SEA on water and sanitation). Indochina (EIA and SEA training and capacity development in Cambodia, Laos and Vietnam). Mozambique (SEA on coastal zone). Nicaragua (EIA support to environment ministry, support to municipalities, transport sector support)

General measures for conservation and sustainable use (CBD article 6)

The contracting parties are committed to developing national strategies, plans or programmes that reflect the CBD commitments. The conservation and sustainable use of biodiversity must therefore also be included as a cross-cutting issue within the planning process.

Denmark has contributed with analyses of the best ways to include and develop environmental considerations in the PRSP's (greening of PRSP), both as a cross-cutting issue and in the individual sectors. These analyses have also examined how this development can be supported through institutional and organizational capacity building of the authorities in the countries concerned. This process has been supported in Bhutan, Bolivia, Cambodia, Indonesia, Kenya, Mozambique and Nicaragua. Other countries have been supported in the process to develop and implement a national biodiversity strategy, i.e. the Lao PDR National Biodiversity Strategy and Action Plan.

There has also been given support to developing the national framework for biodiversity conservation. In Nicaragua, support included capacity building and a strengthening of the regulatory and policy framework by developing environmental standards and a national environment plan. Malaysia is supported in order to enhance opportunities for introducing biodiversity conservation and management safeguards into sectoral policy, programme and planning processes.

Identifying and monitoring biodiversity (CBD article 7)

Identification and monitoring of biodiversity is especially important in terms of supporting the establishment and appropriate management of protected areas. Danish support to the GEF is important in this regard since GEF finances the consolidation of many national protected area systems. Moreover, many GEF financed projects are site-based and include identification and assessment of biodiversity as well as the design and establishment of biodiversity monitoring schemes.

Some environment programmes, supported by Denmark, have also contributed to identifying areas containing biodiversity of high conservation importance. This has often happened in collaboration with universities and NGOs, as in the Eastern Arc Mountains of Tanzania where support was provided to identify important areas for biodiversity. The identification of important marine areas has also been supported, as in the Marine Protected Areas Network component in Vietnam, which undertook an inventory and assessment of potential marine protected areas.

The development and establishment of different types of biodiversity monitoring schemes has been supported both inside and outside protected areas. These have ranged from a community-based biodiversity and natural resource use monitoring system in Tanzania to forest cover monitoring using remote sensing and Geographical Information System (GIS) in Nicaragua.

In-situ conservation (article 8)

The CBD emphasizes the importance of supporting in-situ conservation. This line of support includes establishing protected areas and developing guidelines in this regard; biodiversity management inside and outside protected areas, including many types of sustainable Natural resource Management; the

promotion of broader habitat and ecosystem protection and rehabilitation; sustainable development I buffer zones around protected areas; preventing the spread of genetically modified organisms (GMOs); resolving conflict over use and conservation; respect for indigenous peoples' territories, culture and intellectual property rights; and legislation on threatened species. The majority of Danish bilateral assistance of relevance to the CBD is, in some way, supporting in-situ conservation. The following is a selection of Danish supported activities in this area:

Protected areas establishment and management

Danish support to activities that explicitly promote the objectives of the CBD are often related to the identification, establishment, monitoring and management of protected areas. Among the examples are Nicaragua, where continued support is being provided to the National Protected areas system and to the largest protected area in the country: the Bosawas Biosphere Reserve and the Indio-Maíz Biological Reserve.

In Tanzania, support has been provided for the establishment and management of the 3.250,00 ha Malagarasi-Muyovozi wetland as a Ramsar site. In Vietnam, the focus has been on both terrestrial (Pu Houg PA and U Minh Thuong PA) and marine protected areas (Hon Mun Marine Protected Area, Con Dao and Cu Lao Cham). Together with the Ministry of Agriculture and Rural Development, World Wildlife Fund (WWF)-Denmark and WWF Indochina have developed a longterm management strategy for the terrestrial PA system.

Protected areas management has been supported in both peninsular Malaysia (Krau Wildlife Reserve, Endau Rompin National Park) and Sabah (conservation area along the Kinabatangan River). In Bhutan there was support to the management of the Bumdeling Wildlife Sanctuary. Co-management of PAs is supported in several places.

Invasive species

The introduction of non-native, harmful invasive species can cause severe damage to native biodiversity. Support has been provided – among other examples – to the International Water Hyacinth Programme and its work in Africa to develop an environmentally friendly fungal pesticide that will help bring the water hyacinth under control.

Indigenous peoples

To conserve biodiversity it is vital to work with indigenous cultures and the traditional knowledge they possess. Many of the world's biodiversity hotspots and high biodiversity wilderness areas are inhabited by indigenous peoples, and their territories cover a large amount of biologically important land areas in many regions of the world.

A long term support to indigenous peoples organizations and territories in Bolivia has succeeded in demarcation and titling of numerous territories. Technical assistance is provided to sustainable natural resources management including conservation of biodiversity.

In Nicaragua, support has been provided for more than a decade to indigenous communities in the Bosawas Biosphere Reserve to protect their territory and promote a sustainable use of natural resources.

Denmark has furthermore supported two phases of the Consolidation of the Amazon Region (COAMA) programme in the Colombian Amazon. The programme supports the training and capacity building of indigenous organizations with the aim of ensuring their ability to develop their own policies and fulfil the legal and technical- administrative requirements for management of their territories.

The International Work group for Indigenous affairs (IWGIA) is supported through a multi-annual framework agreement. The organization supports indigenous peoples in Latin America, Africa and Asia in their political struggle for recognition and their rights o self-determination. The work of IWGIA includes intellectual property rights, natural resources management, and the conservation and sustainable use of biodiversity.

Ex-situ conservation (CBD article 9)

Ex-situ conservation, whereby plants, animals or genetic material are removed from their original habitat and conserved in special facilities, is in most cases a last resort and the most resource intensive solution for the conservation of critically endangered biodiversity. Examples of ex-situ conservation activities supported by Denmark include support to forest tree seed banks (south eastern Asia and Nicaragua) and to a gaur breeding facility in Malaysia (component of the Krau National Park Project).

Sustainable use of natural resources (CBD Article 10)

According to the CBD conservation and sustainable use of biological resources is to be integrated into national decision-making. Traditional cultural practices related to the use of biodiversity is encouraged and protected. Support should be given to local activities improving degraded areas. Governmental and private sectors are encouraged to collaborate on developing methods for sustainable use of biological resources.

Sustainable use of natural resources is vital to long-term improvement of living conditions for disadvantaged population groups and to assure the basis of future production. Sustainable management of biological diversity is vital for securing food supplies as well as for preserving unspoiled habitats, health, the environment and a stable climate.

Among the natural resources, the forests and the wetlands play a crucial role. While representing in themselves a multifunctional ecosystem characteristic of rural countryside, they not only make a vital contribution to the preservation of the climate, to the protection of the protection against natural hazards, to tourism etc, but also – in their function as elements of the rural production system – play a huge role in the reduction of poverty.

Sustainable natural resources management is a main priority in Denmark's development cooperation. Activities include the integrated water resources management, integrated coastal zone management, sustainable land management and protection and sustainable use of wetlands and forests.

Sustainable water resources management is supported through global, regional and country programmes.

Sustainable forestry is supported in several countries among those Cambodia, Honduras, Nepal, Nicaragua and Thailand. Support includes community forestry and certification. In Tanzania, Denmark has through more than 10 projects provides a substantial support to establishment and consolidation of participatory forest management.

Research and training

Scientific and technical education and training programmes for the identification, conservation and sustainable use of biological diversity are much needed in developing countries. Likewise with research that contributes to conservation and sustainable use. An example of Danish support in this area is the development of an environmental education and research programme at Can Tho University in Vietnam. The objective of this project is to assist the University to develop its capacity to provide environmentally oriented teaching and research to serve the special needs of the Mekong Delta Provinces for natural resources management. Activities like these will often also contribute to the obligations under CBD articles 16-18 "Access and transfer of technology", "Exchange of information" and " Technical and scientific cooperation".

The major modalities of research and training in relation to the CBD are ENRECA40, the Danish Council for Development Assistance, research centers and support to research through the environment programmes. On example is an on-going long-term ENRECA programme between Danish Universities and Uganda and Tanzania, which seeks to strengthen local capacity in biodiversity research.

Another long-term collaboration on biodiversity research took place in the period 1999-2003 between the University of Sabah (UMS), Malaysia and Danish universities. Denmark has supported the Asian Institute of Technology (AIT) since 1994. this programme includes research and training in areas such as integrated watershed management and integrated pest management. University collaboration between South Africa and Denmark on sustainable NRM and PFM in Southern Africa took place over the period 2000-2005.

Denmark is host to the global Biodiversity Information Facility (GBIF) and a major donor to the institution. The main task for this centre of knowledge is to register all available biodiversity information in the world. The knowledge is made available to all participating parties.

Education and Awareness (Article 13)

General environmental awareness and understanding of the importance of biodiversity for human well-being is important, as is a general understanding and appreciation of principles on sustainable use. The CBD recommends to the parties to support activities promoting environmental education in schools and general public awareness raising.

Denmark has supported many initiatives in the field of environmental education and awareness raising. Two examples can be highlighted:

Support has been provided for a decade to the Danish NGO Nepenthes, who in partnership with the Nicaraguan Fundacion del Rio develops environmental education for children and young people in the buffer zone of the Indi-Maíz Biological Reserve. Activities include curriculum development, education materials, a nature centre, natural trails, a radio station, agroecological training and school gardens.

The Outdoor Council, a Danish Umbrella organisation for 93 associations related to outdoor life, nature and the environment, is involved in an environmental education programme in Kenya alongside Kenyan Organisation for Environmental Education. The project aims to implement the green School concept in 300 schools and to strengthen environmental education in another 1200.

Impact Assessment (CBD Article 14)

Any proposed projects that are likely to have significant adverse effects on biological diversity should undergo an environmental impact assessment with a view to minimising or avoiding such effects. Denmark is supporting developing countries to ensure that Environmental Impact Assessments (EIA) become a natural part of planning and that capacity is built in terms of implementing EIAs.

The environmental support provided by Denmark include capacity building in EIA methodologies.

One example of this practice is the long-term development of Ministerio del Ambiente y los Recursos Naturales Nicaragua (MARENA), Nicaragua. Another example is the regional collaboration on environmental planning and management, the USEPAM programme. This programme has organised a number of EIA courses for local university staff and government officials in Cambodia, Laos and Vietnam.

Strategic Environmental Assessments (SEAs) have been supported in Bolivia (mining sector), Ghana (SEA on Water sanitation), Mozambique (SEA on coastal zone), and Vietnam (SEA on Fisheries sector).

Denmark is also providing training and capacity building in EIA in other types of support such as the transportation sector programmes in Bangladesh, Benin, Ghana, Nicaragua, Tanzania, Uganda and Zambia.

Access to genetic resources (CBD article 15)

Access to genetic resources and equitable benefit sharing are one of the three objectives of CBD. Since the Earth Summit in Rio de Janeiro in 1992 the Parties of the convention have been committed to facilitate access to genetic resources and of sharing benefits arising from their use.

In 2002 at the World Summit of Sustainable Development in Johannesburg the governments decided on a mandate to elaborate an international regime on access and benefit sharing of genetic resources. The deadline of the negotiations is CBD COP 10 in 2010. In 2009 at CBD COP 9 in Bonn the Parties decided on a roadmap for the remaining period of the negotiations.

This mandate will structure the upcoming negotiations in 2009-2010. This next phase of the negotiations is critical since the actual substance of the regime is to be negotiated. Denmark participates actively in these negotiations – both on EU and international level and supports the development of an international regime on access and benefit sharing.