

International technical expert workshop on identifying, accessing, compiling and aggregating domestic and international biodiversity-related investments and impacts

5 to 7 May 2015, Mexico City, Mexico

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# 1 Introduction

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## 1.1 Mandate

CBD COP decision XII/3 on resource mobilization, in paragraphs 32 (a) and (b), requests the Executive Secretary to (...)

*“initiate technical work, subject to the availability of resources and in close cooperation with Parties as well as relevant international organizations, such as the United Nations Development Programme and the World Bank, by organizing a technical expert workshop on identifying, accessing, compiling and aggregating domestic and international biodiversity-related investments and impacts, with a view to (i) presenting, sharing and reviewing existing national experiences; (ii) assessing experiences and methodologies applied in other sectors with a view to identifying opportunities for methodological transfer; and (iii) identifying options for convergence towards, and possible elements of, a common methodology;”* and to

*“make the report of the workshop referred in paragraph 32 (b) above available as an element of voluntary guidance for Parties, with a view to facilitating financial reporting on domestic expenditures and the development of national finance plans;”*

## 1.2 Background

In decision XII/3, the Conference of the Parties to the Convention adopted a set of targets for resource mobilization, with a view to achieve an overall substantial increase in total biodiversity-related funding for the implementation of the Strategic Plan for Biodiversity 2011–2020 from a variety of sources, namely:

- (a) Double total biodiversity-related international financial resource flows to developing countries, in particular least developed countries and small island developing States, as well as countries with economies in transition, using average annual biodiversity funding for the years 2006-2010 as a baseline, by 2015, and at least maintain this level until 2020, in accordance with Article 20 of the Convention, to contribute to the achievement of the Convention’s three objectives, including through a country-driven prioritization of biodiversity within development plans in recipient countries;
- (b) Endeavour for 100 per cent, but at least 75 per cent, of Parties to have included biodiversity in their national priorities or development plans by 2015, and to have therefore made appropriate domestic financial provisions;
- (c) Endeavour for 100 per cent, but at least 75 per cent, of Parties provided with adequate financial resources to have reported domestic biodiversity expenditures, as well as funding needs, gaps and priorities, by 2015, in order to improve the robustness of the baseline;
- (d) Endeavour for 100 per cent, but at least 75 per cent, of Parties provided with adequate financial resources to have prepared national financial plans for biodiversity by 2015, and that 30 per cent of those Parties have assessed and/or evaluated the intrinsic, ecological, genetic,

socioeconomic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components;

(e) Mobilize domestic financial resources from all sources to reduce the gap between identified needs and available resources at domestic level, for effectively implementing by 2020 Parties' national biodiversity strategies and action plans, in accordance with Article 20;

In the same decision, Parties also adopted a financial reporting framework and invited Parties and other Governments to report thereon, by 31 December 2015, providing baseline information and reporting on their contribution to reach the global financial targets as reproduced above.

The Conference of the Parties also recalled that the national resource mobilization should include, as appropriate, the design and dissemination of a country-specific resource mobilization strategy in the framework of updated national biodiversity strategy and action plans. In this context, it noted with appreciation the work of the Biodiversity Finance Initiative of the United Nations Development Programme and invited UNDP/BIOFIN to continue and further upscale its work with interested Parties.

With the notable exception of the OECD DAC monitoring of external development finance targeting environmental objectives through its Creditor Reporting System and the Rio markers methodologies for assessing biodiversity-related funding streams are in early stages of development. Work is already under way in a joint OECD ENVIRONET and WP-STAT Task Team to improve the Rio marker methodology, including by improving guidance for assigning markers and for assessing multilateral contributions. Work is also under way, in various stages and levels, to develop methodologies for assessing funding streams from other sources, such as domestic official outlays at various government levels, as well as funding from the private sector. This includes work at regional and national levels, both in developed and developing countries, including in the 19 – and soon 29 – core countries receiving financial and technical support from UNDP/BIOFIN (an updated BIOFIN workbook and related tools have been just released).

In light of the above, the stock taking of existing methodologies, based on the ongoing work as described above, and their further development or improvement is important for two reasons:

- First, in order to provide methodological guidance to Parties in meeting their financial reporting requirements by the end of 2015 as foreseen in the COP decision, including the reporting of domestic biodiversity expenditures as well as funding needs, gaps and priorities (which is a separate financial target). Reporting on funding needs, gaps and priorities has been identified as a challenge in particular for developing country Parties because of the existing methodological and data deficiencies.<sup>1</sup>
- And second, because such methodologies, in particular on the assessment of funding needs, gaps and priorities are critical steps in the development of effective national resource mobilization strategies or finance plans, and are identified as such in the UNDP/BIOFIN toolbox and guidance. The development and implementation of such strategies or plans is

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<sup>-1</sup> See submission from India commenting on the first draft of the revised financial reporting framework.

critical for the national implementation of Aichi Biodiversity Target 20 on resource mobilization and the associated financial targets, and is the ultimate objective of BIOFIN.

## 2 Document Objectives

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The objective of this document is to organize background material for the Global Experts' Workshop to facilitate learning, discussions, and analysis. It will form the basis for the development of the guidance report as requested by the Conference of the Parties. It

The present document, in section 3 below, provides an initial compilation and review of methodologies, currently under development or implementation, that are relevant for contributing to the CBD Financial Reporting Framework and to the development of national resource mobilization strategies. No claim of comprehensiveness is being made.

The section provides short summaries of pertinent methodologies, based on input from relevant partners, that seek to address the following lead questions:

- What are the main methodologies available for biodiversity and related sectors?
- What is the respective scope of each available methodology?
- What are important common features and critical differences?
- What are the pertinent specificities for each methodologies and where is their use most appropriate?
- What are the remaining critical (data and methodological) gaps and challenges?

Additionally, it is anticipated that the workshop, building on the review, will discuss the following related questions:

- What are possible areas of convergence towards (elements of) a common methodology?
- What could be done to address the remaining critical (data and methodological) gaps and challenges?
- Who could be responsible for, or lead, further methodological development, with what resources?
- What specific next steps should be taken?

To facilitate this discussion, section 4 below provides an initial identification of some main issues, for further consideration and analysis, in undertaking ex post assessments of biodiversity-related investments:

- Defining the scope of “biodiversity”
- Defining coefficients and activities related to biodiversity
- Assessing financial contributions to biodiversity from the private sector
- Sub-national level assessments
- Indigenous and local community contributions
- Assessing biodiversity-harmful expenditures

Accordingly, section 5 below provides an initial analysis of main themes in undertaken ex ante assessments, such as costing the biodiversity-related activities foreseen in revised NBSAPs:

- Clarification of activities to be costed
- Calculation of the cost of biodiversity-related actions
- Analysis of cost-effectiveness and feedback to the NBSAP process.

Based on the discussions and conclusions of the workshop, a practical and easily accessible final report, structured along the lead questions above, will provide guidance to Parties in meeting their financial reporting requirements by the end of 2015, and in developing their national resource mobilization strategies. As such, the report can be referenced and used, in conjunction with the UNDP/BIOFIN toolbox and guidance, at the upcoming CBD/BIOFIN regional capacity-building workshops, scheduled to take place in the second half of 2015, as well as during the CBD webinars on the financial reporting framework, also scheduled to take place in the second half of 2015.

### **3 COMPILATION OF METHODOLOGIES AND APPROACHES**

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#### **3.1 OECD Rio Marker Methodology**

*Recent work to improve the OECD DAC Rio Markers is carried out through the Joint ENVIRONET and WP-STAT Task Team to Improve Rio Markers, Environment and Development Finance Statistics. The goal is to ensure that OECD DAC methodologies remain the reference for the international community in measuring ODA and OOF related to climate change, biodiversity, desertification and other environmental concerns.*

The primary approach to assessing and tracking international biodiversity-related development finance is the OECD Rio marker methodology. Most of the countries reporting on international development finance for biodiversity to the CBD have cited data directly reported to and collected within the OECD Development Assistance Committee (DAC) Rio Marker database. The Rio Markers are a system of tagging Official Development Assistance (ODA) and Other Official Flows (OOF) commitments in the OECD DAC Creditor Reporting System database. The system is based on four markers, called the “Rio markers”, which were developed to track external development finance targeting the three main UN conventions on global environmental concerns that originated at the Rio Convention in 1992 – the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (FCCC), and the Convention to Combat Desertification (CCD). The biodiversity, climate change mitigation and desertification markers were introduced in 1998, while the climate change adaptation marker was introduced in 2010. Additionally, a fifth marker, the “environment marker”, was introduced in 1992 to track activities targeting local environmental concerns. The DAC statistical system tracks commitments and disbursements, but reporting is not complete for all disbursement data, although it can be assumed that these track relatively closely the level of commitments with different years.

This section describes the application of the Rio Markers and how they can be used to assist with reporting international financial flows for biodiversity, presents some challenges to the system and

presents some areas of current research and development being undertaken by the joint ENVIRONET and WP-STAT task team.

The Rio Markers are built around a definition of direct and indirect actions supporting biodiversity, climate change, desertification, and general environmental activities.

An activity may target multiple objectives and can therefore be marked against several Rio markers (e.g. the same activity can target and be marked for climate change mitigation and biodiversity, or for biodiversity and desertification).

While this allows the multiple environmental policy objectives of an activity to be reflected, this needs to be taken into account when aggregating data across several markers. To avoid double or triple-counting the same activity, separately aggregate figures for biodiversity, climate change mitigation, climate change adaptation and desertification-related development finance should not be added up. Statistical presentations should either be prepared for one marker at a time (and resulting totals for each marker should not be added up) or the overlap should be “treated”.

The full definition of the Biodiversity Rio Marker is in Table 1.

**Table 1 The Rio Marker Definition for Biodiversity**

| Biodiversity AID TARGETING THE OBJECTIVES OF THE CONVENTION ON BIOLOGICAL DIVERSITY                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DEFINITION</b><br>An activity should be classified as biodiversity-related (score Principal or Significant) if: | It promotes at least one of the three objectives of the Convention: the conservation of biodiversity, sustainable use of its components (ecosystems, species or genetic resources), or fair and equitable sharing of the benefits of the utilisation of genetic resources.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>CRITERIA FOR ELIGIBILITY</b>                                                                                    | The activity contributes to<br>a) protection or enhancing ecosystems, species or genetic resources through in-situ or ex-situ conservation, or remedying existing environmental damage; or<br>b) integration of biodiversity and ecosystem services concerns within recipient countries’ development objectives and economic decision making, through institution building, capacity development, strengthening the regulatory and policy framework, or research; or<br>c) developing countries’ efforts to meet their obligations under the Convention<br><br>The activity will score “principal objective” if it directly and explicitly aims to achieve one or more of the above three criteria. |

|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>EXAMPLES OF TYPICAL ACTIVITIES</p> <p>1. Typical activities take place in the sectors of:</p> <p><i>Water and sanitation</i></p> <p><i>Agriculture</i></p> <p><i>Forestry</i></p> <p><i>Fishing</i></p> <p><i>Tourism</i></p>                                | <p>Integration of biological diversity concerns into sectoral policy, planning and programmes; e.g.</p> <ul style="list-style-type: none"> <li>• Water resources protection and rehabilitation; integrated watershed, catchment and river basin protection and management;</li> <li>• Sustainable agricultural and farming practices including substitution of damaging uses and extractions by out-of-area plantations, alternative cultivation or equivalent substances; integrated pest management strategies; soil conservation; in-situ conservation of genetic resources; alternative livelihoods;</li> <li>• Combating deforestation and land degradation while maintaining or enhancing biodiversity in the affected areas;</li> <li>• Promotion of sustainable marine, coastal and inland fishing;</li> <li>• Sustainable use of sensitive environmental areas for tourism.</li> </ul>                                                                                                                                                                                                                                                                                                                                                   |
| <p>2. Typical non-sector specific activities are:</p> <p><i>Environmental policy and administrative management</i></p> <p><i>Biosphere and bio-diversity protection</i></p> <p><i>Environmental education/training</i></p> <p><i>Environmental research</i></p> | <ul style="list-style-type: none"> <li>• Preparation of national bio-diversity plans, strategies and programmes; bio-diversity inventories and assessments; development of legislation and regulations to protect threatened species; development of incentives, impact assessments, and policy and legislation on equitable access to the benefits of genetic resources.</li> <li>• Establishment of protected areas, environmentally oriented zoning, land use and regional development planning.</li> <li>• Protecting endangered or vulnerable species and their habitats, e.g. by promoting traditional animal husbandry or formerly cultivated/collected plants or ex-situ conservation (e.g. seed banks, zoological gardens).</li> <li>• Capacity building in taxonomy, bio-diversity assessment and information management of biodiversity data; education, training and awareness-raising on bio-diversity.</li> <li>• Research on ecological, socio-economic and policy issues related to bio-diversity, including research on and application of knowledge of indigenous people.</li> <li>• Supporting development and use of approaches, methods and tools for assessment, valuation and sustaining of ecosystem services.</li> </ul> |
| <p>N.B. Biodiversity (CRS sector code 41030) scores, by definition, principal objective.</p>                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

More information on the OECD Rio Markers can be found at <http://www.oecd.org/development/stats/rioconventions.htm> or <http://www.oecd.org/dac/stats/rioconventions.htm>

<http://www.oecd.org/dac/stats/biodiversity.htm>

A training workshop was conducted in September 2014 at the OECD and the presentations are useful for accessing and understanding the data: <http://www.oecd.org/dac/environment-development/training-workshop.htm>

For further details on interpreting the categories in the database, one can refer to the statistical reporting directives:

- [Directives \(pdf\)](#) (chapters 1 to 6)
- [Addendum 1 \(pdf\)](#) (modules A, B and C)
- [Addendum 2 \(pdf\)](#) (modules D and E)

An up to date (through 2013) summary report can be found at the following link: <http://www.oecd.org/dac/environment-development/BIODIVERSITY-RELATED%20FINANCE%20FEBRUARY%202015.pdf>

The Rio Markers form an important tool for donor countries to track their commitments but can also be used by recipient countries to examine external contributions to domestic actions. This is best implemented through downloading the entire DAC Rio Markers data file and then manipulate the results to generate tables for the country in question. The following is an example for Fiji, for the year 2006, looking at activities targeting biodiversity as a “principal” or main objective (Rio Marker 2). Data are in million USD.

|                                                                                                               |                              |  |
|---------------------------------------------------------------------------------------------------------------|------------------------------|--|
| Year                                                                                                          | 2006                         |  |
| biodiversity                                                                                                  | 2                            |  |
| recipientnameE                                                                                                | Fiji                         |  |
| <b>Row Labels</b>                                                                                             | <b>Sum of usd_commitment</b> |  |
| <b>Australia</b>                                                                                              | <b>0.346368702</b>           |  |
| <b>REGIONAL NATURAL HERITAGE PROGRAMME</b>                                                                    | <b>0.346368702</b>           |  |
| Regional Natural Heritage Programme                                                                           | 0.346368702                  |  |
| <b>Japan</b>                                                                                                  | <b>0.134929182</b>           |  |
| <b>(blank)</b>                                                                                                | <b>0.134929182</b>           |  |
| TC AGGREGATED ACTIVITIES                                                                                      | 0.134929182                  |  |
| <b>New Zealand</b>                                                                                            | <b>0.555656461</b>           |  |
| <b>Rotahomes Project</b>                                                                                      | <b>0.393487286</b>           |  |
| Rotahome Resettlement Community                                                                               | 0.393487286                  |  |
| <b>Squatter/Informal Settlements Assistance</b>                                                               | <b>0.162169175</b>           |  |
| Squatter/Informal Settlements Assistance                                                                      | 0.162169175                  |  |
| <b>United States</b>                                                                                          | <b>0.087</b>                 |  |
| <b>(blank)</b>                                                                                                | <b>0.087</b>                 |  |
| Assessment and Enhancement of Marine Conservation Efforts on Fiji's Coral Coast. NOAA Oceans Service Program. | 0.076                        |  |
| MULTINATIONAL SPECIES CONSERVATION FUND, U.S. DEPARTMENT OF INTERIOR, U.S. FISH AND WILDLIFE SERVICE.         | 0.011                        |  |
| <b>Grand Total</b>                                                                                            | <b>1.123954345</b>           |  |

The Rio Marker approach is an important element in that it seeks to clearly define what would be accounted for under “Biodiversity Financing” by using a standard definition that has been reviewed and refined through a strong consultative process and has been used by a very wide array of countries and organizations. One of the limitations of the Rio Markers is that there is no guidance on how to clearly define and attribute coefficients for activities targeting biodiversity as a “significant” or secondary objective. As such there is wide variation in how those activities that are not primarily targeted towards biodiversity (i.e. tagged “Biodiversity 1”) are attributed

financially. The EU has been attributing 40% of budgets for projects that are Biodiversity 1 and that standard approach, although used by most EU countries and the EC itself, has recently been criticized as too rough and is in need of revision.

### Biodiversity-related ODA by DAC members in 2013\*

USD million, bilateral commitments, current prices

| Bilateral contributions in 2013                          |                     |                       |        |
|----------------------------------------------------------|---------------------|-----------------------|--------|
| <i>Marker-based statistics, commitments, USD million</i> |                     |                       |        |
|                                                          | Principal objective | Significant objective | Total  |
| Australia                                                | 57.2                | 261.2                 | 318.4  |
| Austria                                                  | 14.1                | 33.5                  | 47.6   |
| Belgium                                                  | 22.1                | 147.4                 | 169.5  |
| Canada                                                   | 1.2                 | 54.3                  | 55.5   |
| Czech Republic                                           | 0.1                 | 3.8                   | 3.9    |
| Denmark                                                  | 0.2                 | 249.3                 | 249.5  |
| EU Institutions                                          | 68.2                | 851.3                 | 919.5  |
| Finland                                                  | 8.7                 | 10.9                  | 19.6   |
| France                                                   | 100.7               | 229.4                 | 330.1  |
| Germany                                                  | 559.6               | 441.4                 | 1001.0 |
| Greece                                                   | 0.1                 | 0.0                   | 0.1    |
| Iceland                                                  | 3.1                 | 2.0                   | 5.2    |
| Ireland                                                  | 0.1                 | 41.7                  | 41.9   |
| Italy                                                    | 10.8                | 66.6                  | 77.4   |
| Japan                                                    | 38.1                | 69.9                  | 107.9  |
| Korea                                                    | 10.1                | 45.4                  | 55.5   |
| Luxembourg                                               | 1.6                 | 10.3                  | 11.9   |
| Netherlands                                              | 3.5                 | 295.8                 | 299.3  |
| New Zealand                                              | 3.5                 | 8.0                   | 11.5   |
| Norway                                                   | 106.8               | 415.1                 | 521.9  |
| Poland                                                   | 0.0                 | 1.0                   | 1.0    |
| Portugal                                                 | 0.1                 | 1.2                   | 1.3    |
| Slovak Republic                                          | 0.0                 | 0.5                   | 0.5    |
| Slovenia                                                 | N/K                 | N/K                   | N/K    |
| Spain                                                    | 1.7                 | 48.7                  | 50.5   |

|                |               |               |               |
|----------------|---------------|---------------|---------------|
| Sweden         | 45.1          | 402.3         | 447.4         |
| Switzerland    | 70.4          | 87.5          | 157.9         |
| United Kingdom | 20.5          | 213.4         | 234.0         |
| United States  | 342.7         | 508.8         | 851.5         |
| <b>Total</b>   | <b>1490.6</b> | <b>4500.7</b> | <b>5991.3</b> |

*\*Based on data reported to the DAC CRS as of January 2015. Slovenia is not yet applying the biodiversity marker.*

The above table for Rio Markers (OECD DAC) shows that for 2013, commitments targeting biodiversity as a “significant” objective are three times the size of commitments targeting biodiversity as a “principal” objective. As such, the quantitative treatment of “significant” commitments becomes a high priority to determine accurate estimates of quantified biodiversity-related development finance.

### 3.2 BIOFIN Workbook

As mentioned earlier, UNDP recently launched its “Biodiversity Finance Initiative” which has now grown to encompass 29 countries. As part of this work, UNDP developed a methodology, captured in its BIOFIN Workbook (see [www.biodiversityfinance.net](http://www.biodiversityfinance.net)). The BIOFIN approach has the following elements:

*Policy Review:* The process begins with a policy review, focusing on key drivers of change to biodiversity (if a country has completed its 5<sup>th</sup> National Report, this information can directly contribute to the policy review chapter). The policy review looks at negative and positive sectoral practices and policy drivers (e.g., overharvesting), as well as the broader policy environment factors (e.g., law enforcement). There is a strong emphasis on understanding the root causes of change.

- *Institutional Review:* The second step, often closely linked to the first, is an institutional review, with the focus on identifying the impacts, dependencies, costs and benefits of key actors related to both positive and negative drivers of biodiversity change. This review also looks at key roles, responsibilities and capacities in finance, related to issues such as budgeting, accessing, disbursing, reporting and spending of funds.
- *Expenditure review:* The third step is to conduct a review of public and private expenditures on biodiversity. This process includes analyzing in detail all expenditures of the key finance actors identified in the policy and institutional reviews in order to develop a baseline of past expenditures, as well as a projection of future expenditures.
- *Costing of NBSAP actions:* The fourth step is to identify the costs associated with implementing each of the actions within the national biodiversity strategies and action plans (NBSAPs). The focus is on an activity-based cost accounting method, whereby each action is aggregated into specific per-unit costs. This step also looks at the financial gap between the projected future expenditures and the likely costs. This is the finance gap, which is the focus of the final step.
- *Resource mobilization planning:* The final step is to develop a resource mobilization plan to fill the finance gap identified in the previous step. In this analysis, the team identifies

biodiversity finance opportunities, actors, mechanisms and revenue potential, and identifies and prioritizes key actions required to fill the finance gap.

### 3.3 Switzerland

Switzerland has provided significant feedback on the Preliminary Reporting Framework for both international and domestic expenditure reporting.<sup>2</sup> The following table shows how Switzerland applied a “BD-factor” or a coefficient (%) that they can multiply against the total expenditure of an activity to calculate the percentage that is attribute to biodiversity.

Table 2 The BD-factor identified by Switzerland in their 2012 CBD submission<sup>3</sup>

| ESTIMATED Relevance FOR THE CBD OBJECTIVES                            | BIODIVERSITY FACTOR |      |
|-----------------------------------------------------------------------|---------------------|------|
|                                                                       | Value (0-1)         | %    |
| BUDGETARY ITEM SUPPORTS CBD’S OBJECTIVES TO ITS FULL EXTENT           | 1.00                | 100% |
| BUDGETARY ITEM SUPPORTS CBD’S OBJECTIVES SIGNIFICANTLY                | 0.75                | 75%  |
| ABOUT HALF OF THE BUDGETARY ITEM SUPPORTS CBD’S OBJECTIVES            | 0.50                | 50%  |
| BUDGETARY ITEM CONTRIBUTES To CBD’S OBJECTIVES FOR the SMALLER PART   | 0.25                | 25%  |
| A MINOR PART OF THE BUDGETARY ITEM CONTRIBUTES TO CBD’S OBJECTIVES    | 0.10                | 10%  |
| A MARGINAL PART OF THE BUDGETARY ITEM CONTRIBUTES TO CBD’S OBJECTIVES | 0.05                | 5%   |

Switzerland conducted surveys of both private sector companies and Swiss NGOs to assess their international contribution to Biodiversity and Ecosystem Services. It was very difficult for the private sector especially to report on international vs national spending due to complex supply chains and the international nature of modern business. The NGOs were better able to report directly and through their annual reports which were reviewed. Detailed review of the Swiss methodology is included in their submissions to the CBD. These submissions include a review of the Reporting Framework. As a result of limitations on certain aspects of both the OECD RIO Markers methodology and the reporting framework itself, Switzerland was not able to provide a complete assessment of its international contribution as requested.<sup>4</sup>

<http://www.cbd.int/financial/finreporting/WGRI5-SwissReportingFinance.ppt>

<sup>2</sup> See <http://www.cbd.int/financial/reporting.shtml>

<sup>3</sup> <http://www.cbd.int/financial/doc/switzerland-funding-biodiversity-en.pdf>

<sup>4</sup> <http://www.cbd.int/financial/oda/switzerland-additional-information-en.pdf>

Switzerland's methodology of establishing a Biodiversity factor (BD-factor, coefficient) has been described above. An example of the utilization of the approach is provided in Table 3 **Error! Reference source not found.** for federal domestic biodiversity expenditures. Similar analyses were conducted for Canton and Municipalities as well as the private sector.

Table 3 Switzerland Federal Domestic Budget excluding Official Development Assistance and intramural research and development expenditures.

| Code                                                     | Category                                         | Total expense<br>in Millions of<br>CHF annual<br>(fiscal year<br>2009) | BD- factor | Expenses<br>supporting<br>the CBD<br>targets in<br>Millions of<br>CHF annual<br>(fiscal year:<br>2009) |
|----------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------|
| 311                                                      | Museums and fine arts                            | 35.4                                                                   | 0.05       | 1.8                                                                                                    |
| 741                                                      | Water engineering                                | 149.2                                                                  | 0.10       | 14.9                                                                                                   |
| 750                                                      | Species conservation and<br>landscape protection | 103.0                                                                  | .75        | 77.3                                                                                                   |
| 761                                                      | Air Pollution control and<br>climate protection  | 121.1                                                                  | 0.10       | 12.1                                                                                                   |
| 769                                                      | Countering environmental<br>pollution, NES*      | 6.7                                                                    | 0.25       | 1.7                                                                                                    |
| 779                                                      | Environmental protection,<br>NES*                | 134.8                                                                  | 0.25       | 33.7                                                                                                   |
| 790                                                      | Regional development                             | 13                                                                     | 0.10       | 1.3                                                                                                    |
| 813**                                                    | Improvement of animal<br>breed                   | 442.0                                                                  | 0.05       | 22.1                                                                                                   |
| 814**                                                    | Improvement of crop<br>production                | 101.6                                                                  | 0.1        | 10.2                                                                                                   |
| 816                                                      | Agriculture: direct support<br>schemes           | 2742.2                                                                 | 0.10       | 274.2                                                                                                  |
| 820                                                      | Forestry                                         | 26.6                                                                   | 0.10       | 2.7                                                                                                    |
| 830                                                      | Hunting and fisheries                            | 7.5                                                                    | 0.25       | 1.9                                                                                                    |
| <b>Total expenses supporting the CBD in Millions CHF</b> |                                                  |                                                                        |            | 453.7                                                                                                  |

\* NES, not elsewhere specified

\*\* Includes conservation and sustainable use of genetic resources.

Of particular note is that the largest contribution to biodiversity expenditure at this Federal level comes from Agriculture: direct support schemes which although it attributed to biodiversity using the BD-factor of only 10%, contributes well over 50% to the total investment in domestic biodiversity. This example shows the importance of attribution of secondary biodiversity expenditures and also the sensitivity of coefficient choices.

Switzerland has made significant progress on assessing the private sector's contribution to biodiversity expenditures but the methodology is not yet at a point where the party is confident of the results. In fact, the recent submission to the CBD (2014) indicates that work is ongoing to improve the methodology. The work is being implemented in collaboration with the Swiss Federal Office for Statistics (BFS) who carry out surveys for specific information collection with the private sector and multiple other sources.<sup>5</sup>

The BFS cites the following areas of study: environmental protection global expenditure, corporate environmental protection expenditure, fiscal levies related to the environment, and environmental goods and services.

The main category of biodiversity expenditure tracking is under the rubric of "Environmental Protection Expenditure" as with SEEA. The Swiss Federal Office for Statistics website describes the work as such: "The protection of the environment requires significant expenditures to reduce the impact of human activities. This is especially true for companies that have significant compliance expenses. How much do they spend on environmental protection? In what environmental area? What are the impacts on competitiveness? To what extent is the polluter pays principle implemented? To what extent does improved (cleaner) production technologies – that reduce pollution at source – take precedence over end-of-pipe measures? It is to these questions, and many others, that the present study seeks to address."<sup>6</sup>

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Over the last few years, the Swiss Federal Office for the Environment (FOEN) organized three meetings with representatives from the private sector. The events are not directly linked with reporting but are an important element to maintain the dialogue between the Swiss government and private sector actors:

- 2011: Business and Biodiversity event in Gland, organized by IUCN
- 2013: Workshop Business and Biodiversity, organized by FOEN in Bern

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<sup>5</sup> See for example:

[http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen\\_quellen/blank/blank/umweltkonten/02/01.html](http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen_quellen/blank/blank/umweltkonten/02/01.html)

<sup>6</sup> See for example:

[http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen\\_quellen/blank/blank/umweltkonten/02/01.html](http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen_quellen/blank/blank/umweltkonten/02/01.html)

- 2014: Swifcob, organized by Swiss Biodiversity Forum and FOEN about the value of biodiversity and ecosystem services for businesses [http://www.naturalsciences.ch/organisations/biodiversity/events/swifcob/14\\_2014](http://www.naturalsciences.ch/organisations/biodiversity/events/swifcob/14_2014)

Furthermore, the private sector was represented at CBD COP-10, COP-11 and COP-12.

Regular contact with the private sector takes place related to the ratification and implementation of the Nagoya Protocol.

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### 3.4 United Kingdom

The United Kingdom has conducted a detailed assessment of their domestic and overseas spending on biodiversity and a large part of the methodology is available.<sup>7</sup> Some detail on the methodology is provided here.

In general spending on biodiversity is disaggregated into the following categories:

- spending directly on reserves and conservation measures
- related spending on administration and training
- relevant research and development; and
- whether the spending is direct on biodiversity, or through transfer payments to other organizations (in order to remove double counting<sup>8</sup> of financial flows).

In reality, expenditures rarely contain only biodiversity elements and a judgment is required. One particular example is Defra's agri-environmental schemes where an estimate was made of the proportion of total scheme spending that is biodiversity-related. As well, many expenditure items are designed to meet multiple policy objectives. For example tree planting promotes biodiversity yet may be driven by landscaping demands. An assessment by experts of the appropriate share of any spending which can be attributed to biodiversity should account for issues such as the quality of conservation measures and the intentions of the expenditure. The UK methodology also suggests separating out expenditures that create "access" to nature – i.e. forestry roads, as compared with actual benefits to nature. Even spending on National Parks was not all considered "Biodiversity." Of note is that the UK methodology completely focused on the SEEA (CEPA) activity category called "Environmental Protection Expenditure" (see Annexes) and generally excluded Natural Resource Management or Natural Resource Use – categories that are not as developed as Environmental Protection. However, the approach did include specific expenditures that are clearly attributed to biodiversity.

For example:

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<sup>7</sup> UK Biodiversity Indicators in Your Pocket 2013. Document supports E2. Expenditure on UK and international biodiversity. Technical annex –Public sector expenditure on UK and global biodiversity, Rocky Harris (Defra Environment Statistics). For further information on E2. Expenditure on UK and international biodiversity visit <http://www.jncc.defra.gov.uk/page-4251> For further information on BIYP visit <http://www.jncc.defra.gov.uk/page-1824>

<sup>8</sup> Double counting is a large issue in both international and national expenditure analysis

“gross expenditure by the Forestry Commission has been included, for the broad objective that includes biodiversity in the annual accounts for FC in England, Wales and Scotland; each includes a diverse range of activities in addition to the biodiversity-related activities outlined below. A typical activity is the expansion of native woodland, as this is an important habitat to native animal and plant species. Other activities include SSSI management, creating linkages to isolated woodland remnants and woodland glade management for key moth and butterfly species living in the forests.”<sup>9</sup>

This example highlights the complexity and cross-disciplinary nature of the majority of expenditures on biodiversity.

With regard to spending in the UK’s overseas territories – this was included in international biodiversity expenditures and included the Overseas Territories Environmental Programme (provided by the Foreign and Commonwealth Office and DfID) and spending by the Royal Botanic Gardens, Kew and the Ministry of Defence (MOD).

The management of wildlife trade and international wildlife crime is included through estimates of departmental costs involved in monitoring and controlling the trade in endangered species (CITES). Additionally, in assessing spending on international aid as part of wider initiatives a number of programmes were identified and allocated to biodiversity including the Darwin Initiative (Defra), the Flagship Species Fund (Defra), the Global Environment Facility (DfID), the Overseas Territories Environmental Programme (FCO, DfID) and the Global Opportunities Fund (FCO). Where it was possible (data available) expenditure relating to biodiversity protection were separated out from general environmental spending. When not possible, estimates were made as to what percentage of the total spending could be attributed towards biodiversity protection. These estimates were generally made through contacting the responsible person in the organisations concerned. Where data were not available or information not accessible, expert judgment was used but has limitations: “The process by which experts arrive at their judgment may not be documented, and subsequent assessments may not be made on a consistent basis. Also, these experts may have a different view of what constitutes spending on biodiversity and hence the estimates they supply may not always be directly comparable.”<sup>10</sup>

The main results of the UK analysis for both international and domestic biodiversity expenditures are presented below in Figure 1 and Table 4.

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<sup>9</sup> Source: <http://jncc.defra.gov.uk/page-4251> accessed 18 March 2015

<sup>10</sup> Ibid

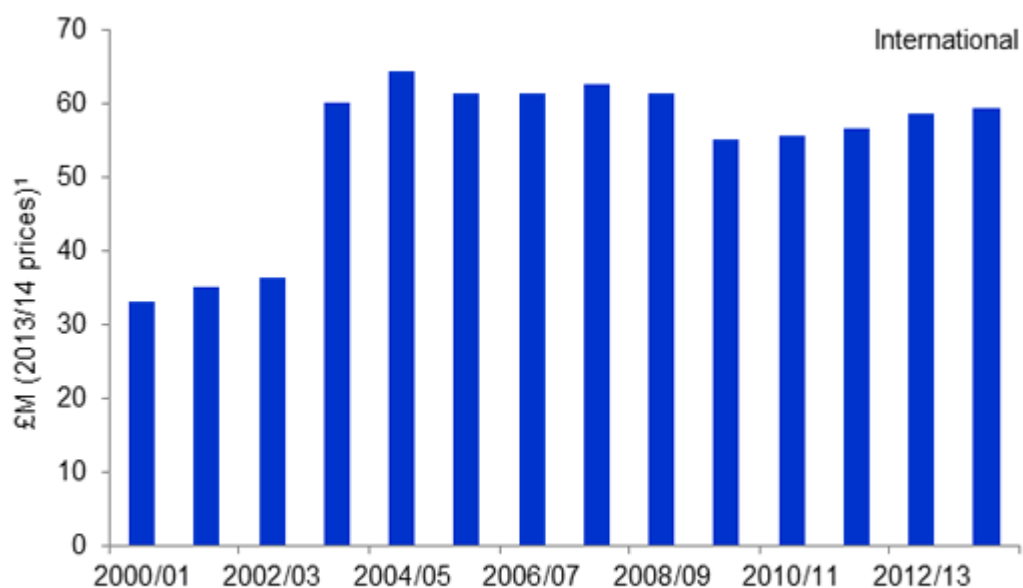


Figure 1 International Biodiversity Expenditures by the United Kingdom (Source: <http://jncc.defra.gov.uk/page-4251> accessed 18 March 2015)

Table 4 E2 Public sector expenditure on UK biodiversity: 2000-1 to 2012-13<sup>1</sup>

| Year    | GDP (£M)  | Expenditure on BioD in UK (£M) | Percentage spend of GDP | Expenditure on BioD Internationally (£M) |
|---------|-----------|--------------------------------|-------------------------|------------------------------------------|
| 2000-1  | 1,332,043 | 268                            | 0.020                   | 32                                       |
| 2001-2  | 1,347,746 | 301                            | 0.022                   | 34                                       |
| 2002-3  | 1,390,179 | 326                            | 0.023                   | 35                                       |
| 2003-4  | 1,446,190 | 351                            | 0.024                   | 59                                       |
| 2004-5  | 1,486,000 | 399                            | 0.027                   | 63                                       |
| 2005-6  | 1,537,594 | 438                            | 0.028                   | 61                                       |
| 2006-7  | 1,580,565 | 481                            | 0.030                   | 61                                       |
| 2007-8  | 1,629,519 | 573                            | 0.035                   | 62                                       |
| 2008-9  | 1,578,959 | 588                            | 0.037                   | 61                                       |
| 2009-10 | 1,525,806 | 569                            | 0.037                   | 54                                       |
| 2010-11 | 1,559,649 | 551                            | 0.035                   | 55                                       |
| 2011-12 | 1,568,118 | 468                            | 0.030                   | 55                                       |
| 2012-13 | 1,568,241 | 471                            | 0.030                   | 56                                       |

<sup>1</sup>Deflated using UK GDP deflator.

Source: Defra, Includes only spending provided solely for the protection and promotion of biodiversity. Expenditure generally excludes operational costs.<sup>11</sup>

The United Kingdom has provided a detailed report with some methodological guidance for its domestic expenditures on biodiversity. Most of the information is captured in “UK Biodiversity Indicators in Your Pocket 2013. Document supports E2. Expenditure on UK and international biodiversity. Technical annex –Public sector expenditure on UK and global biodiversity, Rocky Harris (Defra Environment Statistics)”.<sup>12</sup> The results of the UK domestic expenditure analysis is provided in Figure 2.

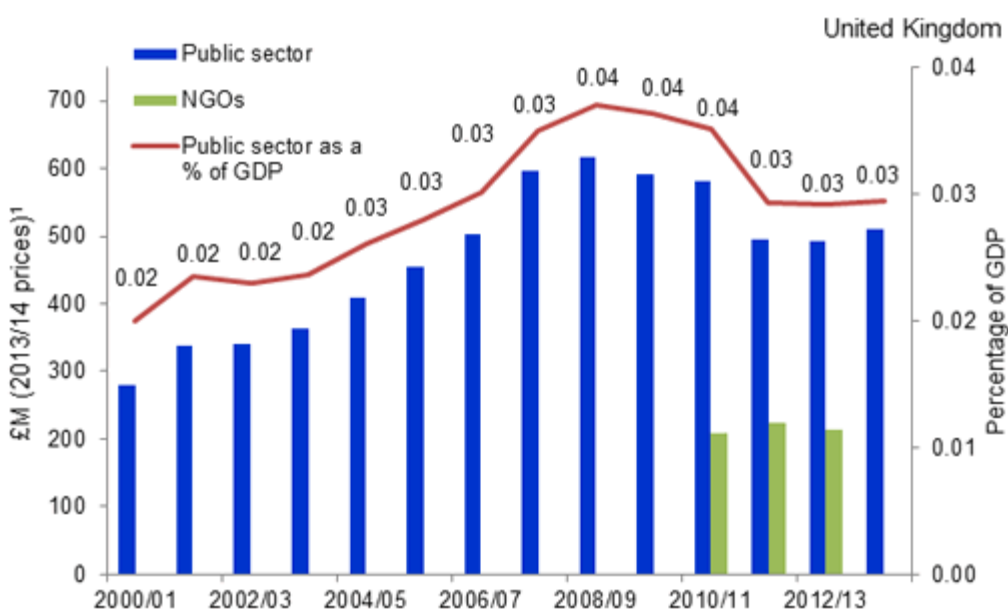


Figure 2 United Kingdom domestic expenditure on biodiversity 2001-2013<sup>13</sup>

The United Kingdom has sought to include NGO expenditures more completely in their CBD financial reporting. The methodology is summarized in a Background Methods Paper.<sup>14</sup> The following paragraphs summarize these methods.

The NGO’s with a primary focus on biodiversity or nature were selected. Focusing on Link members (association of nature based NGOs) pre-selected NGOs. The sample also included 13 of the 47 Wildlife Trusts with the highest annual turnover in England and Scotland and some other

<sup>11</sup> Source: <http://jncc.defra.gov.uk/page-4251> accessed 18 March 2015

<sup>12</sup> For further information on E2. Expenditure on UK and international biodiversity visit <http://www.jncc.defra.gov.uk/page-4251>

For further information on BIYP visit <http://www.jncc.defra.gov.uk/page-1824>

<sup>13</sup> <http://jncc.defra.gov.uk/page-4251> visited March 18th 2015

<sup>14</sup> [http://jncc.defra.gov.uk/Docs/biyp2014\\_E2\\_TechBG\\_final.doc](http://jncc.defra.gov.uk/Docs/biyp2014_E2_TechBG_final.doc)

NGOs (not members of Link) that have a biodiversity / nature focus. Data was collected mostly from published NGO annual accounts and financial reports. [Almost all of these NGOs are registered charities publish detailed annual financial reports are published on the [Charity Commission website](#). In some cases data was collected directly from the NGO. Because the public sector data excluded administrative staff costs, those costs associated with administering biodiversity focused programs were excluded. Given the pre-selection, the analysis was able to include all money spent on 'Charitable Activities' as used as the estimate of annual biodiversity spending.

As with most cases, the risk of double counting must be managed as some of the grants and other payments are coming from the government to NGOs and these are already counted in the public sector stream. Where the NGOs list specific grants received and the value of these grants in their statement of financial activities, it was possible to identify public sector grants and calculate the proportion of each NGO's total income from the public. Then initial estimate of the NGO's expenditure on biodiversity is multiplied by the proportion of total income not from the public sector to produce the final estimate. Where published data was inadequate for detailed analysis, and the total expenditure of the NGO was very large (>1% of total) the organization was contacted directly. Data were converted to "real" figures (from nominal) using the UK Gross Domestic Product Deflator.

### **3.5 France**

France has submitted a complete report on international and national biodiversity expenditures to the CBD but considers the report to be a work in progress as the country is still seeking to refine a range of areas that require additional study and analysis. Much of the information provided by France to the CBD was from a series of reports cited in the submission<sup>15</sup>.

France's report to the CBD for international biodiversity flows is provided in Figure 3.

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<sup>15</sup> Commissariat général au développement durable – Service de l'observation et des statistiques.

[http://www.statistiques.developpement-durable.gouv.fr/fileadmin/documents/Produits\\_editoriaux/Publications/References/2013/compte-environnement/references-economie-environnement-en-2011-edition-2013-2.pdf](http://www.statistiques.developpement-durable.gouv.fr/fileadmin/documents/Produits_editoriaux/Publications/References/2013/compte-environnement/references-economie-environnement-en-2011-edition-2013-2.pdf)

See also Centre d'Echange français pour la Convention sur la diversité biologique : Portail de la biodiversité en France pour la Convention sur la diversité biologique, <http://biodiv.mnhn.fr/fr/>

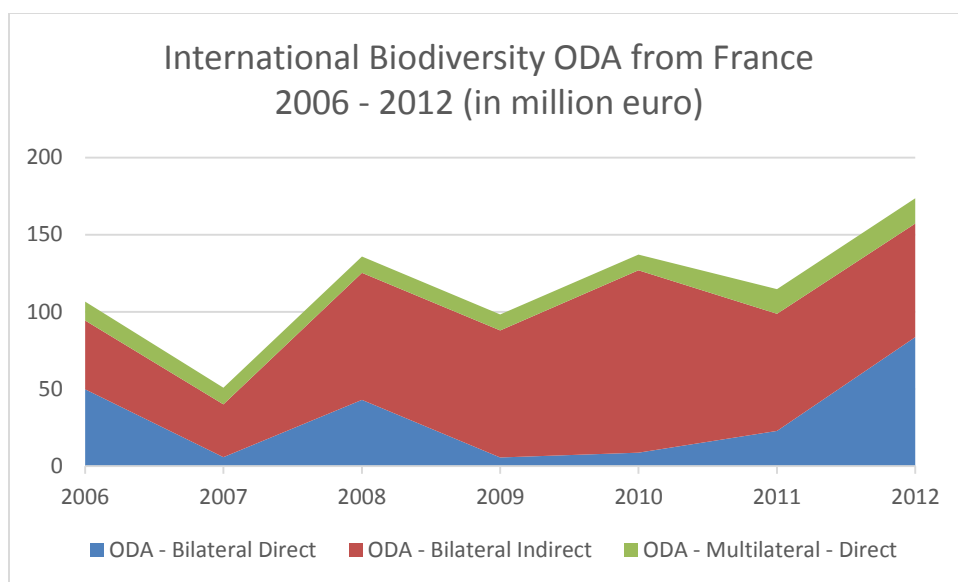


Figure 3 Graphical representation of France’s CBD submission (see <http://www.cbd.int/financial/reporting.shtml>).

France also has developed an approach to systematically gather financial expenditure data from French NGOs and private foundations that could be useful for the larger discussion of both international and national expenditure reviews.

The proposed accounting method<sup>16</sup> applies to NGOs and research organizations and is based on the 3 degrees of the OECD Rio Markers.

- 2 - Principal objective - full funding (100%) is counted
- 1 - Significant but secondary contribution – see table below.
- 0 - Absence of significant contribution – funding not counted.

Table 5 Proposed Attribution (Coefficients) for France’s Biodiversity Expenditures for NGOs and Research Organizations.

| Activity Type                             | Examples                                                                                                                  | Proportion of total financing attributable as “favourable to biodiversity” |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Projects Rio Biodiversity Marker 2</b> | Protected Areas<br>Support to Environmental NGOs<br>Biodiversity Trust Funds<br>Direct Budget Assistance for Biodiversity | 100%                                                                       |
| <b>Projects Rio Biodiversity</b>          | Sustainable Forest Management                                                                                             | 80%                                                                        |

<sup>16</sup> Below is from Methode de Comptabilisation Proposée par l’AFD [http://www.fondationbiodiversite.fr/images/stories/telechargement/IPBES/Methode\\_de\\_comptabilisation\\_www\\_23052014-1.pdf](http://www.fondationbiodiversite.fr/images/stories/telechargement/IPBES/Methode_de_comptabilisation_www_23052014-1.pdf) and see AFD Biodiversity 2013-2016 CIT.

|                                           |                                                                                                                                                                                           |      |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Marker 1</b>                           | REDD+<br>Sustainable Fisheries Management<br>Ecological Restauration                                                                                                                      |      |
| <b>Projects Rio Biodiversity Marker 1</b> | Agro-ecology<br>Pastoralism and nomadic livelihoods<br>Organic and Fair Trade Supply Chains<br>Sustainable watershed management<br>Water treatment<br>Integrated water systems management | 30%  |
| <b>Projects Rio Biodiversity Marker 1</b> | Urban biodiversity development<br>Responsible waste treatment<br>Reduced impact waste<br>Credit availability for environment (non-climate related)                                        | 5%   |
| <b>Communication</b>                      | Activities with a biodiversity component                                                                                                                                                  | 50%  |
| <b>Knowledge generation</b>               | Studies dedicated to biodiversity                                                                                                                                                         | 100% |

France assessed both directly and indirectly biodiversity related expenditures. The total average expenditure from 2007 through 2011 was 1828 million euros per year. Data were generated from various environmental accounts.<sup>17</sup> It was not possible to distinguish among the activities were direct or indirectly related to biodiversity. All activities are attributed to “protection of biodiversity and landscapes”, « protection de la biodiversité et des paysages » and include administrative management costs. Regional (provincial budgets) group the Regional expenses, Departments, and Water Authorities. Private sector expenses are businesses expenses. The category “other” groups household expenses which are in general contributions to various NGOs and associations.

The results of the analysis are presented in Table 6.

**Table 6 Baseline Domestic Biodiversity Expenditures from France (in millions €)<sup>18</sup>**

| Million €                             | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------------------------------|------|------|------|------|------|
| 2.1.1 Gov. budgets - Central          | 206  | 263  | 296  | 317  | 333  |
| 2.1.2 Gov. budgets - State/Provincial | 399  | 422  | 454  | 470  | 524  |
| 2.1.3 Gov. budgets - Local/Municipal  | 459  | 499  | 542  | 607  | 732  |

<sup>17</sup> Sources : Ministère de l’écologie, du développement durable et de l’énergie – CGDD – Service d’observation et des statistiques, 2013, L’économie de l’environnement en 2011. Rapport de la Commission des comptes et de l’économie de l’environnement .pp. 71-78 see [http://www.statistiques.developpement-durable.gouv.fr/fileadmin/documents/Produits\\_editoriaux/Publications/References/2013/compte-environnement/references-economie-environnement-en-2011-edition-2013-2.pdf](http://www.statistiques.developpement-durable.gouv.fr/fileadmin/documents/Produits_editoriaux/Publications/References/2013/compte-environnement/references-economie-environnement-en-2011-edition-2013-2.pdf)

<sup>18</sup> From CBD submission: <http://www.cbd.int/financial/oda/france-preliminary-reporting-framework-2014-en.xlsx>

|                                            |      |      |      |      |      |
|--------------------------------------------|------|------|------|------|------|
| 2.2 Private/ Market                        | 390  | 362  | 355  | 377  | 405  |
| 2.3 Other (NGOs, foundation, and academia) | 119  | 139  | 148  | 155  | 166  |
| Total                                      | 1573 | 1685 | 1795 | 1926 | 2160 |

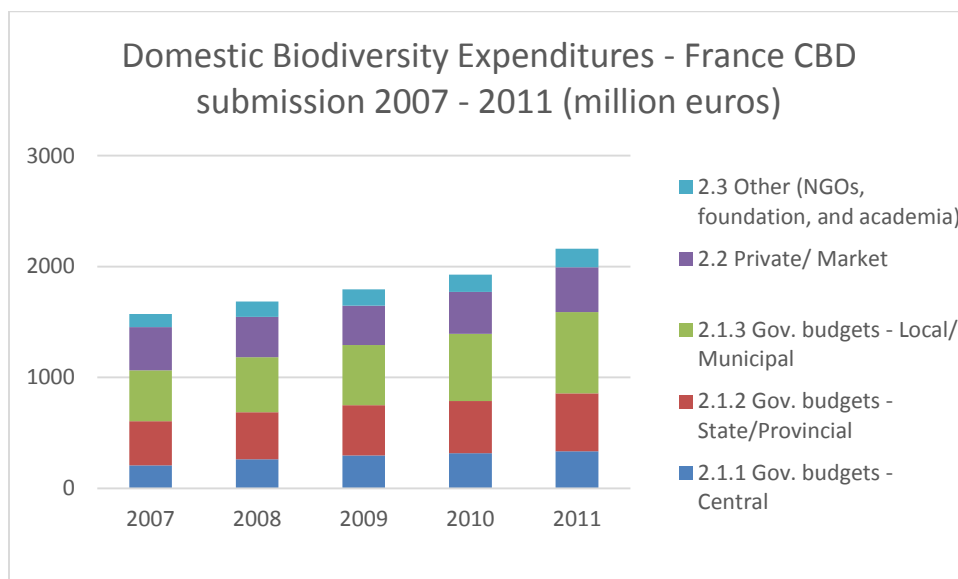


Figure 4 Chart of France's baseline biodiversity expenditures showing sub-national breakdown (Source: France's CBD submission).

### 3.6 Germany's approach to assessing international biodiversity-related funding

Germany conducted an analysis of its international expenditures on biodiversity that is detailed in the report: Committed to Biodiversity: Germany's International Cooperation in Support of the Convention on Biological Diversity for Sustainable Development. Federal Ministry for Economic Cooperation and Development (BMZ) and Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). 2014<sup>19</sup> The following methodology description is copied verbatim from the report and supporting documentation provided by BMZ.

In order to assess and qualify its commitments to biodiversity, BMZ follows the established system of OECD-DAC Creditor Reporting System (CRS) codes and the Rio Markers, which aim at monitoring ODA flows towards the objectives of the Rio Conventions. The Rio Marker for biodiversity is also used to quantify ODA allocations for biodiversity. For measuring the corresponding financial ODA contribution to biodiversity conservation, each project and programme is assessed in terms of its support to achieving at least one of the three objectives of the Convention on Biological Diversity (CBD) (1) conservation, 2) sustainable use of biodiversity, and 3) the fair and equitable sharing of benefits). Only those projects with the main focus and the

<sup>19</sup> <http://www.bmub.bund.de/en/service/publications/downloads/details/artikel/committed-to-biodiversity/>

principal objective on the support of the implementation of the CBD can be assigned the biodiversity Rio Marker 2. As for the accounting of funding volume, activities scoring Rio Marker 2 for biodiversity are calculated as 100% contribution towards the German ODA commitment for biological diversity.

To further mainstream and integrate biodiversity conservation into other sectors and focal areas of development cooperation according to the CBD Strategic Plan (2011-2020), since 2012 so called Biodiversity “sectoral components” are integrated into projects and programmes with other principal objectives such as water and sustainable land management, agriculture and food security, energy, education or governance. These biodiversity “sectoral components” have to contribute to at least one of the three objectives of the CBD, and have to be represented in project planning, implementation and monitoring being captured by one or more specific indicators. The whole project or programme is then considered to have biodiversity conservation as a significant objective and can therefore be assigned the biodiversity Rio Marker 1.

When it comes to reporting for biodiversity purposes, only the volume of the specific biodiversity “sectoral component” of the project or programme (marked biodiversity Rio Marker 1) will be counted as a contribution towards biodiversity conservation. The remaining amount of the other project or programme components is not reported as a contribution to biodiversity conservation. This methodology ensures that only that part of a project or programme which clearly supports one of the objectives of the CBD is measured and reported. Given different options and scopes for “sectoral components” in different sectors, the percentage of a specific biodiversity “sectoral component” of the overall project or programme will naturally vary from project to project.

*A simplified and abstract example for the calculation of a project with a sectoral component which would be assigned Rio Marker Biodiv – 1:*

*A project for securing the water supply in a partner country has a German contribution of €4 million. Its principal objective is the improvement of the water supply in the country or a specific region. The overall project impact is measured with four indicators. For improving the water quality in the region, it is crucial to restore and sustainably manage a watershed. Measures such as natural reforestation, the collection of data on relevant ecosystems related to the water supply and the development of approaches for payments for environmental services (PES) contribute strongly to the improvement of biodiversity and are therefore considered a biodiversity “sectoral component”. For this “sectoral component” an amount of €1 million is foreseen. The improvement of biodiversity is measured with one of the four project or programme indicators. As this indicator contributes directly to one of the CBD objectives it is accounted 100 % as a contribution towards biodiversity. The other three indicators are not contributing directly and explicitly to biodiversity and are accounted 0 %. Thus, out of the overall funding volume of €4 million, only €1 million are accounted as a contribution to biodiversity.*

Overview of Germany’s Biodiversity reporting

|                       |                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------|
| Rio Marker Biodiv – 2 | The entire financial volume (100%) of the project or programme is accounted as a contribution to biodiversity. |
|-----------------------|----------------------------------------------------------------------------------------------------------------|

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rio Marker Biodiv – 1<br>(since 2011) | A project accounts only with a certain amount of the overall financial volume as contribution to biodiversity. The specific amount depends on the positive impact on biodiversity that can be monitored through at least one specific indicator which aims at directly and explicitly fulfilling one or more of the three objectives of the CBD. If an indicator meets these criteria the funding proportion of the “sectoral component” contributing to this indicator is fully accounted. The remaining volume of the project or programme is not accounted as a contribution towards biodiversity. |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

In order to facilitate the integration of biodiversity aspects into other sectors which are crucial for the conservation and sustainable use of biological diversity, BMZ is in the process of developing a series of technical guides (“interface papers”) which illustrate realistic potentials for biodiversity mainstreaming into other sectors (such as agriculture, water, energy, etc.). This will also provide guidance for counterparts, project developers and country officers when it comes to the design of new activities and components. The point of departure for such guidance forms again the established and recognized definition of the Rio Marker for biodiversity and the corresponding criteria for eligibility. The following illustrates examples for typical biodiversity-relevant components in other sectoral programmes:

| Sector                           | Biodiversity sectoral component                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agriculture                      | <ul style="list-style-type: none"> <li>- Support of agrobiodiversity in the context of sustainable land management</li> <li>- Support of organic farming with focus on conservation of biodiversity</li> </ul>                                                                                                                                                                                                                             |
| Water management                 | <ul style="list-style-type: none"> <li>- Protection and rehabilitation of water basins and integrated management of watersheds, discharging areas and river basins and preservation of water-related ecosystems</li> <li>- Use of ecological systems at the coastlines to prevent flooding as result of climate change (rehabilitation of mangrove systems)</li> </ul>                                                                     |
| Sustainable economic development | <ul style="list-style-type: none"> <li>- Assessment and conservation of ecosystem services</li> <li>- Development of incentive mechanisms for the conservation of biodiversity in the context of financial system development</li> <li>- Implementation of biodiversity-related measures in tourism management</li> <li>- Developing and applying methods and instruments to analyse, valorise, and preserve ecosystem services</li> </ul> |

|               |                                                                                                                                                                                                                                            |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education     | - Integration of biodiversity and environment components in curricula                                                                                                                                                                      |
| Policy Advise | - Policy advisory to implement the CBD objectives / the CBD Strategic Plan (2011-2020) within the context of environmental policy projects (e.g. as contribution to the implementation of the Nagoya Protocol on Access & Benefit Sharing) |

The results of Germany's assessment of international biodiversity expenditures is provided in Table 7.

Table 7 Germany's International Biodiversity Finance in € Million (2006–2013)

|                     | 2006      | 2007       | 2008       | 2009       | 2010       | 2011       | 2012       | 2013       |
|---------------------|-----------|------------|------------|------------|------------|------------|------------|------------|
| <b>BMZ ODA</b>      | 65        | 115        | 159        | 183        | 225        | 350*       | 406*       | 388        |
| <b>BILATERAL</b>    |           |            |            |            |            |            |            |            |
| <b>BMZ ODA</b>      | 10        | 10         | 10         | 13         | 37         | 22         | 25         | 42         |
| <b>MULTILATERAL</b> |           |            |            |            |            |            |            |            |
| <b>BMUB IKI**</b>   |           |            | 50         | 54         | 38         | 127*       | 104*       | 122*       |
| <b>TOTAL</b>        | <b>75</b> | <b>125</b> | <b>219</b> | <b>250</b> | <b>300</b> | <b>499</b> | <b>533</b> | <b>552</b> |

\*includes funding from a special fund sourced from emissions trading (Energy and Climate Fund, EKF);

\*\* includes ODA and EUR 19.3 million non-ODA funding (see [www.international-climate-initiative.com](http://www.international-climate-initiative.com))

Annual bilateral pledges and multilateral disbursements in the field of biodiversity and forest-related projects whose main focus and principal objective is to support at least one of the three objectives of the CBD. For details see table above. The graph also shows the average funding level for the years 2006–2010 (EUR 194 million), which is taken as baseline.

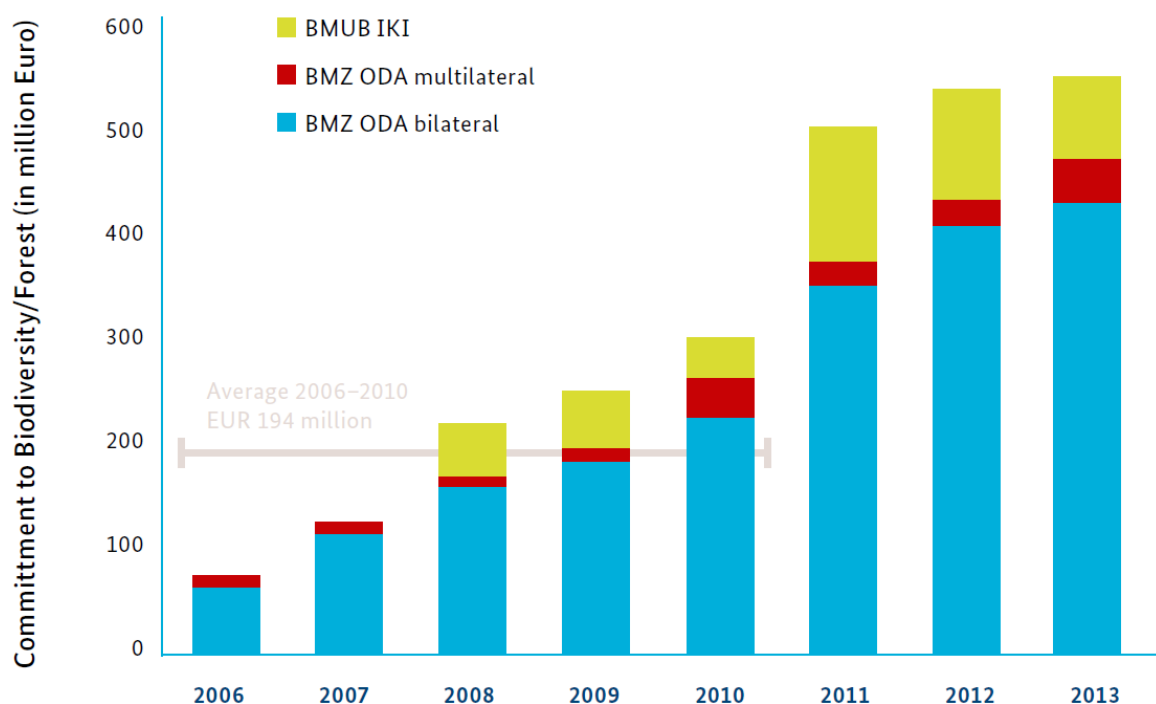


Figure 5 Summary Graph of Germany's International Biodiversity Investments 2006 - 2013<sup>20</sup>

### 3.7 Namibia

Namibia conducted a review of biodiversity expenditure over the financial years 2007/08 to 2012/13 as part of a wider study that also projected biodiversity expenditure in Namibia forwards under a business as usual scenario to 2020/21. The primary reference for this study was BIOFIN Workbook 1c.

A review of Namibian Government (GRN) expenditure estimated that real (2013 prices) GRN biodiversity expenditure increased from N\$533m in 2007/08 to N\$791m in 2011/12, before decreasing to N\$710m in 2012/13 (see Figure 1). Over this period, the Ministries of Environment and Tourism (MET); Agriculture, Water and Forestry (MAWF); and Fisheries and Marine

<sup>20</sup> Source: Page 8 *Committed to Biodiversity: Germany's International Cooperation in Support of the Convention on Biological Diversity for Sustainable Development*. Federal Ministry for Economic Cooperation and Development (BMZ) and Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). 2014

Resources (MFMR) are estimated to have accounted for more than 90% of GRN biodiversity expenditure.

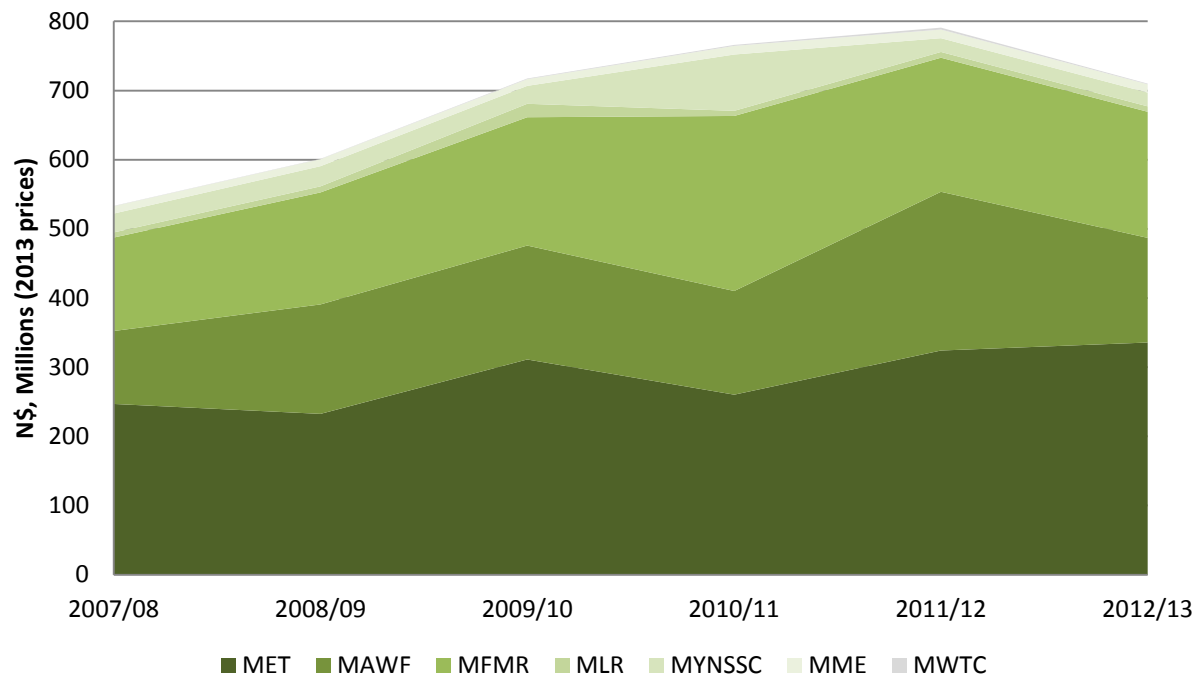


Figure 6 Real GRN Biodiversity Expenditure, 2007/08 – 2012/13

To put GRN biodiversity expenditure into context, it was compared to both total GRN expenditure and GDP. This revealed that since 2010/11, GRN biodiversity expenditure as a percentage of both total GRN expenditure and GDP had fallen (see Figure 2). In the case of its comparison to total GRN expenditure, this was a reduction of almost 0.7 percentage points from 2.4% to 1.7%.

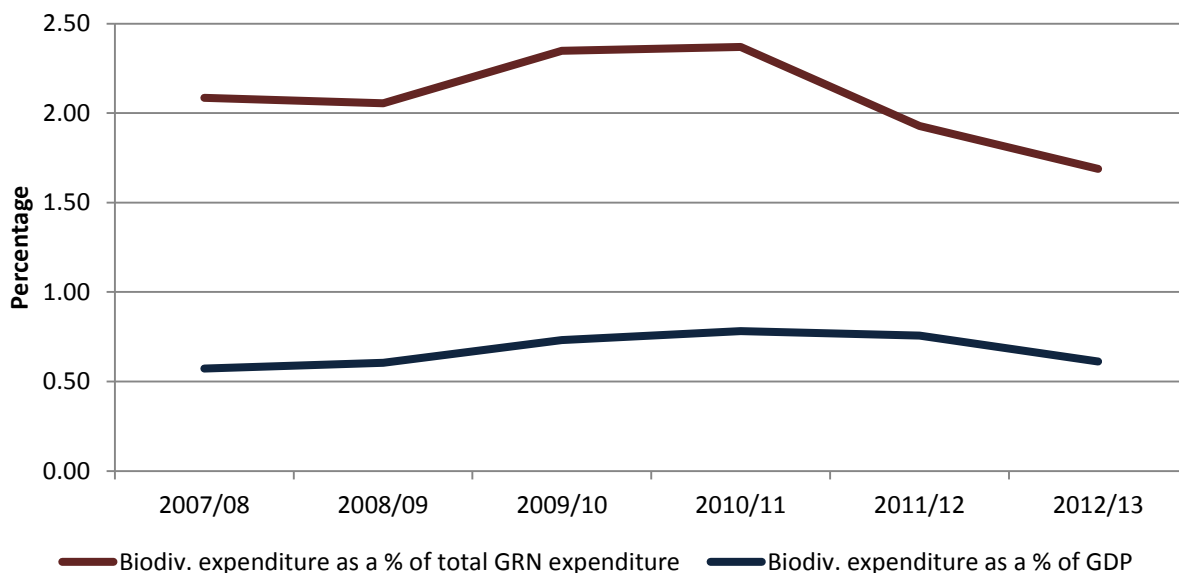


Figure 7 GRN Biodiversity Expenditure as a percentage of total GRN expenditure and GDP, 2007/08 – 2012/13

Non-GRN biodiversity expenditure in Namibia arises largely through donors. Real non-GRN biodiversity expenditure is estimated to have increased from approximately N\$210m in 2007/08 to more than N\$430m in 2012/13 (see Figure 3). More than 80% of that increase occurred after 2010/11, which in turn was driven by the United States Agency for International Development (USAID) funded MCA (Millenium Challenge Account) project. In the absence of the MCA project, non-GRN biodiversity expenditure would have likely fallen after 2010/11. The MCA project ended in 2014/15.

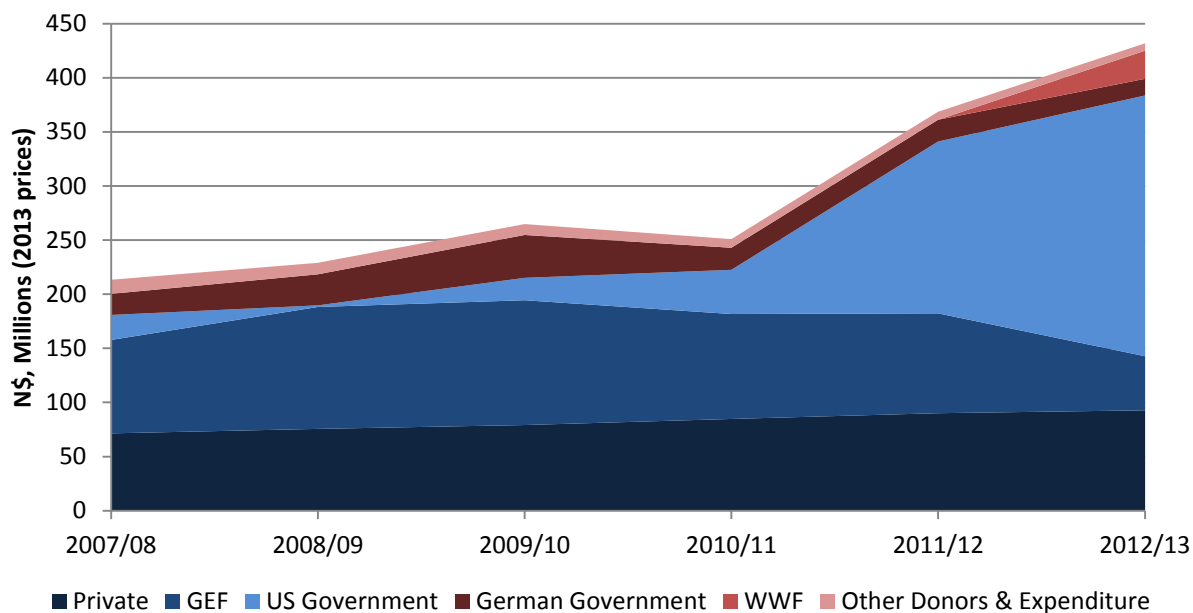


Figure 8 Real Non-GRN Biodiversity Expenditure, 2007/08 – 2012/13

Total biodiversity expenditure in Namibia was therefore estimated to have risen from N\$740m in 2007/08 to N\$1,140m in 2012/13 (see Figure 4). More than 30% of this increase occurred after 2010/11, which was primarily as a result of the MCA project and which accounted for more than 20% of total biodiversity expenditure in Namibia 2012/13 alone. GRN biodiversity expenditure accounted for between 62% (2012/13) and 75% (2010/11) of total biodiversity expenditure in Namibia.

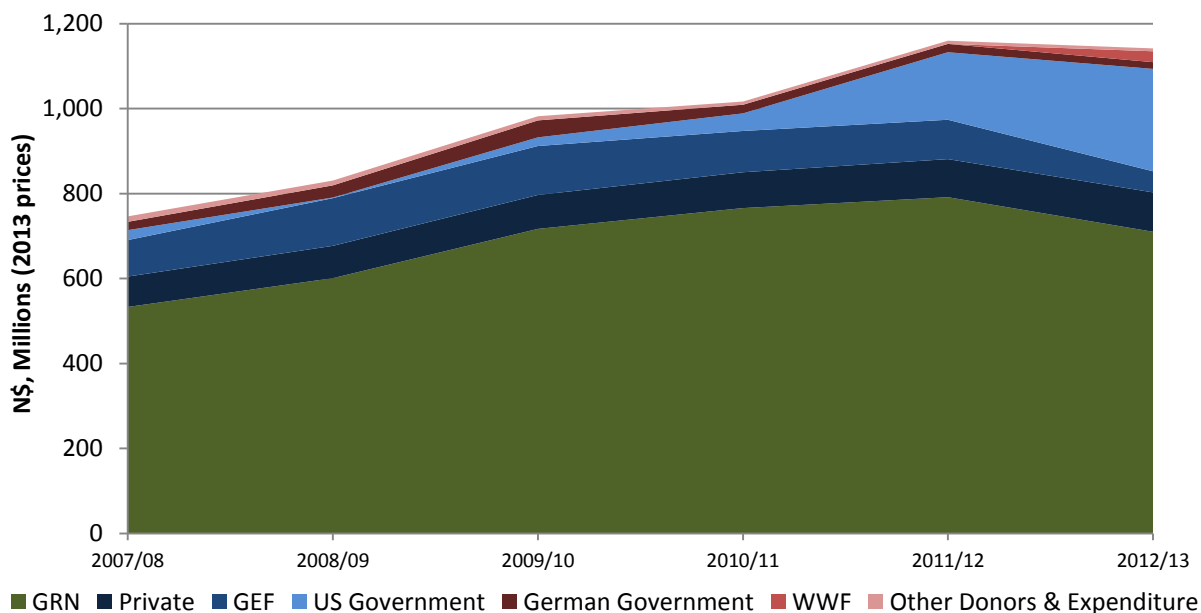


Figure 9 Real Total Biodiversity Expenditure, 2007/08 – 2012/13

Biodiversity expenditure was also disaggregated by the 5 strategies identified in the BIOFIN workbook (see figure 5). Protection strategies accounted for a minimum of 45% (2010/11) of biodiversity expenditure across the period, rising to as much as 61% in 2012/13. Expenditure on mainstreaming ranged from between 2.5% (2009/10) to 6% (2008/09).

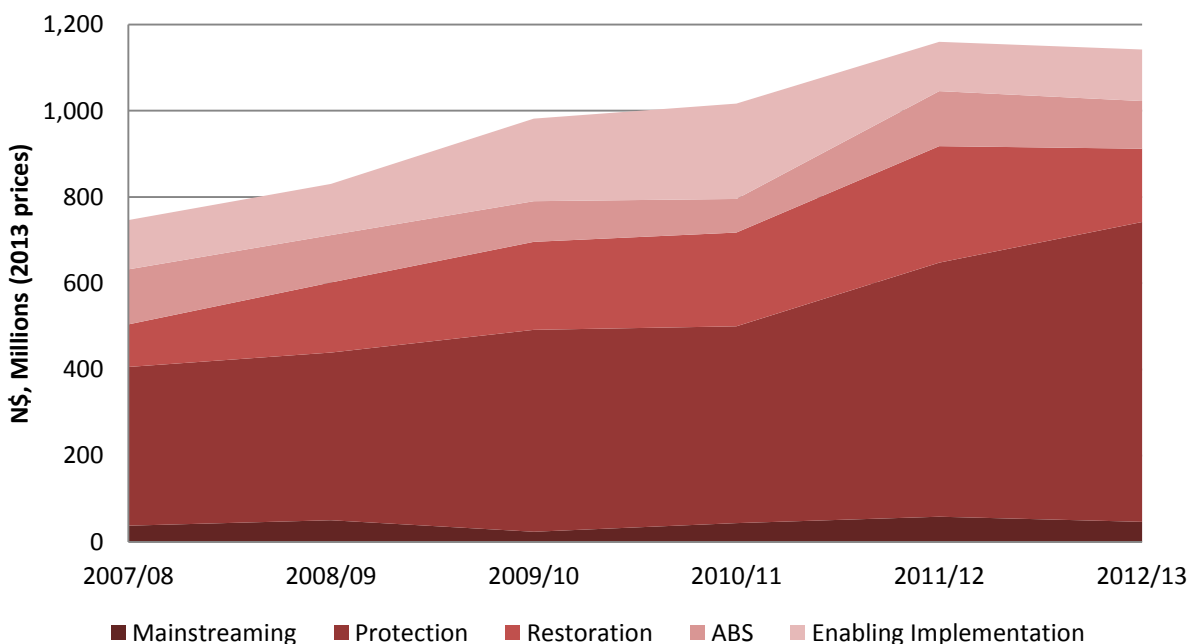


Figure 10 Real Total Biodiversity Expenditure by Strategy, 2007/08 – 2012/13

### 3.8 India

India conducted a comprehensive review of its domestic budget with regard to biodiversity. This review is described in India's recent NBSAP update – the NBAP 2014 Addendum to the NBAP 2008.<sup>21</sup> India began by determining which ministries and actors are contributing to biodiversity. The study team identified 77 financing programs (“schemes”) from 23 ministries (of 52 ministries) for their contribution to NBAP targets based on the budget year 2013-2014 in addition to the work undertaken by the Ministry of Environment, Forests, and Climate Change (MoEFCC). They divided their analysis into three types of budget categories:

“Core”: this is direct biodiversity funding from the Ministry of Environment, Forestry and Climate Change (MoEFCC) that has “direct and immediate biodiversity impact”. This includes funding for agencies that directly and purposefully consider biodiversity within their mandates.

“Non-Core: this is budget from the MoEFCC that is non-direct. This includes activities such as “pollution, hazardous substances management, etc., which facilitate biodiversity conservation of river streams, wetlands”

“Peripheral”: this is budget for biodiversity relevant schemes of Ministries/Departments other than the MoEFCC.

Core funding is attributed at 100% of the budget (similar to Rio Marker 2 attribution) and both Non-Core and Peripheral budgets were subject to the multiplier once the associated schemes were placed into multiplier categories (see Table 8).

Table 8 Multiplier values and the number of Schemes attributed to each multiplier category in India.<sup>22</sup>

| Multiplier               | 0.002 | 0.010 | 0.017 | 0.020 | 0.050 | 0.055 | 0.100 | 0.150 | 0.250 | 0.900 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| %                        | 0.2   | 1     | 1.7   | 2     | 5     | 5.5   | 10    | 15    | 25    | 90    |
| Number of schemes (n=77) | 1     | 50    | 1     | 1     | 10    | 1     | 7     | 1     | 1     | 4     |

What is noticeably different with this attribution table is that there is a preponderance of low values (0.2%, 1%, 1.7%, 2%, 5%, 5.5%) that are all under 10%. This allows for small amounts of very large “peripheral” programs to be counted towards biodiversity. The risk of such a detailed approach is that it is subjective. Given the very high number of schemes attributed to the 1%

<sup>21</sup> <https://www.cbd.int/nbsap/about/latest/default.shtml>

<sup>22</sup> India's 5<sup>th</sup> National Report to the CBD

category (50 of 77), it appears that having a category this low (1%) was found valuable to the India team.<sup>23</sup>

Table 9 India's Domestic Budgeting for Biodiversity for the Fiscal Year 2013-2014<sup>24</sup>

| Nature of funding Amount                           | in Crores | In million USD |
|----------------------------------------------------|-----------|----------------|
| Core                                               | 1564.34   | 251.99         |
| Non-core                                           | 259.8     | 41.85          |
| Core + non-core                                    | 1824.14   | 293.84         |
| States                                             | 5025.57   | 809.53         |
| Peripheral (23 Ministries/Departments, 77 schemes) | 2354.74   | 379.31         |
| Total                                              | 9204.45   | 1482.68        |

For the analysis of State funding, India used only “Core” funding information as data for Non-core and Peripheral information was not complete for all states. India used an extrapolation approach for estimating State level budgets for biodiversity. As noted above, India divided budgets into ‘core’, ‘non-core’ and ‘peripheral’. Core funding was allocated at 100%, non-core at 30% and peripheral based on an analysis of the schemes and a multiplier as described above. Based on a similar approach, core and non-core funding for biodiversity was derived from the budgetary allocations made by the State (provincial) Government. Peripheral funding by State Governments was also calculated using multiplier factor (10%) for the programs executed by State-based Departments of the 23 ministries identified at the national level (Department of Animal Husbandry, Fisheries, Agriculture, etc.).

The following tables are from India's submission to the CBD.

<sup>23</sup> Given the low numbers for some of the other categories, it may make sense to consolidate categories for the next revision to avoid subjectivity (for example, is it worth debating 1.7% vs 2.0%?). For example, consolidating to 1%, 5%, 10%, 25% (maybe add 50%), and 90% would only exclude 5 schemes (of 77) that could easily be placed in adjacent categories with minimal quantitative impact.

<sup>24</sup> India's 5<sup>th</sup> National Report: <http://www.cbd.int/doc/world/in/in-nr-05-en.pdf>

**Table 1: Year-wise flow of core, net non-core and net peripheral funding for biodiversity conservation in India: 2006-07 to 2010-11 (INR in crores and USD in million)**

| Years          | Central Government Outlays |               |               |                | State Government Outlays |              |               |                | Aggregate      | Aggregate (in USD million) |
|----------------|----------------------------|---------------|---------------|----------------|--------------------------|--------------|---------------|----------------|----------------|----------------------------|
| 1              | 2                          | 3             | 4             | 5(2+3+4)       | 6                        | 7            | 8             | 9(6+7+8)       | 10(5+9)        | 10(5+9)                    |
|                | Core                       | Non-Core      | Peripheral    | Total          | Core                     | Non-Core     | Peripheral    | Total          | Grand Total    | Grand Total                |
| 2006-07        | 739.86                     | 64.69         | 435.20        | 1239.75        | 4472.04                  | 8.94         | 608.10        | 5089.08        | 6328.83        | 1055.72                    |
| 2007-08        | 833.00                     | 80.23         | 484.34        | 1397.57        | 4909.50                  | 9.82         | 669.28        | 5588.60        | 6986.17        | 1165.37                    |
| 2008-09        | 1036.46                    | 82.59         | 1337.00       | 2456.05        | 5904.52                  | 11.81        | 924.20        | 6840.53        | 9296.58        | 1550.77                    |
| 2009-10        | 1005.58                    | 92.49         | 1234.20       | 2332.27        | 6761.40                  | 13.52        | 1112.17       | 7887.09        | 10219.36       | 1704.70                    |
| 2010-11        | 1133.29                    | 201.72        | 1322.90       | 2657.91        | 7477.94                  | 14.95        | 1149.41       | 8642.30        | 11300.21       | 1885.00                    |
| <b>Average</b> | <b>949.64</b>              | <b>104.34</b> | <b>962.73</b> | <b>2016.71</b> | <b>5905.08</b>           | <b>11.81</b> | <b>892.63</b> | <b>6809.52</b> | <b>8826.23</b> | <b>1472.31</b>             |

**Table 2: Flow of core, net non-core and net peripheral funding for biodiversity conservation in India in 2013-14 (INR in crores and USD in million)**

| Years    | Central Government Outlays |          |            |          | State Government Outlays |          |               |          | Aggregate   | Aggregate (in USD million) |
|----------|----------------------------|----------|------------|----------|--------------------------|----------|---------------|----------|-------------|----------------------------|
| 1        | 2                          | 3        | 4          | 5(2+3+4) | 6                        | 7        | 8             | 9(6+7+8) | 10(5+9)     | 10(5+9)                    |
|          | Core                       | Non-Core | Peripheral | Total    | Core                     | Non-Core | Peripheral    | Total    | Grand Total | Grand Total                |
| 2013-14* | 1564.34                    | 259.80   | 2354.74    | 4178.88  | 5025.57**                |          | Not available | 5025.57  | 9204.45     | 1535.41                    |

\* As part of India's Fifth National Report (NR5) submitted to the CBD in 2014, a detailed assessment of funding for biodiversity conservation was carried out for 2013-14 based on the estimation approach and methodology used in the assessments during 2006-07 and 2010-11 and covering 77 schemes of 23 Ministries/Departments of GoI in addition to MoEF. In the assessment for 2013-14, due to non-availability of data on peripheral funding by State Governments, the overall funding for biodiversity conservation is lower compared to that for 2010-11.

\*\* Government outlays (core and non-core) for three States and three Union Territories have not been included due to non-availability of data.

### 3.9 Philippines

#### Add section on Costing

### 3.10 Canada

Canada developed its own methodology to try to count its national biodiversity investments. With regard to the private sector, they considered some successful elements to be the ability to use results from Statistics Canada data from business surveys, the inclusion of data from “user fees”, the ability to generate data from some of the largest domestic NGOs, and they were able to formulate estimates for academic institutions. Some of the challenges included the fact that data are based on periodic surveys (not annual) and that there was no specific “biodiversity” category.<sup>25</sup> The report provided an “indicative estimate of the scale and scope of resources being mobilized

<sup>25</sup> From presentation by Scott Wilson, Environment Canada, WGRI-5, Montreal, Canada, June 19, 2014

by Canada and Canadians in support of the objectives of the CBD” for the years 2006-2010. The results are presented in Table 10.

Table 10 Summary of Canadian Investments in Biodiversity for the baseline years<sup>26</sup>

| Fiscal Year (millions of CAN\$, current prices) | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 |
|-------------------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Official Development Assistance                 | 53.35     | 66.7      | 73.8      | 85.06     | 136.93    |
| Government of Canada                            | 45.61     | 42.72     | 46.94     | 62.46     | 95        |
| International Financial Institutions and UN     | 7.74      | 23.98     | 26.85     | 22.59     | 41.94     |
| Domestic public budgets at all levels           | 6,986.65  | 7,823.76  | 7,951.53  | 7,959.74  | 8,184.20  |
| Federal                                         | 2,149.67  | 2,447.47  | 2,442.05  | 2,036.29  | 2,220.74  |
| Provincial                                      | 2,315.98  | 2,696.85  | 2,595.88  | 2,808.11  | 2,651.81  |
| Local                                           | 2,521.00  | 2,679.45  | 2,913.60  | 3,115.35  | 3,311.65  |
| Private Sector                                  | 1,012.94  | 914.1     | 810.23    | 736.5     | 677.88    |
| Business expenditure                            | 437.75    | 339.95    | 242.15    | 182.71    | 135.89    |
| User fees (parks fees, licenses)                | 575.19    | 574.15    | 568.08    | 553.79    | 541.99    |
| NGOs, foundation and academia                   | 402.22    | 405.23    | 563.02    | 548.83    | 480.45    |
| Non-governmental organizations and foundations  | 275.85    | 270.79    | 417.85    | 405       | 338.96    |
| Academia                                        | 126.37    | 134.44    | 145.18    | 143.82    | 141.5     |
| TOTAL                                           | 8,455.16  | 9,209.79  | 9,398.58  | 9,330.13  | 9,479.47  |

### 3.11 Japan

Japan only counted the biodiversity activities that are “Directly Related” to biodiversity conservation (e.g. Rio Marker 2). Double-counting was a challenge for Japan as the central government budget finances state/provisional, local/municipal budgets and academia. As such it was not possible to avoid double counting among those budgets. The main central government category for biodiversity expenditures was termed “Environmental Conservation Expenses” and the data are compiled by the Ministry of the Environment. For government budgets at the State/

<sup>26</sup> <http://www.cbd.int/financial/doc/canada-resources-mobilization-en.pdf>

Provincial & Local/Municipal levels, the amount was estimated by calculating the ratio of biodiversity conservation expenses to total expenses of several prefectural governments and then multiplying that ratio to total sub-national government budgets. This is an extrapolation method that allows country-wide estimations based on a sampling of cases.

With regards to the private sector, there are result of a questionnaire survey about CSR spending for BD (Toyokeizai CSR survey). However answers from companies are very different because there is no clear classification of the biodiversity expenses by each company. Therefore, we regard the data as not reliable enough for reporting. In terms of other expenditure categories (NGOs, foundation, and academia) only academia expenses titled, “Biodiversity Conservation expenses” in “The Environment Research and Technology Development Fund” were counted.

Table 11 Summary of Japan’s Domestic “Directly Related” Biodiversity Expenditures<sup>27</sup>.

| <b>All "Directly Related"</b>                 |         |         |         |         |         |         |         |
|-----------------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| <b>Million JPY</b>                            | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    |
| <b>Gov. budgets – Central</b>                 | 317,416 | 285,056 | 279,602 | 261,233 | 144,156 | 144,732 | 139,285 |
| <b>Gov. budgets - State/Provincial</b>        |         |         |         |         |         |         | 9,899   |
| <b>Gov. budgets - Local/ Municipal</b>        |         |         |         |         |         |         | 16,643  |
| <b>Other (NGOs, foundation, and academia)</b> | 509     | 663     | 716     | 993     | 943     | 1,343   | 954     |
| <b>Total Direct Biodiversity Expenditure</b>  | 317,925 | 285,719 | 280,318 | 262,226 | 145,099 | 146,075 | 166,781 |

### 3.12 Denmark

Denmark’s domestic biodiversity expenditure analysis is primarily an agency-based analysis with the use of additional hypotheses for certain calculations. Estimates are based on expenditures (as opposed to budgets) mostly based on the central administrative system (SKS) and governmental accounts. Other data are from Statistics Denmark. The agencies included are the Nature Agency, the Environmental Protection Agency, Ministry of Defense and Ministry for Food, Agriculture and Fisheries and the Ministry of higher education and science. As well, government activities supported under the European Rural Development Program are included.

An additional administrative cost was added to project costs (8.5 %) to account for administrative expenses not captured in project costs. A hypothesis was also established for “policy development” which assumed at the central level 25 % of administrative staff participates in development of new policies. Some activities take place at the municipal level – mostly indirect effects on biodiversity

<sup>27</sup> Japan’s CBD submission 2014 for Financial Reporting <http://www.cbd.int/financial/oda/japan-preliminary-reporting-framework-2014-en.xls>

– sustainable forest management, promotion of recreational activities, etc. Greenland costs and expenditures were not included in the reporting and only a few NGO's and Foundations reported on their expenditures on biodiversity.

For the reporting period 2011 and 2012 the results were based on actual expenditures and included both direct and indirect benefits on biodiversity. Research on biodiversity was included and explains an increase in the amount provided for biodiversity at the state level. As well, Greenland provided some numbers for their national contributions.

The “other” category included NGO's and Foundations. To acquire data, an inquiry was made to the each of the largest NGOs and private foundations regarding their expenditures on biodiversity both nationally and internationally. Because funding of national NGOs can come from public funds (DANIDA), NGO's were asked to identify the sources of funding to avoid double counting. The NGO's and foundations were asked account for direct and indirect benefits and to group expenditures into categories including: A) Biodiversity protection, B) Policy development and administration, C) Sustainable use and management and D) Sustainable production and consumption or similar categories depending on the activities of the organisations. It is important to note that a very limited number of NGOs and foundations were requested to provide data for 2006-2010. In 2011 and 2012 a total of 5 large foundations and 2 NGO's provided data – thus explaining the higher figures for those years.

The summary of the results for Denmark are provided in

Table 12.

| USD                                                  | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        | 2012        |
|------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <del>2.1.1</del> Gov. budgets -                      | 161,211,985 | 180,266,009 | 245,647,463 | 220,242,098 | 157,102,294 | 245,647,463 | 306,919,226 |
| 2.1.1 Gov. budgets - Central                         | 161,211,985 | 180,266,009 | 245,647,463 | 220,242,098 | 157,102,294 | 245,647,463 | 306,919,226 |
| <del>2.1.2</del> State/Provincial budgets -          | 49,876,709  |             |             |             |             |             |             |
| <del>2.1.3</del> State/Provincial budgets - Local/   | 15,504,745  | 33,624,748  | 43,338,564  | 49,876,709  | 51,931,555  | 55,854,442  | 63,513,413  |
| 2.1.3 Gov. budgets - Local/Municipal                 | 15,504,745  | 33,624,748  | 43,338,564  | 49,876,709  | 51,931,555  | 55,854,442  | 63,513,413  |
| <del>2.3</del> Other foundation, and (NGOs Academia) | 1,307,629   | 1,681,237   | 1,307,629   | 934,020     | 3,922,887   | 44,646,193  | 37,360,831  |
| foundation, and Academia)                            | 227,901,068 | 215,571,994 | 290,293,656 | 271,052,827 | 212,956,736 | 346,148,098 | 407,793,470 |
| <b>Total</b>                                         | 227,901,068 | 215,571,994 | 290,293,656 | 271,052,827 | 212,956,736 | 346,148,098 | 407,793,470 |

Table 12 Summary of Denmark's domestic biodiversity expenditures (see text for methods).<sup>28</sup>

### **3.13 Spain**

Potentially to be added as have quite a substantial amount of biodiversity expenditure in the EU (according to the reporting to Eurostat via the Joint Eurostat/OECD questionnaire – compatible with SEEA).

### **3.14 EU Comments on the Reporting Framework**

(from Submission to the CBD April 2014)<sup>29</sup>

#### **EU response to CBD Notification 2013-050**

#### **Information submitted through the preliminary reporting framework**

##### **Introduction**

In line with the global commitment undertaken in Hyderabad, the EU and its Member States re-affirm their commitment to providing robust information on mobilization of resources in support of the implementation of the strategic plan of the Convention on Biological Diversity. We also support the reporting process in a number of developing countries (see for example information on Biofin below) and believe this is essential information to support the resource mobilization process under the CBD.

This submission addresses both contributions from the central EU budget (which in itself is composed of contributions from all EU Member States) and contributions at individual Member State level. All individual submissions are included in annex. The figures and information provided for the central EU budget relate to contributions and activities of the European Union and do not include the contributions and activities of the individual Member States. Most of the central EU funding instruments do not finance the total envelope of projects and individual EU Member States also provide co-financing. The data presented seek to separate out EU level and Member States level biodiversity spending.

This submission builds upon the initial EU and Member States 2012 submission in response to notification 2012-023. Compared to the initial submission, an increased number of EU Member States have submitted reports, the reports span a wider range of resource mobilization indicators, and data submitted have improved in terms of accuracy and timeliness. For example, reports for Finland and Italy differ from the previous because of increased reliance on Official Statistics, whilst the European Commission and some Member States (e.g. France, Germany, Spain and Poland) have developed a specific tracking and reporting methodology for international or domestic flows of financial resources.

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<sup>28</sup> Denmark CBD submission: <http://www.cbd.int/financial/oda/denmark-preliminary-reporting-framework-2014-en.xlsx>

<sup>29</sup> <http://www.cbd.int/financial/oda/european-commission-additional%20information.pdf>

## **International flows of financial resources**

The EU Member States and the European Commission have their own individual methodology for accounting resources. The methodology differs across Member States. This makes it difficult to compile and compare data across the EU. Details are provided on the methodology at EU and Member State level for the sake of transparency and to account for possible differences. There are in particular differences in the way funding linked to Rio marker 1 projects for OECD DAC countries is treated (often this is referred to as indirect flows). Most Member States account for these projects/flows only partially, either by:

- using a common reduction rate (equal or close to 40 %)
- using different rates according to sectoral categorization;
- identifying on a case by case basis the sectoral component of the project which contributes to the conservation and sustainable use of biodiversity significantly, and accounting for this component at a 100 % rate.

However, some Member States still account for indirect flows which contribute significantly to biodiversity objectives in full. In addition, some EU Member States are not OECD DAC members, and therefore do not use the Rio marker methodology.

Overall, at the current stage of reporting, the difference in approaches does not allow for full comparability or for aggregation of contributions from Member States in a meaningful way. However, the European Commission and EU Member States are active in exchanging best practices and discussions on the best way forward and on methodologies are ongoing, to improve the reporting of progress towards the achievement of the Hyderabad global commitment, to which the EU and Member States resolved to contribute, together and for which it does not imply any specific burden-sharing agreement between Member States and/or the EU.

There are a number of initiatives in EU Member States and at EU level, including capacity building and training of relevant officials, to improve monitoring and reporting international biodiversity-related flows, for example to improve the use of Rio markers. There are also several efforts to engage the private sector, although there is not sufficient progress at this stage to translate this into quantitative data, and reported flows focus on ODA. In that context, the EU welcomes the ongoing initiatives in OECD DAC which should help make progress both in improving the use of Rio markers and on measuring private flows.

Progress compared to the 2006-2010 baseline is positive in the EU budget and in many EU Member States. For example in Italy, financial resource flows to developing countries has increased by 60% and Germany has more than doubled its contributions to biodiversity compared to the 2006-2010 baseline; and France has also made an important increase. It is worth highlighting that several Member States had already made important efforts during the baseline period. The Hyderabad commitments have been translated into formal national strategies in many Member States, such as for example in France, with the adoption by the French

Development Agency (Agence Française de Développement) of its crosscutting framework of action on biodiversity.

Mainstreaming biodiversity in development sectors is an effective way to increase financial resource flows to developing countries. This is reflected in the relative increase of indirect flows in the EU budget and in many EU Member States.

### **Information on the availability of financial resources in each country.**

In the EU, Regulation (EU) 691/2011 on European environmental economic accounts (SEEA) provides essential statistics to underpin environmental protection. The latest extension in 2013 includes Environmental Protection Expenditure Accounts, within which expenditure is allocated to environmental domains according to CEPA 2000 classification (Classification of Environmental Protection Activities and Expenditure). This connects to initiatives at national, EU, and international level (in particular the work of the UN Statistical division).

The Regulation also requires the collection of information on the private sector and other flows, and this information is therefore reported by many EU countries. In some cases, information on contribution from households is also provided (e.g. France). In some Member States, information on contributions at regional and local level, or contributions from NGOs are not available and figures are therefore underestimated.

The categories do not allow an easy distinction between direct and indirect flows and Member States therefore report on these categories in different ways, with several Member States only reporting on the total as a result of this constraint while others (such as Germany) are only reporting direct flows.

Many countries made efforts to collect data beyond formal statistics, for example on contributions from research and education (e.g. submission from Finland, Denmark and Poland). These sometimes represent substantial flows. However, distinguishing between direct or indirect flows was not always possible.

In the case of the EU central budget, a specific tracking methodology for domestic financial flows was developed. Although this will only be fully implemented in the current EU budget (2014-2020), applying the methodology ex post to the 2007-2013 budget has produced some first estimates.

Again, there are some positive trends in several EU Member States (e.g. Finland, France, Germany and Poland) as in most Member States and the EU budget, the very significant contribution from agriculture policy, in particular through agri-environment measures, is worth highlighting, as well as, to a lesser extent, from the fisheries sector. This is linked to the past EU reforms in these sectors.

### **Additional Notes on EU Financial Reporting**

There is a long history of joint OECD/ESTAT collection of data on environmental expenditure (biodiversity included) and revenues.

For EU countries, guidance is provided by the EU Environmental Protection Expenditure Accounts Guidance<sup>30</sup> as well as Eurostat Environmental expenditure statistics: General Government and Specialized Producers data collection handbook<sup>31</sup> as well as with the SEEA documents. Additional guidance can be found in the [industry data collection handbook](#) and the latest [Joint Questionnaire Eurostat/OECD](#) on environmental protection expenditure and revenues. Additionally, methodologies regarding biodiversity support can be found in the latest [methodological developments for environmental subsidies](#). All these manuals are compatible with SEEA.

The European Union has been exploring means of improving its tracking of its biodiversity expenditures. Part of this effort has been the engagement of the Institute for European Environmental Policy (IEEP) and consulting firm ICF International (with specialist Matt Rayment) to prepare a background document for a conference entitled “Workshop on developing a methodology for biodiversity tracking in the EU budget” held in Brussels on 30 September 2014. The workshop reviewed a range of issues with regard to budget tracking in the EU budget. Some of the key issues presented and discussed included the % attribution (coefficients) for secondary biodiversity activities (currently set at 40% for the EU, a figure that was considered too general for detailed assessments), the treatment of biodiversity harmful investments (considered as a separate issue) and other details. The background paper has not been published yet but a short presentation from the EU can be found at <http://www.cbd.int/doc/meetings/fin/rmws-2014-05/other/rmws-2014-05-session-2-3-en.pdf>

The background paper included some existing definitions of activities that would fall into the categories of direct biodiversity and indirect biodiversity and the background document produced a table with potential examples (see Annex).

### **3.15 The United Nations Statistical Division, System for Environmental-Economic Accounting (SEEA)**

The United National System for Environmental-Economic Accounting (SEEA)<sup>32</sup> is the result of many years of collaborative work by many partner organizations seeking to better integrate environmental issues into the existing System of National Accounts (SNA). The SNA is part of the global standards for government reporting on economic activities in their countries – producing such common indices as Gross Domestic Product (GDP), etc. The SEEA includes integration of accounting for environmental assets such as forestry stock and non-renewable natural resources such as oil and minerals as well as improved calculations of environmental expenditures.

Many countries globally follow SEEA for financial and economic reporting. For expenditures, SEEA guidelines are based on the Classification of Environmental Protection Expenditures (CEPA), Classification of Resource Use and Management Activities (CRema), and Environmental Products and Services. It should be noted that these classifications are

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<sup>30</sup> <http://www.cbd.int/financial/finreporting/eu-epeaguide.pdf> EU 2002

<sup>31</sup> Environmental expenditure statistics: General Government and Specialised Producers data collection handbook. ISSN 1977-0375, 2007 edition, EUROSTAT © European Communities, 2007 <http://ec.europa.eu/eurostat/documents/3888793/5840631/KS-RA-07-012-EN.PDF/b3a162ac-8cdc-4897-85f7-b10312752ecf?version=1.0>

<sup>32</sup> <http://unstats.un.org/unsd/envaccounting/seea.asp>

multipurpose and can be used to classify environmental activities, products and expenditures. In the CEPA, category 6 “Protection of biodiversity and landscapes” is relatively compatible with the OECD definition of biodiversity activities described above.

It can also be noted that there is an Experimental Ecosystem Accounts (EEA) document from UN SEEA that further integrates ecosystem services into the systems of national accounts. Unlike SEEA which is an accepted international standard, the EEA is currently in the form of a recommended standard that is being further tested and refined.

The detailed description of the CEPA and CReMA categories are provided in the Appendix. This Appendix also includes a review of activity lists for biodiversity actions that have been proposed for measuring expenditures in the EU. An additional category that deserves attention with regard to biodiversity expenditure is “The Prevention of Natural Hazards.” A review of the range of environmental activity accounts is provided in a document under the title: Classification of Environmental Activities (CEA).<sup>33</sup>

### **3.16 Multi-lateral Development Bank Biodiversity Tracking**

#### **MULTI-LATERAL DEVELOPMENT BANK BIODIVERSITY TRACKING**

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### **3.17 Experiences from other sectors**

There are many examples of expenditure reviews from other sectors, including the fields of health, education and climate finance. This section describes progress in each of these fields.

#### *Health expenditure reviews*

The World Health Organization has long promoted the development of national health accounts. They propose a methodological framework that records three types of health care expenditures: classifications of the functions of health care, health care provision, and financing schemes, to answer these three questions: a) what kinds of health care goods and services are consumed; b) which health care providers deliver these goods and services; and c) which financing scheme pays for these goods and services? The result of this analysis can be used by governments, NGOs, private companies, insurance providers and others to understand the overall provision of health

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<sup>33</sup> <http://unstats.un.org/unsd/class/intercop/expertgroup/2011/AC234-29.PDF>

care in a country. A good resource for health expenditure reviews is WHO (2003) Guide to Producing National Health Accounts (available at [http://www.who.int/nha/docs/English\\_PG.pdf](http://www.who.int/nha/docs/English_PG.pdf); and World Bank (2009), Preparing Public Expenditure Reviews for Human Development, available at <http://siteresources.worldbank.org/EXTPERGUIDE/Resources/PER-complete.pdf>.

Another recent innovation is the OneHealth Tool, the result of a partnership between UNFPA, UNICEF, UNDP, UNAIDS, UNWOMEN, WHO and the World Bank. This is a software tool designed to strengthen health system analysis and costing and to enable policy makers to develop financing scenarios at the national level. The OneHealth Tool focuses not on a single disease, but rather the overall capacity of national health systems, providing a single framework for planning, costing, impact analysis, budgeting and financing of strategies for all major diseases and health system elements. For more information about the OneHealth Tool, see <http://www.internationalhealthpartnership.net/en/tools/one-health-tool/>.

#### *Climate public expenditure and institutional reviews*

In 2011, UNDP with UNEP support launched a program to conduct climate public expenditure and institutional reviews in 11 countries. A climate public expenditure and institutional review examines the linkages between the spheres of national climate change policy; the institutional structures through which policy is channeled; and the resource allocation processes whereby public funding is made available for the implementation of relevant projects, programmes and policies. The methodology begins with a policy and institutional analysis, focusing on national climate-related policies (e.g., level of engagement within UNFCCC, monitoring and evaluation for climate change actions), and moves on to an institutional analysis (e.g., an analysis of roles and responsibilities, levels of national engagement and government capacities). This is followed by an expenditure review that defines the total volume of ‘climate-relevant expenditure’. Finally, a set of recommendations is usually made related to climate expenditures.

For more details about this methodology, see <http://www.cbd.int/financial/climatechange/g-cpeirmethodology-undp.pdf> and for summaries of 10 countries, see <http://www.aideffectiveness.org/CPEIR>.

#### *Education expenditure reviews*

Another field that has ample experience in expenditure reviews is education. The World Bank has long advocated that countries conduct an education expenditure review. Typically, such a review looks at such issues as access, efficiency and quality of education; equity issues; trends in spending over time, budget execution and operational efficiency, and specific policy recommendations for improving expenditures. A good example of an education expenditure review in the Philippines is available at: <http://documents.worldbank.org/curated/en/2012/01/16764589/philippines-basic-education-public-expenditure-review>.

## 4 EX POST ASSESSMENTS OF BIODIVERSITY-RELATED INVESTMENTS: ANALYSIS OF MAIN ISSUES

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### 4.1 Introduction

Quantifying the flow of international and domestic biodiversity related investments is critical to understanding how to most effectively increase financial resources to meet national objectives related to the CBD Strategic Plan and to National Biodiversity Strategies and Action Plans (NBSAPs) and to help achieve each country's sustainable development goals. Various countries and projects have been gathering and reporting information to the CBD including some countries currently implementing UNDP's Biodiversity Finance Initiative (BIOFIN). There are a range of methodologies used to capture data on the flow of international and domestic financial resources for biodiversity conservation, sustainable use and equitable benefits sharing. This section will review some of the existing methodologies and identify and discuss key issues and challenges for improving and harmonizing the methods.

The main issues can be divided into the following categories:

- 1) Defining scope - Defining the scope and limits of "biodiversity";
- 2) Coefficients - Methods for attributing the percentage of financial resources to activities that are not 100% attributable to biodiversity;
- 3) Private sector – approaches to capture private sector expenditures including NGOs and businesses;
- 4) Sub-national level – methods to capture and attribute regional and local government and private sector expenditures;
- 5) Indigenous and local communities' contributions to biodiversity finance; and
- 6) Biodiversity-harmful expenditures – investments that have harmful impacts, whether intended or not, on biodiversity.

### 4.2 Defining the Scope of Biodiversity-Related Activities

The first step in determining biodiversity expenditures is to define the scope of what falls under biodiversity-related activities. Although this may seem to be clear – given that there is a good definition of biodiversity in the CBD – there is significant variation in which activities, agencies, companies and NGOs are included in the review. The fact that each country may choose its own definition of biodiversity activities allows each country to focus on what is important to them. On the other hand, some minimal guidance and boundaries would be an effective means of reducing variability between countries and could help facilitate global resource mobilization efforts. This section highlights a few examples of how different processes have defined biodiversity-related activities.

*CBD's preliminary reporting framework for principal and secondary biodiversity activities*

The following definitions for principal and secondary (indirect) biodiversity activities:

| Direct or Principle Biodiversity Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Indirect or Secondary Biodiversity Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Funding for activities directly related to biodiversity such as:</u></p> <ul style="list-style-type: none"> <li>• <i>In situ/ex situ</i> conservation (including protected areas)</li> <li>• Maintaining genetic diversity</li> <li>• Addressing threats from invasive alien species (in situations where the primary purpose is to protect biodiversity)</li> <li>• Addressing threats to specific ecosystems and/or species</li> </ul> <p>Also included within this category would be funding related to human resources, policy development and administration for these activities including the development of NBSAPs, frameworks, and CHM. Generally funding considered under this category would be provided by environmental agencies that directly and purposely consider biodiversity within their mandates.</p> | <p>Funding for activities which have benefits for biodiversity but for which <u>biodiversity conservation and sustainable use is not the main focus.</u></p> <p>Activities under this category would generally be led by agencies outside of the environmental sector or where responsibility lies with multiple sectors. Activities under this category would include:</p> <ul style="list-style-type: none"> <li>• Sectoral measures which benefit biodiversity conservation and sustainable use within productive sectors (agriculture, forestry, aquaculture, fisheries, etc.)</li> <li>• Sectoral measures to conserve water and prevent pollution</li> <li>• Managing land use to mitigate climate change and increase resilience</li> <li>• Planning, fiscal and regulatory measures to promote sustainable consumption and production</li> <li>• Broad scale public awareness and education measures</li> </ul> |

It should be noted that the CBD definition of principal and secondary biodiversity activities includes an element of “intent” and of “agency.” For principal biodiversity activities, the intent must be there for the activity to have a positive impact on biodiversity and the action must be implemented by “environmental agencies that directly and purposely consider biodiversity within their mandates.” Secondary or “indirect” activities can be implemented by other “agencies outside of the environmental sector or where responsibility lies with multiple sectors” in addition to the intent.

#### *OECD’s definition of biodiversity-related activities*

Another commonly used definition is from the OECD Rio Markers methodology. This is a standard global system for reporting of Official Development Assistance and Other Official Financing (OOF). The Rio Markers are built around a similar definition of direct and indirect actions supporting biodiversity, climate change, desertification, and general environmental activities. There are specific definitions for each of the Rio Markers and activities can be tagged

under multiple markers. This makes the summation of multiple markers inappropriate due to double counting, but it does allow a project to be tagged under multiple objectives.

Table 13: The Rio Marker Definition for Biodiversity<sup>34</sup>

| BIODIVERSITY AID TARGETING THE OBJECTIVES OF THE CONVENTION ON BIOLOGICAL DIVERSITY                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DEFINITION</b><br>An activity should be classified as biodiversity-related (score Principal or Significant) if:                                                                                       | It promotes at least one of the three objectives of the Convention: the conservation of biodiversity, sustainable use of its components (ecosystems, species or genetic resources), or fair and equitable sharing of the benefits of the utilisation of genetic resources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>CRITERIA FOR ELIGIBILITY</b>                                                                                                                                                                          | <p>The activity contributes to</p> <ul style="list-style-type: none"> <li>a) protection or enhancing ecosystems, species or genetic resources through in-situ or ex-situ conservation, or remedying existing environmental damage; or</li> <li>b) integration of biodiversity and ecosystem services concerns within recipient countries' development objectives and economic decision making, through institution building, capacity development, strengthening the regulatory and policy framework, or research; or</li> <li>c) developing countries' efforts to meet their obligations under the Convention</li> </ul> <p>The activity will score "principal objective" if it directly and explicitly aims to achieve one or more of the above three criteria.</p> |
| <b>EXAMPLES OF TYPICAL ACTIVITIES</b><br>1. Typical activities take place in the sectors of:<br><i>Water and sanitation</i><br><i>Agriculture</i><br><i>Forestry</i><br><i>Fishing</i><br><i>Tourism</i> | Integration of biological diversity concerns into sectoral policy, planning and programmes; e.g. <ul style="list-style-type: none"> <li>• Water resources protection and rehabilitation; integrated watershed, catchment and river basin protection and management;</li> <li>• Sustainable agricultural and farming practices including substitution of damaging uses and extractions by out-of-area plantations, alternative cultivation or equivalent substances; integrated pest management strategies; soil conservation; in-situ conservation of genetic resources; alternative livelihoods;</li> </ul>                                                                                                                                                          |

<sup>34</sup> See Cases Studies below and <http://www.oecd.org/development/stats/rioconventions.htm> for more information

|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Combating deforestation and land degradation while maintaining or enhancing biodiversity in the affected areas;</li> <li>• Promotion of sustainable marine, coastal and inland fishing;</li> <li>• Sustainable use of sensitive environmental areas for tourism.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>2. Typical non-sector specific activities are:</p> <p><i>Environmental policy and administrative management</i></p> <p><i>Biosphere and bio-diversity protection</i></p> <p><i>Environmental education/training</i></p> <p><i>Environmental research</i></p> | <ul style="list-style-type: none"> <li>• Preparation of national bio-diversity plans, strategies and programmes; bio-diversity inventories and assessments; development of legislation and regulations to protect threatened species; development of incentives, impact assessments, and policy and legislation on equitable access to the benefits of genetic resources.</li> <li>• Establishment of protected areas, environmentally oriented zoning, land use and regional development planning.</li> <li>• Protecting endangered or vulnerable species and their habitats, e.g. by promoting traditional animal husbandry or formerly cultivated/collected plants or ex-situ conservation (e.g. seed banks, zoological gardens).</li> <li>• Capacity building in taxonomy, bio-diversity assessment and information management of biodiversity data; education, training and awareness-raising on bio-diversity.</li> <li>• Research on ecological, socio-economic and policy issues related to bio-diversity, including research on and application of knowledge of indigenous people.</li> <li>• Supporting development and use of approaches, methods and tools for assessment, valuation and sustaining of ecosystem services.</li> </ul> |
| N.B. Biodiversity (CRS sector code 41030) scores, by definition, principal objective.                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

The OECD Rio Marker definition is slightly more specific than the CDB definition in that it requires the activity to promote at least one of the Convention's three objectives: the conservation of biodiversity, sustainable use of its components (ecosystems, species or genetic resources), or fair and equitable sharing of the benefits of the utilisation of genetic resources. As well, it provides a specific distinction for the category of principal: it directly and explicitly aims to achieve one or more of three criteria (see above).

As described above, OECD countries are using the Rio Markers to "tag" their international Official Development Assistance (ODA) and Other Official Financing (OOF) commitments in their reports to the OECD. Most countries that have reported their data in this way were able to capture the results and have used this in their financial reporting to the CBD.

Because secondary activities are only partially addressing biodiversity outcomes, many countries hesitate to report the full value of these investments as their contribution to biodiversity. The question of how to attribute these secondary activities in terms of monetary value is discussed in detail in the following section.

### *UNDP's Biodiversity Finance Initiative (BIOFIN) approach to defining biodiversity-related activities*

The UNDP Biodiversity Finance Initiative (BIOFIN) is working to support 29 countries as they assess their investments in biodiversity, conduct bottom-up costing of their NBSAP, and develop viable resource mobilization plans ([www.biodiversityfinance.net](http://www.biodiversityfinance.net)). One key observation from the BIOFIN process is that if the expenditure reviews are to be useful as a background for the resource mobilization plan, the scope of the analysis should parallel the scope of the NBSAP. Because the latest round of NBSAPs are seeking to address the Aichi Biodiversity Targets, the Targets themselves become another potential basis for a biodiversity activity definition. For example, we could ask the question, would the activity address one of the Aichi Biodiversity Targets – if the answer is yes, then it would be in scope and if no, then out of scope.

The taxonomy that BIOFIN uses to define biodiversity-related activities closely parallels the Aichi Biodiversity Targets, and includes: a) sectoral mainstreaming (e.g., manufacturing, energy, mining, transportation, infrastructure, waste, tourism and other sectors); b) natural resource use (e.g., forestry, agriculture, grazing, water, fisheries and management of invasive species); c) protection (creation and management of a range of different categories of protected areas, corridors and buffer zones, ex situ methods, and trade enforcement); d) restoration (including government private and community efforts on industrial, production, protected, corridor and buffer lands and waters); e) access and benefits sharing (including the range of associated activities, such as those related to prior informed consent, mutually agreed terms, benefits sharing and traditional knowledge); and f) enhancing implementation (e.g., through communication, research, monitoring, legal and financial incentives and other means).

### *The United Nations System for Environmental-Economic Accounting (SEEA) and related work*

The United National System for Environmental-Economic Accounting (SEEA)<sup>35</sup> includes integration of accounting for environmental assets such as forestry stock and non-renewable natural resources such as oil and minerals as well as improved calculations of environmental expenditures. The SEEA guidelines is based on the Classification of Environmental Protection Expenditures (CEPA) and Classification of Resource Use and Management Activities (CReMA). The following definition of CEPA Section 6 includes the protection of biodiversity and landscapes:<sup>36</sup>

#### **6 Protection of biodiversity and landscapes**

Protection of biodiversity and landscape refers to measures and activities aimed at the protection and rehabilitation of fauna and flora species, ecosystems and habitats as well as the protection and rehabilitation of natural and semi-natural landscapes. Separating “biodiversity” from “landscape” protection may not always be practical. For example, maintaining or establishing certain landscape types, biotopes and ecozones and related issues (hedgerows, lines of trees to re-establish “natural corridors”) have a clear link to biodiversity preservation.

<sup>35</sup> <http://unstats.un.org/unsd/envaccounting/seea.asp>

<sup>36</sup> <http://unstats.un.org/unsd/class/intercop/expertgroup/2011/AC234-29.PDF>

Excluded is the protection and rehabilitation of historic monuments or predominantly built-up landscapes and the control of weed for agricultural purposes, as well as the protection of forests against forests fire when this responds predominantly to economic concerns. The establishment and maintenance of green spaces along roads and recreational structures (e.g., separating golf courses and other sports facilities) are also excluded.

Actions and expenditure related to urban parks and gardens would not normally be included but may in some cases be related to biodiversity: in such cases, the activities and expenditure should be included.

#### 6.1 Protection and rehabilitation of species and habitats

Activities and measures aimed at the conservation, reintroduction or recovery of fauna and flora species, as well as the restoring, rehabilitation and reshaping of damaged habitats for the purpose of strengthening their natural functions. Includes conserving the genetic heritage, recolonizing destroyed ecosystems, placing bans on exploitation, trade, etc., of specific animal and plant species, for protection purposes. Also includes censuses, inventories, databases, creation of gene reserves or banks, improvement of linear infrastructures (e.g., underground passages or bridges for animals at highways or railways), feeding of the young, and management of special natural reserves (botany conservation areas, etc.).

Activities may also include the control of fauna and flora in order to maintain natural balances, including reintroduction of predator species and control of exotic fauna and flora that pose a threat to native fauna, flora and habitats.

Main activities are the management and development of protected areas, whatever the denomination they receive, i.e., areas protected from any economic exploitation or in which the latter is subject to restrictive regulations whose explicit goal is the conservation and protection of habitats. Also included are activities for the restoration of water bodies as aquatic habitats: artificial oxygenation and lime-neutralization actions. When they have a clear protection of biodiversity purpose, measures and activities related to urban parks and gardens are to be included. Purchase of land for protection of species and habitats purposes is included.

#### 6.2 Protection of natural and semi-natural landscapes

Activities and measures aimed at the protection of natural and semi-natural landscapes so as to maintain and increase their aesthetic value and their role in biodiversity preservation.

Included is the preservation of legally protected natural objects, expenditures incurred for the rehabilitation of abandoned mining and quarrying sites, re-naturalization of river banks, burying of electric lines, maintenance of landscapes that are the result of traditional agricultural practices threatened by prevailing economic conditions, etc. For biodiversity and landscape protection related to agriculture, the identification of specific State aid programmes to farmers may be the only data source available. Protection of forests against forest fires for the purpose of landscape protection is included.

Excluded are measures taken to protect historic monuments, measures to increase aesthetic values for economic purposes (e.g., re-landscaping to increase the value of real estate), as well as protection of predominantly built-up landscapes.

#### 6.3 Measurement, control, laboratories and the like

Measurement, monitoring, analysis activities that are not classified under the preceding items. In principle, inventories of fauna and flora are not covered, since they are classified under protection of species.

#### 6.4 Other activities

All other activities and measures aimed at the protection of biodiversity and landscape.

These include administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same domain and similar activities related to other classes.

#### *Program-based vs. agency-based attribution*

Thus there are two basic ways of attributing expenditures to biodiversity – especially government expenditures: program-based and agency-based – similar to the two ways activities are attributed in the definitions above. In program-based analysis, government programs (or budget activities, etc.) are reviewed and those programs are assessed for their relevance to the chosen definition. For the agency-based approach, specific government units (or NGOs, institutes, etc.) are classified in terms of their relevance for biodiversity and all or a certain percentage of their annual budgets / expenditures are attributed to biodiversity. The percentage an agency attributes to biodiversity can be determined through direct enquiry, surveys, or evaluation of programs (if available). A detailed discussion of attribution and the use of coefficients is presented below.

#### 4.3 Coefficients and Activities

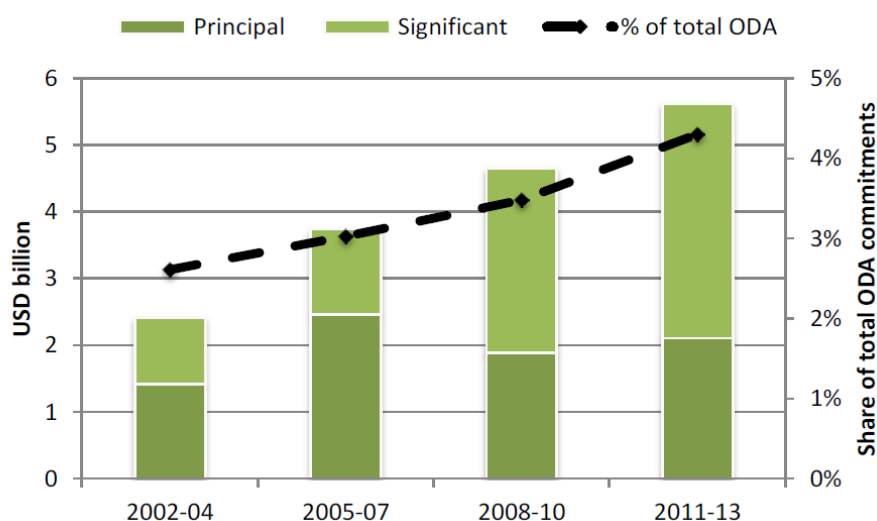
Once all activities, programs, and agencies that fall within the scope are identified, the next step is to determine what percentage of each expenditure should be attributed to supporting biodiversity. The Rio Markers create only three categories:

- 2 - Principal objective
- 1 – In scope, significant but secondary contribution
- 0 – Out of scope or absence of significant contribution

The OECD does not provide guidance on what coefficient (%) to multiply against the secondary commitments; countries use anything from 0% to 100% for marker 1 activities. This obviously has a significant impact. The chart below shows how countries are increasingly tagging or investing in “significant” activities but not “principal” activities where investment has been flat over the last decade - at or under 2% of total ODA.

Figure 11: Historical biodiversity ODA tagged using Rio Markers by OECD.<sup>37</sup>

2002-13, bilateral commitments, USD billion, constant 2012 prices



Note: Chart 1 presents a trend based on averages over three years, so as to smooth fluctuations from large multi-year projects programmed and committed in a given year. Reporting became mandatory for DAC members from 2007 flows.

In general, all countries apply 100% of the expenditures associated with Rio Marker 2 / directly related to biodiversity. With regard to indirect (Rio Marker 1) activities, there is a very wide range of approaches and multiple coefficients. To review these methodologies, we will examine four cases: France, Switzerland, Germany and India.

#### France

For France's review of biodiversity expenditures, the proposed accounting method<sup>38</sup> was applied at least to NGOs and research organizations and is based on the 3 degrees of the OECD Rio Markers. For Rio Marker 2 full funding (100%) was counted, for Rio Marker 1, a table of coefficients was established (see Table 14), and for Rio Marker 0 the funding was not counted.

Table 14 Proposed Attribution (Coefficients) for France's Biodiversity Expenditures for NGOs and Research Organizations.

| Activity Type | Examples | Proportion of total financing attributable as |
|---------------|----------|-----------------------------------------------|
|               |          |                                               |

<sup>37</sup> <http://www.oecd.org/dac/environment-development/BIODIVERSITY-RELATED%20FINANCE%20FEBRUARY%202015.pdf>

<sup>38</sup> Below is from Methode de Comptabilisation Proposée par l'AFD [http://www.fondationbiodiversite.fr/images/stories/telechargement/IPBES/Methode\\_de\\_comptabilisation\\_www\\_23052014-1.pdf](http://www.fondationbiodiversite.fr/images/stories/telechargement/IPBES/Methode_de_comptabilisation_www_23052014-1.pdf) and see AFD Biodiversity 2013-2016 CIT.

|                                           |                                                                                                                                                                                           | <b>“favourable to biodiversity”</b> |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Projects Rio Biodiversity Marker 2</b> | Protected Areas<br>Support to Environmental NGOs<br>Biodiversity Trust Funds<br>Direct Budget Assistance for Biodiversity                                                                 | 100%                                |
| <b>Projects Rio Biodiversity Marker 1</b> | Sustainable Forest Management<br>REDD+<br>Sustainable Fisheries Management<br>Ecological Restoration                                                                                      | 80%                                 |
| <b>Projects Rio Biodiversity Marker 1</b> | Agro-ecology<br>Pastoralism and nomadic livelihoods<br>Organic and Fair Trade Supply Chains<br>Sustainable watershed management<br>Water treatment<br>Integrated water systems management | 30%                                 |
| <b>Projects Rio Biodiversity Marker 1</b> | Urban biodiversity development<br>Responsible waste treatment<br>Reduced impact waste<br>Credit availability for environment (non-climate related)                                        | 5%                                  |
| <b>Communication</b>                      | Activities with a biodiversity component                                                                                                                                                  | 50%                                 |
| <b>Knowledge generation</b>               | Studies dedicated to biodiversity                                                                                                                                                         | 100%                                |

### Switzerland

Switzerland has provided significant feedback on the Reporting Framework for both international and domestic expenditure reporting.<sup>39</sup> One of the valuable points provided by Switzerland is the following table that shows how they apply a “BD-factor” or a coefficient (%) that they can multiply against the total expenditure of an activity to calculate the percentage that is attribute to biodiversity.

Table 15 The BD-factor identified by Switzerland in their 2012 CBD submission<sup>40</sup>.

| <b>ESTIMATED RELEVANCE FOR THE CBD OBJECTIVES</b>                  | <b>BIODIVERSITY FACTOR</b> |      |
|--------------------------------------------------------------------|----------------------------|------|
|                                                                    | Value (0-1)                | %    |
| <b>BUDGETARY ITEM SUPPORTS CBD’S OBJECTIVES TO ITS FULL EXTENT</b> | 1.00                       | 100% |
| <b>BUDGETARY ITEM SUPPORTS CBD’S OBJECTIVES SIGNIFICANTLY</b>      | 0.75                       | 75%  |

<sup>39</sup> See <http://www.cbd.int/financial/reporting.shtml>

<sup>40</sup> <http://www.cbd.int/financial/doc/switzerland-funding-biodiversity-en.pdf>

|                                                                              |      |     |
|------------------------------------------------------------------------------|------|-----|
| <b>ABOUT HALF OF THE BUDGETARY ITEM SUPPORTS CBD'S OBJECTIVES</b>            | 0.50 | 50% |
| <b>BUDGETARY ITEM CONTRIBUTES TO CBD'S OBJECTIVES FOR THE SMALLER PART</b>   | 0.25 | 25% |
| <b>A MINOR PART OF THE BUDGETARY ITEM CONTRIBUTES TO CBD'S OBJECTIVES</b>    | 0.10 | 10% |
| <b>A MARGINAL PART OF THE BUDGETARY ITEM CONTRIBUTES TO CBD'S OBJECTIVES</b> | 0.05 | 5%  |

### *Germany*

Germany conducted an analysis of its international expenditures on biodiversity that is detailed in the report: Committed to Biodiversity: Germany's International Cooperation in Support of the Convention on Biological Diversity for Sustainable Development. Federal Ministry for Economic Cooperation and Development (BMZ) and Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). 201441

As with other countries, Germany applied 100% of the expenditures for Rio Marker 2 activities. The secondary or what they term "sectoral components" have to contribute to at least one of the three objectives of the CBD, and must be included in project planning, implementation and monitoring (with one or more specific indicators). The analysis then only counted the parts of each sectoral project that were specifically directed to biodiversity (the three objectives). This approach differs from the standard coefficient approach in that it does not seek to place activities into categories and then assign coefficients but examines the detailed expenditures of each project to determine the amount to attribute to biodiversity.

### *India*

India divided up its analysis of budgets into Core, Non-core, and Peripheral funding.

"Core": this is direct biodiversity funding from the Ministry of Environment, Forestry and Climate Change (MoEFCC) that has "direct and immediate biodiversity impact". This includes funding for agencies that directly and purposefully consider biodiversity within their mandates.

"Non-Core: this is budget from the MoEFCC that is non-direct. This includes activities such as "pollution, hazardous substances management, etc., which facilitate biodiversity conservation of river streams, wetlands"

"Peripheral": this is budget for biodiversity relevant schemes of Ministries/Departments other than the MoEFCC.

Core funding is attributed at 100% of the budget (similar to Rio Marker 2 attribution) and both Non-Core and Peripheral budgets were subject to the multiplier once the associated schemes were placed into multiplier categories (see Table 16). The table presents the number of schemes that were attributed to each of the Multiplier categories.

<sup>41</sup> <http://www.bmub.bund.de/en/service/publications/downloads/details/artikel/committed-to-biodiversity/>

Table 16 Multiplier values and the number of Schemes attributed to each multiplier category in India.<sup>42</sup>

| Multiplier               | 0.002 | 0.010 | 0.017 | 0.020 | 0.050 | 0.055 | 0.100 | 0.150 | 0.250 | 0.900 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| %                        | 0.2   | 1     | 1.7   | 2     | 5     | 5.5   | 10    | 15    | 25    | 90    |
| Number of schemes (n=77) | 1     | 50    | 1     | 1     | 10    | 1     | 7     | 1     | 1     | 4     |

What is noticeably different with this attribution table – in comparison to France and Switzerland – is that there is a preponderance of low values (0.2%, 1%, 1.7%, 2%, 5%, 5.5%) that are all under 10%. This allows for small amounts of very large “Peripheral” programs to be counted towards biodiversity. Given the very high number of schemes attributed to the 1% category (50 of 77), it appears that having a category this low (1%) was found valuable to the India team.<sup>43</sup>

#### *Toward a structured list of biodiversity-related activities and related coefficient table*

One potential approach to standardize attribution of biodiversity expenditures and to clarify and unify the scope and definition would be to identify a standard list of “biodiversity activities”. Ideally this standard list of activities would be used for both tagging and attributing expenditures, but could also be used with the costing of the NBSAPs (see below).

## 4.4 Private Sector

Assessing private sector contributions to biodiversity is one of the more challenging aspects of tracking and planning biodiversity expenditures. While the negative impact of business activities have been tracked in many different ways, the positive investments and expenditures of the private sector for the benefit of biodiversity has rarely been assessed. There are a few emerging approaches by individual CBD parties as well as with the BIOFIN methodology, some of which will be outlined in this section. In general approaches can be divided into the following:

- 1) Annual reporting by corporations as required by countries under standard Systems of National Accounts (including SEEA) reporting that include biodiversity elements within “Environmental Protection Expenditures” (part of CEPA) and other classification systems.
- 2) Systematic periodic questionnaires designed to capture specific biodiversity (or general environmental) expenditure data – these can also feed into the SNA / SEEA process.
- 3) Gathering information from published reports such as annual financial reports and Corporate Social Responsibility (Sustainability) reports. It should be noted that none of

<sup>42</sup> India’s 5<sup>th</sup> National Report to the CBD

<sup>43</sup> Given the low numbers for some of the other categories, it may make sense to consolidate categories for the next revision to avoid subjectivity (for example, is it worth debating 1.7% vs 2.0%?). For example, consolidating to 1%, 5%, 10%, 25% (maybe add 50%), and 90% would only exclude 5 schemes (of 77) that could easily be placed in adjacent categories with minimal quantitative impact.

the standard CSR reporting standards (i.e. GRI) include biodiversity expenditure indicators.

- 4) Extrapolation models built from partial data – this includes any form of modeling that estimates the national expenditure from part or all of the private sector based on an initial set of assumptions (empirical or theoretical).

### *Canada*

Canada developed a combined methodology to count its national biodiversity investments. With regard to the private sector, they considered some successful elements to be the ability to use results from Statistics Canada data from business surveys, the inclusion of data from “user fees”, the ability to generate data from some of the largest domestic NGOs, and they were able to formulate estimates for academic institutions. Some of the challenges included the fact that data are based on periodic surveys (not annual) and that there was no specific “biodiversity” category.<sup>44</sup> The report provided an “indicative estimate of the scale and scope of resources being mobilized by Canada and Canadians in support of the objectives of the CBD” for the years 2006-2010. The results are presented in the Case Study (see Table 10Table 10.)

It should be noted that Canada considered user fees and licenses as an expenditure (household expenditure) but it could equally be treated as a source of revenue for the parks and government that is related to biodiversity. There is no place in the financial reporting framework where revenue from biodiversity is captured. This figure could be very useful for government decision making and is likely to be integrated into the BIOFIN methodology.

### *Switzerland*

Switzerland has made significant progress on assessing the private sector’s contribution to biodiversity expenditures but the methodology is not yet at a point where the party is confident of the results. In the recent submission to the CBD (2014) Switzerland indicated that work is ongoing to improve the methodology. The work is being implemented in collaboration with the Swiss Federal Office for Statistics (BFS) who carry out surveys for specific information collection with the private sector and multiple other sources.<sup>45</sup>

The BFS cites the following areas of current study: environmental protection global expenditure, corporate environmental protection expenditure, fiscal levies related to the environment, and environmental goods and services.

The main category of biodiversity expenditure tracking is under the rubric of “Environmental Protection Expenditure” as with the SEEA standards. The Swiss Federal Office for Statistics website describes the work as such: “The protection of the environment requires significant expenditures to reduce the impact of human activities. This is especially true for companies that have significant compliance expenses. How much do they spend on environmental protection? In

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<sup>44</sup> From presentation by Scott Wilson, Environment Canada, WGRI-5, Montreal, Canada, June 19, 2014

<sup>45</sup> See for example:

[http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen\\_quellen/blank/blank/umweltkonten/02/01.html](http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen_quellen/blank/blank/umweltkonten/02/01.html)

what environmental area? What are the impacts on competitiveness? To what extent is the polluter pays principle implemented? To what extent do improved (cleaner) production technologies – that reduce pollution at source – take precedence over end-of-pipe measures? It is these questions, and many others, that the present study seeks to address.”<sup>46</sup>

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Over the last few years, the Swiss Federal Office for the Environment (FOEN) organized three meetings with representatives from the private sector. The events are not directly linked with reporting but are an important element to maintain the dialogue between the Swiss government and private sector actors:

- 2011: Business and Biodiversity event in Gland, organized by IUCN
- 2013: Workshop Business and Biodiversity, organized by FOEN in Bern
- 2014: Swifcob, organized by Swiss Biodiversity Forum and FOEN about the value of biodiversity and ecosystem services for businesses  
[http://www.naturalsciences.ch/organisations/biodiversity/events/swifcob/14\\_2014](http://www.naturalsciences.ch/organisations/biodiversity/events/swifcob/14_2014)

Furthermore, the private sector was represented at CBD COP-10, COP-11 and COP-12.

Regular contact with the private sector takes place related to the ratification and implementation of the Nagoya Protocol.

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### *United Kingdom*

The United Kingdom has sought to include NGO expenditures more completely in their CBD financial reporting. The methodology is summarized in a Background Methods Paper.<sup>47</sup> The following paragraphs summarize these methods.

The NGO's with a primary focus on biodiversity or nature were selected (agency approach). They were able to focus on Link members (association of nature based NGOs) to establish a list of pre-selected NGOs. The sample also included 13 of the 47 Wildlife Trusts with the highest annual turnover in England and Scotland and some other NGOs (not members of Link) that have a biodiversity / nature focus. Data was collected mostly from published NGO annual accounts and financial reports. [Almost all of these NGOs are registered charities and publish detailed annual financial reports on the [Charity Commission website](http://www.charity-commission.gov.uk/).] In some cases data was collected directly from the NGO. Because the public sector data excluded administrative staff costs, those costs associated with administering biodiversity focused programs were excluded. Given the pre-selection based on “agency”, the analysis was able to include all money spent on 'Charitable Activities' as used as the estimate of annual biodiversity spending.

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<sup>46</sup> See for example:

[http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen\\_quellen/blank/blank/umweltkonten/02/01.html](http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen_quellen/blank/blank/umweltkonten/02/01.html)

<sup>47</sup> [http://jncc.defra.gov.uk/Docs/biyp2014\\_E2\\_TechBG\\_final.doc](http://jncc.defra.gov.uk/Docs/biyp2014_E2_TechBG_final.doc)

As with most cases, the risk of double counting must be managed as some of the grants and other payments came from the government to NGOs and these were already counted in the public sector stream. Where the NGOs list specific grants received and the value of these grants in their statement of financial activities, it was possible to identify public sector grants and calculate the proportion of each NGO's total income from the public. The initial estimate of the NGO's expenditure on biodiversity is multiplied by the proportion of total income not from the public sector to produce the final estimate. Where published data was inadequate for detailed analysis, and the total expenditure of the NGO was very large (>1% of total) the organization was contacted directly. Data were converted to "real" figures (from nominal) using the UK Gross Domestic Product Deflator.

### *Japan*

With regards to the private sector, there are the result of the questionnaire survey about CSR spending for BD (Toyokeizai CSR survey). However answers from companies are very different because there is no clear classification of the biodiversity expenses by each company. Therefore, we regard the data as not reliable enough for reporting. In 2015, we hope to conduct interviews with these companies in order to better understand the breakdown of their expenditures and the methodology used for measuring those expenditures. Additionally, based on the results of the interviews, we hope to understand what are effective incentives for companies to fund BD projects and to report that funding accurately. In terms of other expenditure categories (NGOs, foundations, and academia) only academia expenses titled, "Biodiversity Conservation expenses" in "The Environment Research and Technology Development Fund" were counted.

### *Namibia*

Namibia used empirical data combined with a modeling approach combined to estimate the amount of investment made for biodiversity on private lands. In Namibia, there are many private land owners that manage their land as rangelands for populations of wild animals. With data gathered from a few land owners, Namibia was able to extrapolate across the entire country based on the total area under private management. For more information see the Case Study.

## 4.5 Sub-national level

Sub-national expenditures pose challenges to effective financial quantification and reporting for a variety of reasons. The two main reasons being the diffuse nature of the data (financial planning, spending, and accounting) and the complexity of financial flows (transfers, local revenue, etc.) The approaches to sub-national expenditure analysis are the most complete in the OECD countries and examples are provided here from Japan, France and India.

### *Japan*

Japan only counted the biodiversity activities that are "directly related" to biodiversity conservation (e.g. Rio Marker 2). Double-counting was a challenge for Japan as the central government budget finances state/provisional, local/municipal budgets and academia. As such it

was not possible to avoid double counting among those budgets. The main central government category for biodiversity expenditures was termed “Environmental Conservation Expenses” with data compiled by the Ministry of the Environment. For government budgets at the State/ Provincial and Local/Municipal levels, the amount was estimated by calculating the ratio of biodiversity conservation expenses to total expenses of several prefectural governments and then by multiplying that ratio to total sub-national government budgets. This is an extrapolation method that allows country-wide estimations based on a sampling of cases. The results of the analysis are included in the Case Study.

Table 17 Example of Japan’s domestic biodiversity expenditure analysis.

### Estimation of domestic biodiversity expenditure of Japan

| Sample of provincial budget for BD |                             |      |                            |            | Sample of municipal budget for BD |                             |      |                            |            |
|------------------------------------|-----------------------------|------|----------------------------|------------|-----------------------------------|-----------------------------|------|----------------------------|------------|
|                                    | Budget for BD (million JPY) | Year | Whole budget (million JPY) | Percentage |                                   | Budget for BD (million JPY) | Year | Whole budget (million JPY) | Percentage |
| Nagano                             | 97                          | 2012 | 841,187                    | 0.012%     | Toyooka                           | 3                           | 2012 | 45,711                     | 0.007%     |
| Chiba                              | 212                         | 2013 | 1,583,454                  | 0.013%     | Yokohama                          | 563                         | 2013 | 1,536,900                  | 0.037%     |
| Hyogo                              | 414                         | 2010 | 2,204,500                  | 0.019%     | Kyoto                             | 10                          | 2010 | 738,112                    | 0.001%     |
| Tochigi                            | 91                          | 2013 | 769,220                    | 0.012%     | Sakai                             | 11                          | 2013 | 358,700                    | 0.003%     |
| Mie                                | 68                          | 2012 | 669,350                    | 0.010%     | Takayama                          | 85                          | 2012 | 44,400                     | 0.191%     |
| Akita                              | 290                         | 2013 | 583,400                    | 0.050%     | Nagoya                            | 42                          | 2013 | 983,704                    | 0.004%     |
| Tokushima                          | 95                          | 2012 | 456,133                    | 0.021%     | Atsugi                            | 13                          | 2012 | 73,780                     | 0.018%     |
| Saitama                            | 216                         | 2013 | 1,675,715                  | 0.013%     | Maniwa                            | 12                          | 2013 | 29,261                     | 0.039%     |
| Shigea                             | 115                         | 2013 | 495,400                    | 0.023%     | Kashiwa                           | 3                           | 2013 | 110,160                    | 0.003%     |
| Okayama                            | 114                         | 2013 | 656,183                    | 0.017%     | Osaka                             | 15                          | 2013 | 1,720,550                  | 0.001%     |
| Average = 0.030%                   |                             |      |                            |            | Average = 0.019%                  |                             |      |                            |            |

#### France

France was able to track and report on their sub-national expenditures at the regional and local levels based on their existing governmental accounting system. All activities are attributed to “protection of biodiversity and landscapes” and there was no attempt to differentiate among primary and secondary activities. Since the activities covered seem to fall into the Environmental Protection category, the analysis did not include sectoral elements such as sustainable agriculture, forestry, etc.

#### India

India used an extrapolation approach for estimating state-level budgets for biodiversity. As described above and explained in the Case Study, India divided budgets into ‘core’, ‘non-core’ and ‘peripheral’. Core funding was allocated at 100%, non-core at 30% and peripheral based on an analysis of the schemes and a multiplier as described above. Based on a similar approach, core and non-core funding for biodiversity was derived from the budgetary allocations made by the State (provincial) Government. Peripheral funding by State Governments was also calculated using multiplier factor (10%) for the programs executed by State-based Departments of the 23 ministries identified at the national level (Department of Animal Husbandry, Fisheries, Agriculture, etc.). See Case Study for more details.

#### 4.6 Indigenous and local communities’ contribution

A recent methodological proposal has been provided by OTCA, SwedBio and Bolivia with regards to the contributions of indigenous and local communities. Certain figures and information is copied from the CBD submissions cited below. The proposed methodology is:

Developed per request of the Amazon Cooperation Treaty Organization (OTCA) with the support of the Amazon Regional Programme (ARP)-GIZ, and the IUCN South (International Union for Conservation of Nature) – Resilience and Development Programme (SWEDBIO). This proposal has been developed by Eduardo S. Brondizio, Indiana University-Bloomington, and Krister P. Andersson, University of Colorado-Boulder, with contributions and monitoring of Diego Pacheco, Rector of the University of the Cordillera and Advisor of the Ministry of Foreign Affairs from Bolivia, and the Unit of Mother Earth and Water (UMTA) of the Ministry of Foreign Affairs of the Plurinational State of Bolivia.<sup>48</sup>

The complete submission of the methodology can be found at: [UNEP/CBD/COP/12/INF/7 26 September 2014](https://www.unep.org/cbd/cop12/inf7/26-September-2014)

The CBD review and summary of methodology can be found at: [UNEP/CBD/COP/12/13/Add.5/Rev.1 30 September 2014](https://www.unep.org/cbd/cop12/13/Add.5/Rev.1-30-September-2014)

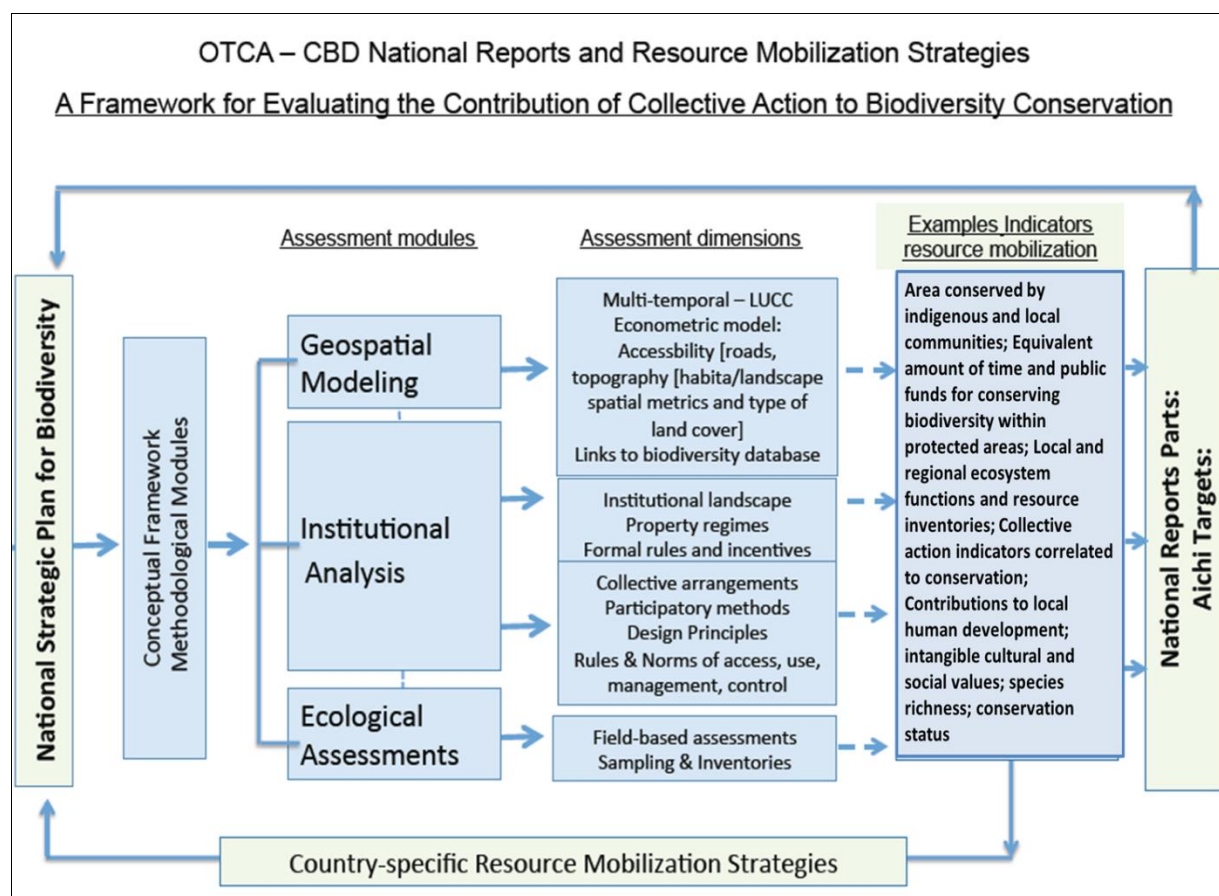
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The following are excerpts copied directly from the CBD summary: Report on Activities on Collective Actions and Non-Market-Based Approaches for Resource Mobilization.

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<sup>48</sup> [UNEP/CBD/COP/12/13/Add.5/Rev.1 30 September 2014](https://www.unep.org/cbd/cop12/13/Add.5/Rev.1-30-September-2014)

Figure 12: Framework for evaluation collective action

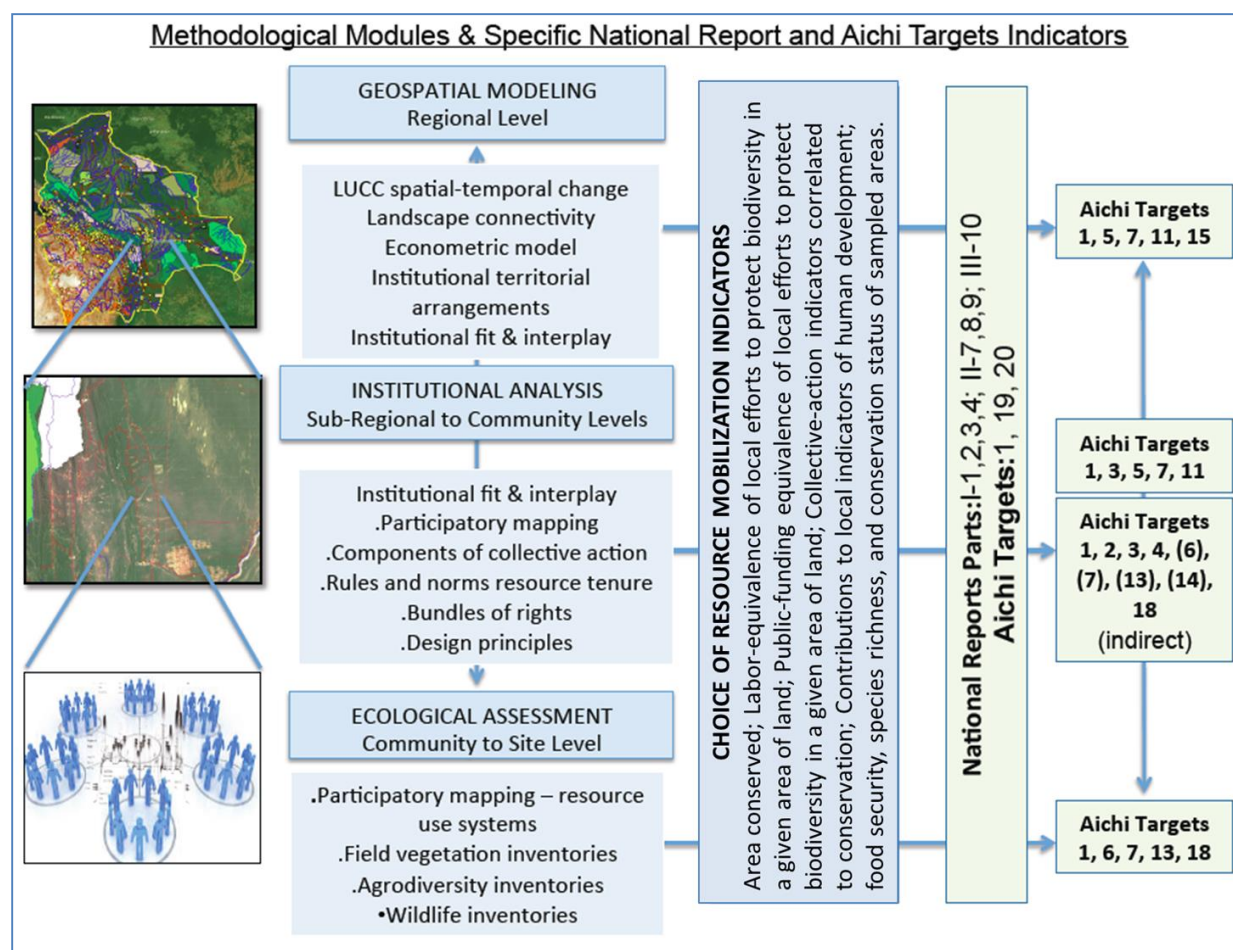


The methodology proposed here brings together advances in land change sciences that link – through geospatial analysis – the analysis of environmental change at different scales with the analysis of institutional arrangements that examine the underlying mechanisms of local individual and collective action to protect biodiversity and ecosystems. Figure 3 below illustrates how modules of the proposed methodology could feed into the national reporting system and contribute to the generation of new indicators that are directly relevant for several of the Aichi Biodiversity Targets. From this combination of modules different indicators can be generated to evaluate the relationship between collective action and biodiversity conservation, with respect to resource mobilization.

#### *Proposed methodology for assessing collective action in socio-ecological systems*

The proposed methodology will enable member countries to evaluate and quantify the contribution of local people to biodiversity conservation (see Figure 2 in the main report). These modules could also be adapted for use by local communities and user groups. It consists of three modules: (a) a geospatial modelling approach to estimate the area of terrestrial ecosystems protected by local people; (b) an institutional analysis module that complements the geospatial analysis, and (c) an ecological-assessment module that outlines field-based protocols and sampling to validate the geospatial model.

Figure 13: Analytical results linked to possible resource mobilization indicators, National Report questions and specific Aichi Biodiversity Targets



The methodological approach discusses one example of the role of collective action in biodiversity conservation and sustainable use of its components, such as forest areas conserved by local communities through collective action. Further work is needed for assessing the role of collective action in other aspects such as water and biodiversity conservation, protection of environmental functions, food security, among others.

The implementation of these modules allow for the generation of ten indicators of resource mobilization, as summarized in Table 1 below, and the methodology relates to 14 of the 20 (see Figure 3 in the main report) Targets. As mentioned previously, this document takes as an example of the forest area conserved by local people through collective action, and some proxy indicators (labor and public funding equivalents) can be developed as necessary. The remaining indicators are indirectly relevant to resource mobilization in that they can help explain why some indigenous and local communities are more successful in protecting biodiversity—indicators that can help create more effective conservation policies.



## 4.7 Biodiversity-Harmful Expenditures

Biodiversity-harmful expenditures are those expenditures include all direct and indirect expenditures that are counter to national biodiversity goals and objectives, and/or counter to the conservation, sustainable use and/or equitable benefits sharing of biodiversity. Some examples of biodiversity-harmful expenditures include: a) expenditures that promote the spread of invasive alien species; b) subsidies that promote the overuse of chemical pesticides and fertilizers; c) national investments and fiscal policies that support harmful practices within protected areas; and d) investments in infrastructure that have harmful impacts on the habitats of key species. Most methodologies for biodiversity expenditure reviews do not include an analysis of biodiversity-harmful expenditures, and the scope to which this can be done at a national level is still under debate and testing.

## 4.8 Analysis of Methods for Biodiversity Financial Flows

### 4.8.1 Common features and critical differences

Most approaches seek to use pre-existing data and to utilize a framework that can be repeated annually. For most donor countries, the fact that they are currently reporting through the OECD DAC system and using the Rio Markers for biodiversity (as well as for reporting on climate change, desertification, and general environmental expenditures). Some of the main issues that are common across the various approaches include the following:

- 1) Definition of biodiversity-related activities
- 2) Coefficients
- 3) Challenges in capturing private sector expenditures
- 4) Sub-national approaches

| Issue                                     | Convergence / Best Practices                                                                   | Divergences                                                                                                                                                                                                                | Methodological Gaps                                                                                                                                                                                                                                                                                                    | Data Gaps                                                                           | Next Steps | Responsibilities |
|-------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|------------------|
| Definition of Biodiversity Related Issues | .Existence of Primary (Direct) / Secondary (Indirect) distinction<br>.Definitions based on CBD | .Different base definitions<br>.Different Activities including or excluded (sustainable use, mainstreaming)<br>.Reporting only Primary vs. both primary and Secondary<br>.India's "peripheral" category (3 <sup>rd</sup> ) | .Definitive shared definition<br>.Definitive list of biodiversity activities<br>.Process to delineate clearly the scope for expenditure review.<br>.Clear methods to avoid double counting in countries<br>.Guidance for private sector reporting<br>.Subnational reporting guidance<br>.Compatibility with SEEA (SNA) | Impacts<br>Geo-referenced database<br>Sub-national Data<br>Private Sector data      |            |                  |
| Coefficients / Attribution                | .100% attribution of Primary (direct) biodiversity activities                                  | .Percentage attribution of secondary activities (wide range)                                                                                                                                                               | .Standard coefficients for activities, categories, or actors?<br>.Methodology for attribution without standard coefficients<br>.Community and non-market attribution (being developed)                                                                                                                                 | .Impacts of mainstreaming and sustainable use activities on biodiversity<br>.Others |            |                  |
| Private Sector                            | .Challenge acknowledged by all<br>.NGOs almost always included                                 | .Varied inclusion: Companies, NGOs, Households, etc.                                                                                                                                                                       | .Biodiversity activities definitions (see above)<br>.Attribution (see above)<br>.Questionnaires, reports, etc.?                                                                                                                                                                                                        | .Private companies (with no public disclosure)                                      |            |                  |

|                                   |                                                                                                           |                                                                         |                                                                                                                                                               |                                                                        |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--|--|
|                                   | .Focus on largest / most important<br>.Follow questionnaires with direct contact for significant entities | .Questionnaires, interviews or published reports?                       | .Relations with CEPA, CReMA, etc. for private companies                                                                                                       | .Specific biodiversity activities in companies<br>.etc.                |  |  |
| Sub-National                      | .Recognized as a challenge                                                                                | .Agency vs Activity (Program) analysis<br>.Attribution (see above)<br>. | .Treatment of double counting<br>.Transfers<br>.Local revenues<br>.Data collection<br>.Household expenditures                                                 | . Depends on countries                                                 |  |  |
| Impacts – Cost Effectiveness      | .Lack of attention until present                                                                          | .Not generally addressed in reporting framework                         | .Definitions (even how to include)<br>.Attribution of specific indicators to expenses<br>.measures of cost effectiveness<br>.measures of Return on Investment | .Geo-referenced data<br>.annual bio-physical accounts<br>.etc.         |  |  |
| Biodiversity Harmful Expenditures | .Universally appreciated as important                                                                     | .No clear shared methodology for calculation, treatment, or reporting   | .Reconciling the different social objectives of subsidies with harm<br>.Quantification<br>.etc.                                                               | .Economic analysis of impacts (positive and negative) of subsidies and |  |  |

|                                                                      |                 |  |  |                         |  |  |
|----------------------------------------------------------------------|-----------------|--|--|-------------------------|--|--|
|                                                                      |                 |  |  | harmful<br>expenditures |  |  |
| Distinction<br>between<br>Expenditures,<br>Financing, and<br>Impacts | To be discussed |  |  |                         |  |  |

#### 4.8.2 Areas of Convergence

The OECD definition of biodiversity is a useful start, is based on the CBD objectives, and is well accepted by the full range of actors. However, there does not appear to be convergence on a global taxonomy for biodiversity-related activities.

#### 4.8.3 Data and Methodological Gaps

The main data gap in many countries is a robust system for capturing private sector finance. There appears to also be a gap with multilateral development banks, as well as a major lack of agreement around the coefficients (or attribution) of certain activities in terms of their relation or degree of attribution to biodiversity.

## 5 EX ANTE ASSESSMENT OF BIODIVERSITY-RELATED INVESTMENTS: Costing the Revised NBSAPs

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### 5.1 Introduction

The expected costs to achieve the Aichi Biodiversity Targets in all countries who are Parties to the CBD are unknown. Very few countries have submitted fully costed NBSAPs to the CBD although a high number of countries are currently working on developing costed NBSAPs. Budgeting is not a new topic to most actors in government, since not only do almost all organizations, agencies, ministries and companies establish annual budgets, but they also develop medium and long-term strategic plans and clear budgets. Thus the challenge in establishing clear budgets for the NBSAPs is not the lack of experience or knowledge with budgeting but is the lack of budgeting biodiversity-related activities. This lack of experience or knowledge could be based on two main issues: 1) uncertainty about the actual activities that should be implemented to achieve the Aichi Biodiversity Targets – including scope, scale, and timing; and 2) uncertainty about the actual cost of specific activities.

This section reviews some methodologies about both issues but focuses on the latter, as the former is beyond the scope of this paper.

It is important to note that every country, organization, and business has its own approach to budgeting. As such, with any budgeting initiative, the most important initial question is: “who will be deciding on the budget financing?” For the case of NBSAPs, it is usually the Ministry of Finance (or Planning, etc.) that will make initial decision on basic internal financing. Other potential financial decision makers include international donors, development banks, etc. If the NBSAP budgeting process adheres to the national budget process, it has a much greater chance of being effectively integrated into national budgets.

### 5.2 Clarification of Activities to be Costed for the NBSAP

As mentioned earlier, UNDP's BIOFIN initiative developed a taxonomy of potential biodiversity-related actions. This taxonomy provides a useful framework for identifying specific activities for which specific costs can be identified. Some examples of how the general taxonomy could be used as a categorization system for costable actions is shown below in Table 18.

Table 18 Examples of how UNDP's BIOFIN taxonomy can be used as a categorization system for costable actions

| Category               | Specific sector                   | Indicative list of potential costable actions as part of an NBSAP              |
|------------------------|-----------------------------------|--------------------------------------------------------------------------------|
| Sectoral mainstreaming | Transportation and infrastructure | Avoid areas of key biodiversity importance in siting major infrastructure      |
|                        |                                   | Ensure the creation of wildlife crossings to minimize impacts on migration     |
|                        |                                   | Avoid core areas of protected areas when designing roads and infrastructure    |
|                        | Waste                             | Improve solid waste facilities to minimize soil and water contamination        |
|                        |                                   | Prevent heavy metals from entering aquifers and ground water                   |
|                        |                                   | Ensure enforcement of septic requirements for coastal resort development       |
|                        | Tourism                           | Develop a comprehensive tourism plan within national protected areas           |
|                        |                                   | Prevent the introduction of invasive alien species through education           |
|                        |                                   | Improve fish stocking practices to minimize genetic erosion                    |
| Natural resource use   | Forestry                          | Develop land-use plans to conserve high-conservation value forests             |
|                        |                                   | Promote forest certification                                                   |
|                        |                                   | Create a legal framework that improves the sustainable use of forest resources |
|                        | Agriculture                       | Develop a program for attracting beneficial predators and pollinators          |
|                        |                                   | Promote integrated pest management and organic agriculture                     |
|                        |                                   | Transition to drought-resistant crops                                          |
|                        | Fisheries                         | Promote locally-managed marine areas                                           |

|            |                   |                                                                                |
|------------|-------------------|--------------------------------------------------------------------------------|
|            |                   | Create incentives to promote sustainable fisheries practices                   |
|            |                   | Develop and implement national fisheries policies and sustainable catch levels |
| Protection | Protected areas   | Establish new protected areas                                                  |
|            |                   | Improve the management effectiveness of existing protected areas               |
|            |                   | Create wildlife and connectivity corridors between protected areas             |
|            | Ex situ and trade | Establish gene bank of key species                                             |
|            |                   | Monitor trade in CITES-listed species                                          |

### 5.3 Calculation of Biodiversity Activity Costs

The most common way to determine biodiversity activity costs is to develop a detailed program of activities with clear targets as described above, identify sub activities or budget line items needed to implement the activity – i.e. number of consultant days, amount of fuel, equipment, etc. and produce a detailed budget activity by activity, input by input. The Philippines have done a comprehensive costing of their NBSAP using this method and details can be found in the Case Study.

An alternative approach to costing biodiversity-related activities is to build a global database of standardized NBSAP activities, and, using basic models, extrapolate likely costs among countries. Because no standardized list exists, and because costing of NBSAPs is still at an early stage, this process is considered premature.

### 5.4 Analysis of Cost Effectiveness and Feedback to the NBSAP process

One aspect to consider when costing the activities within an NBSAP is cost effectiveness. While planners and policy makers might identify realistic costs associated with each action within the NBSAP, they may also want to consider the *cost effectiveness* of each action – whether they are getting the best value for the investment. After analyzing various costs associated with NBSAP actions, and after identifying key indicators or results related to these investments, the costing working group may recommend adjustments to the NBSAP itself, by identifying more cost-effective options.

### 5.5 National experiences in costing: Namibia and The Philippines

Several countries have recently completed a comprehensive costing exercise for their NBSAPs. Two examples are presented here – Namibia and The Philippines.

### *Namibia*

Namibia recently completed a detailed costing for implementing their NBSAP, embedded within their recently submitted NBSAP (see <https://www.cbd.int/doc/world/na/na-nbsap-v2-en.pdf>). The costing report is organized according to strategic goal within the NBSAP, strategic initiative, indicative activities, baseline status for 2013, potential indicators against which progress (and potentially return on investment) can be measured, lead agency, key partners, time frame, and cost. The costing exercise covered 130 different actions, organized into 17 categories across 5 strategic goals. The estimated cost of implementing all 130 actions is N\$ 494 million over the next nine years. These figures refer only to the specific activities in the NBSAP, and not to the ministerial operational budget framing them.

### *The Philippines*

As part of their participation in BIOFIN, The Philippines has recently completed a comprehensive costing report (draft available at: [https://dl.dropboxusercontent.com/u/86439062/PBSAP%20Costing%20Report\\_Workbook%202A\\_March%202015%20to%20share.pdf](https://dl.dropboxusercontent.com/u/86439062/PBSAP%20Costing%20Report_Workbook%202A_March%202015%20to%20share.pdf)). The costing committee held a national costing workshop of thematic experts from government, private sectors, and NGOs. The committee developed specific unit costs for each of the actions within the NBSAP. The costing was conducted across 8 thematic areas – access and benefits sharing; invasive alien species; urban biodiversity; inland wetlands; forest and terrestrial areas; agrobiodiversity; caves and cave systems; and coastal and marine areas. The total cost of implementing all actions ranged from a low estimate of USD 7.5 billion to USD 8.5 billion. Of this, more than half was allocated to the prevention of habitat loss and avoidance of overexploitation of forest and terrestrial biodiversity.

## 5.6 Analysis of Methods for Biodiversity Related Funding Needs

To be prepared following the Workshop.

| Issue                                     | Convergence / Best Practices                                                                   | Divergences                                                       | Methodological Gaps                                                                                                                                                                               | Data Gaps                                                                              | Next Steps | Responsibilities |
|-------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------|------------------|
| Definition of Biodiversity Related Issues | .Existence of Primary (Direct) / Secondary (Indirect) distinction<br>.Definitions based on CBD | .Different base definitions<br>.Program or Agency financing plans | .Definitive shared definition<br>.Process to delineate clearly the scope for ex ante expenditures.<br>.Methods to avoid double counting<br>.Coherence with national budget methods and categories | .Standard costs<br>.Geo-referenced activity plans<br>.Private Sector costs             |            |                  |
| Private Sector                            | .Challenge acknowledged by all                                                                 | .Inclusion in budgeting process varied                            | .Activities<br>.Engagement of private sector in budgeting                                                                                                                                         | .Specific biodiversity activities costs                                                |            |                  |
| Sub-National                              | .Recognized as a challenge                                                                     | .Agency vs Activity (Program) budgeting                           | .Treatment of double counting<br>.Revenues<br>.Community and non-market engagement<br>.Local planning<br>.Land Planning                                                                           | Local costs                                                                            |            |                  |
| Impacts – Cost Effectiveness              | .Lack of attention until present                                                               | .Lack of clear definition<br>.Not often included in costing       | .Non-uniform level of activity detail in NBSAPs<br>.Absence of “Costable Actions” – only vague targets<br>.Attribution of specific indicators to expenses                                         | .Geo-referenced targets and indicators<br>.Historical cost and cost effectiveness data |            |                  |

|  |  |  |                                                                                              |  |  |  |
|--|--|--|----------------------------------------------------------------------------------------------|--|--|--|
|  |  |  | .Definition and methods<br>of analysis for Cost<br>Effectiveness and<br>Return on Investment |  |  |  |
|--|--|--|----------------------------------------------------------------------------------------------|--|--|--|

## 6 Challenges and Opportunities

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There are several common challenges and opportunities that have emerged. (To be completed following Workshop)

### 6.1 Standard Activity Categories and Descriptions

### 6.2 Tying Finance to Conservation Results

## 7 Bibliography and References

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Submissions on the CBD preliminary reporting framework as well as earlier financial reporting is available under <http://www.cbd.int/financial/reporting.shtml>

EU Draft Regulation on Environmental Accounts Reporting -<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1416221752426&uri=CELEX:02011R0691-20140616>

Background on the EU tracking of Environmental Protection Expenditure:  
[http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental\\_protection\\_expenditure](http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_protection_expenditure)

Burundi. Citation : Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme (2013) – Plan Stratégique d'Investissement et de Mobilisation des Ressources Financières dans le domaine de Biodiversité au Burundi 2013-2020. Bujumbura, 70p.

*Transforming Biodiversity Finance: The Biodiversity Finance (BIOFIN) Workbook for assessing and mobilizing resources to achieve the Aichi Biodiversity Targets and to implement National Biodiversity Strategies and Action Plans.* Appendices I and J.  
<http://www.cbd.int/doc/meetings/fin/rmws-2014-04/other/rmws-2014-04-workbook-biofin-en.pdf>

*Aid targeting the objectives of the Convention on Biological Diversity. OECD Guidance on Rio markers:*

<http://www.oecd.org/dac/stats/46782010.pdf>

*The Multilateral Environmental Agreements and the Rio Markers. Information note prepared by EuropeAid E6 Unit – "Natural Resources", September 2010*

[http://capacity4dev.ec.europa.eu/system/files/file/15/01/2014\\_-\\_1445/eu\\_the\\_multilateral\\_environmental\\_agreementsand\\_the\\_rio\\_markers\\_en.pdf](http://capacity4dev.ec.europa.eu/system/files/file/15/01/2014_-_1445/eu_the_multilateral_environmental_agreementsand_the_rio_markers_en.pdf)

EU Biodiversity Budget Tracking

<http://www.cbd.int/financial/finreporting/eu-epeaguide.pdf>

<http://ec.europa.eu/eurostat/help/new-eurostat-website>

## 8 ANNEX: BIODIVERSITY ACTIVITY CATEGORIES AND SEEA

### *Categorization of Biodiversity Activities*

#### Proposed typology of Biodiversity related EU Expenditures

From Common guidance on definition and criteria for biodiversity expenditure in the EU budget, Background document for EU level workshop (30 Sep 2014, Brussels), Study on Tracking Biodiversity Expenditure in the EU Budget - project number: ENV.B.2/ETU/2013/0061r, IEEP collaboration with ICF – page 10-13.

| Table 2: Proposed typology of biodiversity related EU expenditures by the study team<br>Type of expenditure | Examples of expenditure with a primary biodiversity objective (100% marker)                                                                                                                                                                                                      | Examples of expenditure with a significant biodiversity objective (40% marker)                                                                                                                                            | Examples of expenditure which are not biodiversity related (0% marker)                                                                                                |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protected areas                                                                                             | All actions to identify, implement and manage protected areas designated primarily on biodiversity criteria, including:<br>- Natura 2000; and<br>- national protected areas                                                                                                      | Actions which support protected areas alongside other objectives not related to biodiversity.                                                                                                                             | Actions relating to sites which do not provide biodiversity benefits, e.g.:<br>- built environment designations.                                                      |
| Species conservation measures                                                                               | - All species conservation measures (in situ and ex situ) which focus primarily on the conservation and sustainable use of the species;<br>- development and enforcement of policies, plans and strategies designed primarily to further species protection and sustainable use. | Activities with a significant species conservation objective among other objectives, e.g.:<br>- species research with objectives to further commercial exploitation, where species conservation is a secondary objective. | Species focused actions with a purely commercial or recreational focus, e.g.:<br>- commercial agriculture and aquaculture, hunting, commercial R&D on use of species. |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrastructure investments              | <p>Green infrastructure: Development, restoration, protection and management of green infrastructure with a primary objective of conservation and management of biodiversity and related ecosystems, e.g.:</p> <ul style="list-style-type: none"> <li>- habitat restoration, re-creation and management,</li> <li>- creation of ecological networks,</li> <li>- related research, education, advisory and monitoring activities</li> </ul> | <p>Green infrastructure combined with grey infrastructure: Expenditures which include some green infrastructure elements, where biodiversity is a significant objective alongside other benefits and services, e.g.:</p> <ul style="list-style-type: none"> <li>- urban drainage and water purification schemes which include some green infrastructure elements;</li> <li>- recreation investments for which biodiversity and ecosystems form a significant element alongside other measures.</li> </ul> | <p>Grey infrastructure: Infrastructure investments with no objective relating to biodiversity. This may include expenditures that target specific ecosystem services which are not dependent on the diversity or natural functioning of ecosystems. e.g.:</p> <ul style="list-style-type: none"> <li>- plantation of single species non-native trees;</li> <li>- hedges for landscaping, screening, prevention of erosion;</li> <li>- grey infrastructure projects (e.g. constructed drainage or flood defence schemes).</li> </ul> |
| Conservation of genetic diversity       | <p>In situ and ex-situ conservation actions primarily concerned with maintaining genetic diversity (e.g.</p> <ul style="list-style-type: none"> <li>- management of collections and seed-banks;</li> <li>- research into genetic diversity.</li> </ul>                                                                                                                                                                                     | <p>Research, surveys and collections with objectives to further commercial exploitation of genetic resources, where conservation is a secondary objective.</p>                                                                                                                                                                                                                                                                                                                                            | <p>R&amp;D activities with a purely commercial focus.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Control of invasive alien species (IAS) | <p>Actions to control IAS, where the primary motivation is to conserve biodiversity, e.g.:</p> <ul style="list-style-type: none"> <li>- habitat restoration, protection of other species or ecosystem structure and functions.</li> </ul>                                                                                                                                                                                                  | <p>Actions to control IAS where biodiversity is a significant but not the primary objective, e.g.:</p> <ul style="list-style-type: none"> <li>- control of species which cause agricultural damage as well as impacting on other species and habitats.</li> </ul>                                                                                                                                                                                                                                         | <p>General actions which may help to control IAS but for which control of IAS is not one of the main objectives (e.g. general border controls)</p>                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable agriculture and agri-environment measures | <p>Agricultural management practices focusing on species and habitats and related ecosystem services, e.g.:</p> <ul style="list-style-type: none"> <li>- conservation schemes for farmland birds, mammals, pollinators or plants;</li> <li>- species rich grassland maintenance or restoration measures;</li> <li>- management for ecosystem services such as soil and water quality with the maintenance or improvement of aquatic or soil biodiversity as a primary objective</li> </ul> | <p>Agricultural management activities which target biodiversity and related ecosystem services as well as other objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- management of agricultural land that benefits biodiversity and related ecosystem services alongside other objectives, such as tourism, reducing greenhouse gas emissions, climate adaptation etc;</li> <li>- integrated pest management designed to achieve biodiversity and agronomic objectives, etc.</li> </ul> | <p>Agricultural management activities without a significant biodiversity objective, e.g.:</p> <ul style="list-style-type: none"> <li>- physical investments where the objective is to improve the economic performance of farms or to facilitate restructuring and modernisation;</li> <li>- measures to reduce greenhouse gas emissions from agriculture</li> </ul> |
| Sustainable forestry and forest environment measures  | <p>Forest management practices focusing on species and habitats, e.g.:</p> <ul style="list-style-type: none"> <li>- conservation schemes for woodland species;</li> <li>- restoration of native woodland habitats.</li> </ul>                                                                                                                                                                                                                                                              | <p>Forest management activities which target biodiversity and related ecosystem services as well as other objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- planting, restoration and management of woodlands for a combination of biodiversity, timber, recreational and water protection benefits, where biodiversity and related ecosystem services are not the sole or primary objective.</li> </ul>                                                                             | <p>Forestry activities with no biodiversity objective, e.g.:</p> <ul style="list-style-type: none"> <li>- creation or management of non-native plantation woodlands.</li> </ul>                                                                                                                                                                                      |
| Sustainable fisheries and marine management actions   | <p>Fisheries and marine management actions primarily focusing on conservation, e.g.:</p>                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Fisheries actions designed to meet biodiversity and related</p>                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Fisheries actions without a biodiversity objective, e.g.:</p>                                                                                                                                                                                                                                                                                                     |

|                        |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | <ul style="list-style-type: none"> <li>- implementation and enforcement of no take zones, marine protected areas, conservation plans;</li> <li>- related research, surveys, monitoring, training and education.</li> </ul>          | <p>ecosystem services as well as other objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- monitoring, training, research and consultation activities for which biodiversity is a significant objective but not the main focus</li> <li>- Marine planning, management and monitoring measures for which conservation and sustainable use of biodiversity is a significant objective.</li> </ul> | <ul style="list-style-type: none"> <li>- training and investments designed to enhance productivity;</li> <li>- retraining;</li> <li>- expenditures designed to enhance socio-economic welfare of fishing communities</li> </ul> <p>Marine management actions without a significant biodiversity objective, e.g.:</p> <ul style="list-style-type: none"> <li>- actions focused on marine renewables, ports, shipping, etc.</li> </ul> |
| Tourism and recreation | <p>Tourism and recreation initiatives that have biodiversity action as a primary objective, e.g.:</p> <ul style="list-style-type: none"> <li>- awareness raising;</li> <li>- visitor-payback schemes.</li> </ul>                    | <p>Sustainable, nature-based tourism activities that have both biodiversity and socio-economic objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- visitor centres that seek to boost tourism as well as raise awareness</li> </ul>                                                                                                                                                             | <p>Tourism schemes with purely commercial or economic objectives</p>                                                                                                                                                                                                                                                                                                                                                                 |
| Pollution control      | <p>Pollution control expenditures which are specifically focused on restoring the condition of a particular site or habitat, e.g.:</p> <ul style="list-style-type: none"> <li>- measures targeted at a Natura 2000 site.</li> </ul> | <p>Pollution control measures which are designed to meet biodiversity and other objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- water pollution control measures where restoration of habitats is a significant, but not the main objective.</li> </ul>                                                                                                                                     | <p>Pollution control measures designed to enhance human health, sanitation and general environmental quality, without a specific biodiversity objective (including air and water pollution control, waste management and soil decontamination)</p>                                                                                                                                                                                   |

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Climate change mitigation and adaptation          | <p>Actions specifically focused on the adaptation of species and habitats to climate change, e.g.:</p> <ul style="list-style-type: none"> <li>- Ecosystem based adaptation to climate change where the primary objective is to restore, maintain and enhance biodiversity and related ecosystems;</li> <li>- research, action planning, adaptive management;</li> <li>- mitigation actions where conservation of ecosystems and biodiversity is the primary focus (e.g. REDD+)</li> </ul> | <p>Climate change mitigation and adaptation expenditures where biodiversity is a significant objective but not the main focus, e.g.:</p> <ul style="list-style-type: none"> <li>- Adaptation to climate change which involves ecosystem based adaptation as a significant, but not the primary objective;</li> <li>- research which addresses biodiversity alongside other effects of climate change;</li> <li>- mitigation actions which have biodiversity co-benefits as a secondary objective (e.g. including forest conservation/creation alongside other measures)</li> </ul> | <p>General measures designed to contribute to climate change mitigation and adaptation, without a specific biodiversity objective, e.g.:</p> <ul style="list-style-type: none"> <li>- investment in renewables;</li> <li>- cleaner technologies;</li> <li>- infrastructure-based adaptation to climate change with no relevance for biodiversity including defence walls, dykes, training for civil servants, civil protection services;</li> <li>- general climate research.</li> </ul> |
| Access and Benefits Sharing                       | <p>Development, implementation and administration of policy and legislation on access to and sharing of the benefits of genetic resources (where this aims to deliver biodiversity benefits).</p>                                                                                                                                                                                                                                                                                         | <p>Policy and administrative measures, e.g.:</p> <ul style="list-style-type: none"> <li>- relating to intellectual property, borders and customs for which ABS is a significant objective but not the primary objective.</li> </ul>                                                                                                                                                                                                                                                                                                                                                | <p>General expenditures which may help to administer ABS policies but for which this is not one of the main objectives, e.g.:</p> <ul style="list-style-type: none"> <li>- administration of customs and border controls, intellectual property rights.</li> </ul>                                                                                                                                                                                                                       |
| Research, surveys, monitoring and data management | <p>Research, surveys, monitoring and data management specifically focused on ecosystems, species and/or genetic diversity</p>                                                                                                                                                                                                                                                                                                                                                             | <p>Research into sustainable agriculture/ land management that includes biodiversity as well as impacts on pollution and resource use</p>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>General agri-environment, forest management, fisheries, climate or environmental research without a significant and explicit biodiversity related objective</p>                                                                                                                                                                                                                                                                                                                       |

|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education, training and capacity building                        | Education, awareness raising, training and capacity building measures focusing specifically and primarily on conservation and sustainable use of biodiversity                                                                                                                                                                                                                                                | Education, awareness raising, training and capacity building measures with a significant biodiversity objective, e.g.:<br>- environmental training for farmers and fishermen which includes biodiversity and other environmental issues;<br>- environmental education and awareness raising programmes with a significant biodiversity component. | General environmental education, awareness raising, training and capacity building measures without a significant and specific biodiversity objective                                                                                                                      |
| Development and implementation of policies, plans and strategies | Development, implementation and enforcement of all plans and strategies for which biodiversity is a primary objective, e.g.:<br>- national biodiversity strategies and action plans, species recovery plans,<br>- Specific measures designed to integrate biodiversity into other policies, plans and strategies (e.g. for water, agriculture, forestry, fisheries, tourism, development, spatial planning). | Development, implementation and enforcement of plans and strategies for which biodiversity is a significant but not the primary objective, e.g.:<br>- plans for sustainable agriculture or water management.                                                                                                                                      | Planning and policy measures in related fields which may influence biodiversity but for which biodiversity is not one of the main objectives, e.g.:<br>- a wide range of climate, environment, agricultural, land use and spatial planning policies, strategies and plans. |

Source: ICF / IEEP analysis

## EU Biodiversity Activities

Table 8 Methodology for the Classification of activities of bilateral ODA as implemented by the EC (cited in UNEP/CBD/WGRI/5/INF/5 9 June 2014, no other reference provided)

### Protected areas, protection of ecosystems and species

- Support for the creation and management of protected areas
- Preservation of endangered species, reintroductions
- Anti-poaching activities, fight against illegal trade of endangered species
- Development of legislative framework for the protection of species and sites
- Support for sustainable development activities in the buffer zones of protected areas
- Research activities in protected areas management
- Fight against invasive species
- Establishment and operation of the structure of ex-situ conservation (zoos, botanical gardens and conservatories, seed banks, gene banks, ...)
- Research activities for ex-situ conservation

### Water and Sanitation

- Protection of water resources, improvement of water quality (when beneficial effects on fauna & flora expected)
- Fight against water pollution (rivers in particular)
- Integrated management and protection of watersheds
- Integrated management of wetlands

### Agriculture

- Activities to reduce land use change and expansion of agriculture at the expense of natural areas
- Promotion of environmentally-friendly agricultural practices (including agro-forestry, organic farming)
- Promotion of practices limiting chemical inputs (fertilizers, pesticides), IPM : integrated pest management
- Activities on soil conservation, fight against erosion

### Forests

- Preservation of forests
- Sustainable forest management (in part community forestry)
- Fight against illegal logging, against deforestation for agriculture or livestock
- Rehabilitation of areas affected by desertification
- Forestry and agroforestry with high biodiversity value (promotion of natural forest / multi-species plantations)
- Institutional support awareness

Training, research and reaching in taxonomy, biodiversity, ecology, etc.

### Awareness and public information

### Fishing, hunting, gathering

- Promotion of sustainable fisheries (marine, coastal or lakes,/ rivers)
- Fight against overfishing, illegal fishing, destructive fishing practices
- Inventories and research on the status of stocks, fishing capacity
- Preservation of nursery areas, including mangroves
- Preservation of coral reef
- Promotion of sustainable hunting practices, Anti-poaching
- Promotion of sustainable harvesting (include. Non timber forest products
- Development of the legislative framework for the activities of fishing, hunting, gathering,
- Institutional support, awareness

### Business and Economy

- Fight against trade in endangered species, including awareness (of the authorities, consumers), training of personnel (customs, etc.)
- Fight against illegal trade in animal products / plants (bush meat, ivory, orchids, etc.)
- Sustainable ecotourism, vision tourism, tourism
- Valuing biodiversity
- Research on economic valuation of biodiversity
- Establishment of mechanisms for equitable access & benefit sharing (ABS) of genetic resources
- Capacity building and awareness

### Institutional Support / Obligations under the convention

- Preparation of inventories of biodiversity
- Preparation and implementation of national plans and strategies for biodiversity conservation
- Development of innovative, long term, financing mechanisms (trust funds, ecological taxes....)
- Capacity Building
- Development of tools for decision support (databases, information systems)

### BMZ Sectoral Activities related to Biodiversity<sup>49</sup>

| Sector           | Biodiversity sectoral component                                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agriculture      | <ul style="list-style-type: none"><li>- Support of agrobiodiversity in the context of sustainable land management</li><li>- Support of organic farming with focus on conservation of biodiversity</li></ul> |
| Water management | <ul style="list-style-type: none"><li>- Protection and rehabilitation of water basins and integrated management of watersheds, discharging areas and river</li></ul>                                        |

<sup>49</sup> See <http://www.bmub.bund.de/en/service/publications/downloads/details/artikel/committed-to-biodiversity/>

|                                  |                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | basins and preservation of water-related ecosystems<br>- Use of ecological systems at the coastlines to prevent flooding as result of climate change (rehabilitation of mangrove systems)                                                                                                                                                                              |
| Sustainable economic development | - Assessment and conservation of ecosystem services<br>- Development of incentive mechanisms for the conservation of biodiversity in the context of financial system development<br>- Implementation of biodiversity-related measures in tourism management<br>- Developing and applying methods and instruments to analyse, valorise, and preserve ecosystem services |
| Education                        | - Integration of biodiversity and environment components in curricula                                                                                                                                                                                                                                                                                                  |
| Policy Advise                    | - Policy advisory to implement the CBD objectives / the CBD Strategic Plan (2011-2020) within the context of environmental policy projects (e.g. as contribution to the implementation of the Nagoya Protocol on Access & Benefit Sharing)                                                                                                                             |

Some Private Sector Activities that might relate to BD Financing (from the internal Swiss report 2014)

- “direct expenditures into site restoration or ecosystem and species conservation measures with a link to business activities or company properties,
- direct sponsoring activities for projects in research, conservation or education,
- direct investments into partnerships with NGOs with regard to BES or (multi-stakeholder) fora on land and natural resource management
- investments into corporate environmental management such as emissions reduction, waste management, water consumption etc. or product development and stewardship, which also have a proportional effect on BES
- investments into new financial mechanisms such as Payments for Ecosystem Services (PES)

In addition, environmental fees and compliance provisions can be linked to biodiversity and ecosystem services to a certain extent. Many sectors have additional specific measures and activities, e.g. investments into different types of complex cooperation with partners to develop

certifiable environmentally friendly products. In most sectors, activities with an assumed regard to biodiversity are entangled with others, so that their contributions with regard to biodiversity per se can – according to the feedback of companies and the information provided in publicly accessible data bases and reports – be hardly assessed in detail.”

### *Structure and Definitions of Biodiversity Associated Activities for National Accounts (SEEA)*

These are activities that are recognized by the SEEA process that could have ties to Biodiversity-Related Activities. Much of the current work is summarized in the document called CEA – Classification of Environmental Activities (CEA) <http://unstats.un.org/unsd/class/intercop/expertgroup/2011/AC234-29.PDF>. The overall structure is as follows. Details are provided below.

#### I. Environmental Protection

##### 1 Protection of ambient air and climate

###### 1.1 Prevention of pollution through in-process modifications

###### 1.1.1 For the protection of ambient air

###### 1.1.2 For the protection of climate and ozone layer

###### 1.2 Treatment of exhaust gases and ventilation air

###### 1.2.1 For the protection of ambient air

###### 1.2.2 For the protection of climate and ozone layer

###### 1.3 Measurement, control, laboratories and the like

###### 1.4 Other activities

##### 2 Wastewater management

###### 2.1 Prevention of pollution through in-process modifications

###### 2.2 Sewerage networks

###### 2.3 Wastewater treatment

###### 2.4 Treatment of cooling water

###### 2.5 Measurement, control, laboratories and the like

###### 2.6 Other wastewater management activities

##### 3 Waste management

###### 3.1 Prevention of pollution through in-process modifications

###### 3.2 Collection and transport

###### 3.3 Treatment and disposal of hazardous waste

###### 3.3.1 Thermal treatment

###### 3.3.2 Landfill

###### 3.3.3 Other treatment and disposal

###### 3.4 Treatment and disposal of non-hazardous waste

###### 3.4.1 Incineration

###### 3.4.2 Landfill

###### 3.4.3 Other treatment and disposal

###### 3.5 Measurement, control, laboratories and the like

###### 3.6 Other waste management activities

##### 4 Protection and remediation of soil, groundwater and surface water

- 4.1 Prevention of pollutant infiltration
- 4.2 Cleaning up of soil and water bodies
- 4.3 Protection of soil from erosion and other physical degradation
- 4.4 Prevention and remediation of soil salinity
- 4.5 Measurement, control, laboratories and the like
- 4.6 Other activities

## 5 Noise and vibration abatement (excluding workplace protection)

- 5.1 Preventive in-process modifications at the source
  - 5.1.1 Road and rail traffic
  - 5.1.2 Air traffic
  - 5.1.3 Industrial and other noise
- 5.2 Construction of anti noise/vibration facilities
  - 5.2.1 Road and rail traffic
  - 5.2.2 Air traffic
  - 5.2.3 Industrial and other noise
- 5.3 Measurement, control, laboratories and the like
- 5.4 Other activities

## 6 Protection of biodiversity and landscapes

- 6.1 Protection and rehabilitation of species and habitats
- 6.2 Protection of natural and semi-natural landscapes
- 6.3 Measurement, control, laboratories and the like
- 6.4 Other activities

## 7 Protection against radiation (excluding external safety)

- 7.1 Protection of ambient media
- 7.2 Transport and treatment of high-level radioactive waste
- 7.3 Measurement, control, laboratories and the like
- 7.4 Other activities

## 8 Research and development for environmental protection

- 8.1 Protection of ambient air and climate
  - 8.1.1 Protection of ambient air
  - 8.1.2 Protection of atmosphere and climate
- 8.2 Protection of water
- 8.3 Waste
- 8.4 Protection of soil and groundwater
- 8.5 Abatement of noise and vibration
- 8.6 Protection of species and habitats
- 8.7 Protection against radiation
- 8.8 Other research on the environment

## 9 Other environmental protection activities

- 9.1 General environmental administration and management
  - 9.1.1 General administration, regulation and the like
  - 9.1.2 Environmental management
- 9.2 Education, training and information

9.3 Activities leading to indivisible expenditure

9.4 Activities not elsewhere classified

## II. Natural Resource Management (RM) (interim)

10 Management of mineral and energy resources

10.1 Reduction of the intake of mineral and energy resources

10.2 Reduction of mineral use through the reduction of scraps and the production and consumption of recycled materials and products and reduction of heat and energy losses and energy savings

10.3 Measurement, control, laboratories and the like related to mineral and energy resources

10.4 Other activities for the management of mineral and energy resources

11 Management of timber resources

11.1 Reduction of the intake of timber resources

11.2 Reduction of the consumption of forest (wood and non wood)-related products

11.3 Reforestation and afforestation

11.4 Forest fires

11.5 Measurement, control, laboratories and the like related to natural timber resources

11.6 Other activities for the management of timber resources

12 Management of aquatic resources

12.1 Reduction of the intake of aquatic resources

12.2 Replenishment of aquatic resources stocks

12.3 Measurement, control, laboratories and the like related to aquatic resources

12.4 Other activities for the management of aquatic resources

13 Management of other biological resources (excluding timber and aquatic resources)

13.1 Reduction of the intake of biological resources (excluding timber and aquatic resources)

13.2 Replenishment of biological resources stocks (excluding timber and aquatic resources)

13.3 Measurement, control, laboratories and the like related to biological resources stocks (excluding timber and aquatic resources)

13.4 Other activities for the management of biological resources (excluding timber and aquatic resources)

14 Management of water resources

14.1 Reduction of the intake of water resources

14.2 Reduction of water losses and leaks, water reuse and savings

14.3 Replenishment of water resources

14.4 Measurement, control, laboratories and the like related to water resources

14.5 Other activities for the management of water resources

15 Research and development activities for resource management

15.1 Mineral and energy resources

15.2 Timber resources

15.3 Aquatic resources

15.4 Other biological resources

- 15.5 Water resources
- 15.6 Other R&D activities for natural resource management

- 16 Other resource management activities
  - 16.1 General administration of natural resources
    - 16.1.1 General administration, regulation and the like
    - 16.1.2 Environmental management
  - 16.2 Education, training and information
  - 16.3 Activities leading to indivisible expenditure
  - 16.4 Activities not elsewhere classified

### III. Natural Resource Use (RU)

- 17 Use of water resources
  - 17.1 Exploitation of water resources including water supply and distribution
  - 17.2 Exploration and development of water resources
- 18 Use of natural forest resources
  - 18.1 Exploitation of natural forest areas (as a resource and not as a habitat)
  - 18.2 Exploration of natural forest areas
- 19 Use of wild flora and fauna
  - 19.1 Exploitations of wild flora and fauna stocks
  - 19.2. Exploration and research of new reserves
- 20 Use of fossil energy
  - 20.1 Exploitation of the stocks of non-renewable energy sources
  - 20.2 Exploration and discovery of new fossil energy reserves
- 21 Use of minerals
  - 21.1 Exploitation of mineral stocks
  - 21.2 Exploration and discovery of new mineral stocks

### IV. Minimization of Natural Hazards

Activities associated with the minimization of the impact of natural hazards on the economy and society.

From SEEA Central Framework 2012<sup>50</sup> Appendix and other Sources (cited)

#### A. Classification of Environmental Activities (CEA)

##### I. Environmental protection

Environmental protection activities are those activities whose primary purpose is the prevention, reduction and elimination of pollution as well as any other degradation of the environment. This includes measures taken in order to restore the environment after it has been degraded due to the pressures from human activities. To be included under environmental protection, actions and activities must satisfy the primary-purpose criterion, i.e., that environmental protection is their primary objective. Actions and activities that have a favourable impact on the environment but which serve other goals do not come under environmental protection. Hence, excluded from the

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<sup>50</sup> [http://unstats.un.org/unsd/envaccounting/White\\_cover.pdf](http://unstats.un.org/unsd/envaccounting/White_cover.pdf)

field of environmental protection are activities that, while beneficial to the environment, primarily satisfy technical needs or the internal requirements for hygiene or security of an enterprise or other institution.

Activities like the saving of energy or raw materials are generally excluded from environmental protection and included instead under resource management (see below). However, such activities are considered environmental protection activities to the extent that they mainly aim at environmental protection.

## 1 Protection of ambient air and climate

*Protection of ambient air and climate* comprises measures and activities aimed at the reduction of emissions into the ambient air or ambient concentrations of air pollutants as well as measures and activities aimed at the control of emissions of greenhouse gases and gases that adversely affect the stratospheric ozone layer.

Excluded are measures undertaken for cost-saving reasons (e.g., energy saving).

### 1.1 Prevention of pollution through in-process modifications

Activities and measures aimed at the elimination or reduction of the generation of air pollutants through in-process modifications related to:

- Cleaner and more efficient production processes and other technologies (cleaner technologies),
- The consumption or use of “cleaner” (adapted) products.

#### *Cleaner technologies*

Prevention activities consist of replacing an existing production process by a new process designed to reduce the generation of air pollutants during production, storage or transportation, e.g., fuel combustion improvement, recovery of solvents, prevention of spills and leaks through improving airtightness of equipment, reservoirs and vehicles.

#### *Use of cleaner products*

Prevention activities consist of modifying facilities so as to provide for the substitution of raw materials, energy, catalysts and other inputs by non- (or less) polluting products, or of treating raw materials prior to their use in order to make them less polluting, e.g., desulfurization of fuel. Expenditure under this position also include the extra cost of the use of cleaner products (low sulphur fuels, unleaded gasoline, clean vehicles, etc.).

#### 1.1.1 For the protection of ambient air

#### 1.1.2 For the protection of climate and ozone layer

### 1.2 Treatment of exhaust gases and ventilation air

Activities involving the installation, maintenance and operation of end-of-pipe equipment for the removal and reduction of emissions of particulate matter or other air-polluting substances either from the combustion of fuels or from processes: filters, dedusting equipment, catalytic converters, post-combustion and other techniques. Also included are activities aimed at increasing the dispersion of gases so as to reduce concentrations of air pollutants.

Exhaust gases are emissions into the air, usually through exhaust pipes, stacks or chimneys, due to the combustion of fossil fuels. Ventilation air are exhausts of air conditioning systems of industrial establishments.

1.2.1 For the protection of ambient air

1.2.2 For the protection of climate and ozone layer

1.3 Measurement, control, laboratories and the like

Activities aimed at monitoring the concentrations of pollutants in exhaust gases, the quality of air, etc. Included are measurement services of exhaust gases from vehicles and heating systems and the monitoring related to ozone layer, greenhouse gases and climate change. Weather stations are excluded.

1.4 Other activities

All other activities and measures aimed at the protection of ambient air and climate. These include regulation, administration, management, training, information and education activities specific to CEPA 1, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

2 Wastewater management

*Wastewater management* comprises activities and measures aimed at the prevention of pollution of surface water through the reduction of the release of wastewater into inland surface water and seawater. It includes the collection and treatment of wastewater, including monitoring and regulation activities. Septic tanks are also included.

*Excluded* are actions and activities aimed at the protection of groundwater from pollutant infiltration and the cleaning up of water bodies after pollution (see CEPA 4).

*Wastewater* is defined as water that is of no further immediate value for the purpose for which it was used or in the pursuit of which it was produced, because of quality, quantity or time of its occurrence.

2.1 Prevention of pollution through in-process modifications

Activities and measures aimed at reducing the generation of surface water pollutants and wastewater through in-process modifications related to:

- Cleaner and more efficient production processes and other technologies (cleaner technologies)
- The consumption or use of “cleaner” (adapted) products

*Cleaner technologies*

Prevention activities consist of replacing an existing production process by a new process designed to bring about a reduction of water pollutants or wastewater generated during production. These include separation of networks, treatment and reuse of water used in the production process, etc.

*Use of cleaner products*

Prevention activities consist of modifying an existing production process so as to provide for the substitution of raw materials, catalysts and other inputs by non- (or less) water polluting products.

2.2 Sewerage networks

Activities aimed at the operation of sewerage networks, i.e., the collection and transport of wastewater from one or several users, as well as rainwater, by means of sewerage networks,

collectors, tanks and other means of transport (sewage vehicles, etc.), including maintenance and repair.

*Sewerage networks* are the systems of collectors, pipelines, conduits and pumps designed to evacuate any wastewater (rainwater, domestic and other wastewater) from the points of generation to either a sewage treatment plant or to a point where wastewater is discharged into surface water.

### 2.3 Wastewater treatment

*Wastewater treatment* designates any process for rendering wastewater fit to meet applicable environmental standards or other quality norms. Three broad types of treatment (mechanical, biological and advanced) are specified below. Alternative definitions of types of treatment may be used, e.g., based on removal rates for biological oxygen demand (BOD).

*Mechanical treatment of wastewater* designates processes of a physical and mechanical nature that result in decanted effluent and separate sludge. Mechanical processes are also used in combination and/or in conjunction with biological and advanced unit operations. Mechanical treatment is understood to include at least such processes as sedimentation, flotation, etc. The activity is aimed at separating materials in suspension by the use of screens (large solids) or through sedimentation eventually assisted by chemicals or flotation (elimination of sand, oil, part of the sludge, etc.). Equipment includes screens for large solids, biological plants, equipment for filtration, flocculation, sedimentation; separation of oils and hydrocarbons; separation using inertia or gravity, including hydraulic and centrifugal cyclones, diaphragm floats, etc.

*Biological treatment of wastewater* designates processes that employ aerobic or anaerobic microorganisms and result in decanted effluent and separate sludge containing microbial mass together with pollutants. Biological treatment processes are also used in combination and/or in conjunction with mechanical and advanced unit operations. This activity is designed to eliminate pollution from oxidizable materials through the use of bacteria: activated sludge technique or anaerobic treatment for specific concentrated wastewater. Biodegradable materials are treated with the addition of bacteria-enriched sludge in open or closed tanks.

*Treatment of wastewater by advanced technologies* designates processes capable of reducing specific constituents in wastewater not normally achieved by other treatment options. Covers all unit operations that are not considered to be mechanical or biological. Includes, for example, chemical coagulation, flocculation and precipitation; break-point chlorinating; stripping; mixed media filtration; micro-screening; selective ion exchange; activated carbon absorption; reverse osmosis; ultrafiltration; electro-flotation. Advanced treatment processes may be used in combination and/or in conjunction with mechanical and biological unit operations. This activity is aimed at eliminating oxidizable non-biodegradable matter at a higher level, as well as metals, nitrate, phosphorus, etc., by using powerful biological or physical and chemical action. Special equipment is required for each depollution.

*Septic tanks* are settling tanks through which wastewater is flowing and the suspended matter is decanted as sludge. Organic matters (in the water and in the sludge) are partly decomposed by anaerobic bacteria and other microorganisms. Maintenance services of septic tanks (emptying, etc.) and other products for septic tanks (biological activators, etc.) are included.

### 2.4 Treatment of cooling water

Treatment of cooling water designates processes that are used to treat cooling water to meet applicable environmental standards before releasing it into the environment. Cooling water is used to remove heat.<sup>51</sup> Means, methods and facilities used may be: air cooling (extra cost compared with water cooling), cooling towers (to the extent they are required to reduce pollution, as distinct from technical needs), cooling circuits for processing water from worksites and for condensing released vapour, equipment for enhancing the dispersion of cooling water on release, closed cooling circuits (extra cost), and circuits for use of cooling water for heating purposes (extra cost).

## 2.5 Measurement, control, laboratories and the like

Activities aimed at monitoring and controlling the concentration of pollutants in wastewater and the quality of inland surface water and marine water at the place wastewater is discharged (analysis and measurement of pollutants, etc.).

## 2.6 Other wastewater management activities

All other activities and measures aimed at wastewater management. Includes regulation, administration, management, training, information and education activities specific to CEPA 2, when they can be separated from other activities related to the same class and similar activities related to other environmental protection classes.

## 3 Waste management

*Waste management* refers to activities and measures aimed at the prevention of the generation of waste and the reduction of its harmful effect on the environment. Includes the collection and treatment of waste, including monitoring and regulation activities. It also includes recycling and composting, the collection and treatment of low-level radioactive waste, street cleaning and the collection of public litter.

*Waste* are materials that are not prime products (that is, products made for the market) for which the generator has no further use for own purposes of production, transformation or consumption, and which he wants to dispose of. Wastes may be generated during the extraction of raw materials, during the processing of raw materials to intermediate and final products, during the consumption of final products, and during any other human activity. Residuals recycled or reused at the place of generation are excluded. Also excluded are waste materials that are directly discharged into ambient water or air.

*Hazardous waste* is waste that owing to its toxic, infectious, radioactive, flammable or other character defined by the legislator, poses a substantial actual or potential hazard to human health or living organisms. For the purposes of this definition, “hazardous waste” comprises for each country all those materials and products that are considered to be hazardous in accordance with that country’s practices. Low-level radioactive waste is included, whereas other radioactive waste is excluded (see CEPA 7).

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<sup>51</sup> See Classification of Environmental Protection Activities and Expenditure (United Nations, 2000). Available from [http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=DSP\\_NOM\\_DTL\\_VIEW&StrNom=CEPA\\_2000&StrLanguageCode=EN&IntPcKey=&IntKey=2999213&StrLayoutCode=HIERARCHIC&IntCurrentPage=1](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=DSP_NOM_DTL_VIEW&StrNom=CEPA_2000&StrLanguageCode=EN&IntPcKey=&IntKey=2999213&StrLayoutCode=HIERARCHIC&IntCurrentPage=1)

*Low-level radioactive waste* is waste that, because of its low radionuclide content, does not require shielding during normal handling and transportation.

#### *Treatment and disposal of waste*

*Treatment of waste* refers to any process designed to change the physical, chemical or biological character or composition of any waste in order to neutralize it, render it non-hazardous, safer for transport, amenable for recovery or storage, or to reduce it in volume. A particular waste may undergo more than one treatment process. Composting and recycling activities for the purpose of environmental protection are included. Often *composting* is a waste treatment method and the resulting compost provided free of charge or at a very low price. The manufacture of compost classified in division 24 of the International Standard Industrial Classification of All Economic Activities (ISIC)/Statistical Classification of Economic Activities in the European Community (NACE) (Manufacture of fertilizers and nitrogen compounds) is excluded. Division 37 of ISIC/NACE defines *recycling* as the processing of waste, scraps whether or not used, into a form feasible to be transformed in new raw materials. Typical is that, in terms of commodities, both input and output consist of waste and scrap, the input being sorted or unsorted but always unfit for further direct use in an industrial process whereas the output is made fit for further processing and is to be considered then as an intermediate good. A process is required, either mechanical or chemical.<sup>52</sup> The main purpose of activities classified in division 37 of ISIC/NACE is the manufacture of secondary raw materials but there may be important secondary waste management activities. Compost and secondary raw materials (as well as products made of secondary raw materials) are not considered environmental protection products. Their use is excluded.

*Disposal of waste* is the final deposition of waste on the ground or underground in controlled or uncontrolled fashion, in accordance with the sanitary, environmental or security requirements.

#### 3.1 Prevention of pollution through in-process modifications

Activities and measures aimed at eliminating or reducing the generation of solid waste through in-process modifications related to:

- Cleaner and more efficient production processes and other technologies (cleaner technologies)
- The consumption or use of “cleaner” (adapted) products
- Cleaner technologies

Prevention activities consist of replacing an existing production process by a new process designed to reduce the toxicity or volume of waste produced during the production process, including by separation and reprocessing.

#### *Use of cleaner products*

Protection activities consist of modifying or adapting the production process or facilities so as to provide for the substitution of raw materials, catalysts and other intermediate inputs by new, “adapted” inputs, the use of which produces less waste or less hazardous waste.

#### 3.2 Collection and transport

Collection and transport of waste is defined as the collection of waste, either by municipal services or similar institutions or by public or private corporations, and their transport to the place of treatment or disposal. This includes the separate collection and transport of waste fractions so as

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<sup>52</sup> Ibid

to facilitate recycling and the collection and transport of hazardous waste. Street cleaning is included for the part referring to public litter and collection of garbage from the streets. Excluded are winter services.

### 3.3 Treatment and disposal of hazardous waste

Treatment of hazardous waste comprises the processes of physical/chemical treatment, thermal treatment, biological treatment, conditioning of wastes, and any other relevant treatment method. Disposal of hazardous waste comprises landfill, containment, underground disposal, dumping at sea, and any other relevant disposal method.

*Thermal treatment of hazardous waste* refers to any process for the high-temperature oxidation of gaseous, liquid or solid hazardous wastes, converting them into gases and incombustible solid residues. The flue gases are released into the atmosphere (with or without recovery of heat and with or without cleaning) and any slag or ash produced is deposited in the landfill. The main technologies used in the incineration of hazardous waste are the rotary kiln, liquid injection, incinerator grates, multiple-chamber incinerators, and fluidized bed incinerators. Residues from hazardous waste incineration may themselves be regarded as hazardous waste. The resulting thermal energy may or may not be used for the production of steam, hot water or electric energy.

*Landfill* is an activity concerning final disposal of hazardous waste in or on land in a controlled way, which meets specific geologic and technical criteria.

*Other treatment and disposal* of hazardous waste may consist of chemical and physical treatment, containment and underground disposal.

*Chemical treatment* methods are used both to effect the complete breakdown of hazardous waste into non-toxic gases and, more usually, to modify the chemical properties of the waste, e.g., to reduce water solubility or to neutralize acidity or alkalinity.

*Physical treatment* of hazardous waste: includes various methods of phase separation and solidification whereby the hazardous waste is fixed in an inert, impervious matrix. Phase separation encompasses the widely used techniques of lagooning, sludge drying in beds, and prolonged storage in tanks, air flotation and various filtration and centrifugation techniques, adsorption/desorption, and vacuum, extractive and azeotropic distillation. Solidification or fixation processes, which convert the waste into an insoluble, rock-hard material, are generally used as pretreatment prior to landfill disposal. These techniques employ blending of the waste with various reactants or organic polymerization reactions or the mixing of the waste with organic binders. Containment is the retention of hazardous material in such a way as to ensure that it is effectively prevented from dispersing into the environment, or is released only at an acceptable level. Containment may occur in specially built containment spaces. Underground disposal includes temporary storage or final disposal of hazardous wastes underground that meets specific geologic and technical criteria.

#### 3.3.1 Thermal treatment

#### 3.3.2 Landfill

### 3.3.3 Other treatment and disposal

### 3.4 Treatment and disposal of non-hazardous waste

Treatment of non-hazardous waste comprises the processes of physical/chemical treatment, incineration of waste, biological treatment, and any other treatment method (composting, recycling, etc.).

*Incineration* is the thermal treatment of waste during which chemically fixed energy of combusted matters is transformed into thermal energy. Combustible compounds are transformed into combustion gases leaving the system as flue gases. Incombustible inorganic matters remain in the form of slag and fly ash.

*Disposal* of non-hazardous waste comprises landfill, dumping at sea, and any other disposal method.

#### 3.4.1 Incineration

#### 3.4.2 Landfill

#### 3.4.3 Other treatment and disposal

### 3.5 Measurement, control, laboratories and the like

Activities and measures aimed at controlling and measuring the generation and storage of waste, their toxicity, etc.

### 3.6 Other waste management activities

All other activities and measures aimed at waste management. These include administration, management, training, information and education activities specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

## 4 Protection and remediation of soil, groundwater and surface water

*Protection and remediation of soil, groundwater and surface water* refers to measures and activities aimed at the prevention of pollutant infiltration, cleaning up of soils and water bodies and the protection of soil from erosion and other physical degradation as well as from salinization. Monitoring and control of soil and groundwater pollution are included.

*Excluded* are wastewater management activities (see CEPA 2), as well as activities aimed at the protection of biodiversity and landscape (see CEPA 6).

### 4.1 Prevention of pollutant infiltration

Activities and measures aimed at the reduction or elimination of polluting substances that may be applied to soil or that percolate into groundwater or into run-off to surface water. Included are activities related to sealing of soils of industrial plants, installation of catchment for pollutant run-offs and leaks, strengthening of storage facilities and transportation of pollutant products.

### 4.2 Cleaning up of soil and water bodies

Processes to reduce the quantity of polluting materials in soil and water bodies either in situ or in appropriate installations. This includes soil decontamination at former industrial sites, landfills and other black spots, dredging of pollutants from water bodies (rivers, lakes, estuaries, etc.) and the decontamination and cleaning up of surface water following accidental pollution, e.g., through collection of pollutants or through application of chemicals, as well as the cleaning up of oil spills on land, inland surface waters and seas—including coastal areas. Excludes the liming of lakes and artificial oxygenation of water bodies (see CEPA 6).

Excludes civil protection services.

Activities may consist of: measures for separating, containing and recovering deposits, extraction of buried casks and containers, decanting and restorage, installation of off-gas and liquid effluent drainage networks, soil washing by means of degasification, pumping of pollutants, removal and treatment of polluted soil, biotechnological methods capable of intervening without affecting the site (use of enzymes, bacteria, etc.), physical chemistry techniques such as pervaporation and extraction using supercritical fluids, injection of neutral gases or bases to stifle internal fermentation, etc.

#### 4.3 Protection of soil from erosion and other physical degradation

Activities and measures aimed at the protection of soil from erosion and other physical degradation (compacting, encrusting, etc.). They may consist of programmes intended to restore the protective vegetal cover of soils, construction of anti-erosion walls, etc. Measures may also include subsidizing agricultural and grazing practices less harmful for soils and water bodies.

*Excluded* are activities carried out for economic reasons (e.g., agricultural production or protection of settlements against natural hazards such as landslides).

#### 4.4 Prevention and remediation of soil salinity

Activities and measures aimed at the prevention and remediation of soil salinity. Concrete actions will depend on climatic, geologic and other country-specific factors. Included are actions to increase groundwater tables, e.g., through increased freshwater infiltration to avoid infiltration of seawater into groundwater bodies, lowering of groundwater tables (when groundwater contains high levels of salts) through long-term revegetation programmes, changes in irrigation practices, etc.

*Excluded* are measures that respond to economic concerns (agricultural production, reclamation of land from the sea, etc.).

#### 4.5 Measurement, control, laboratories and the like

All activities and measures aimed at controlling and measuring the quality and pollution of soils, groundwater and surface water, measuring the extent of soil erosion and salinization, etc. Includes the operation of monitoring systems, inventories of “black spots”, maps and databases of groundwater and surface water quality, of soil pollution, erosion and salinity, etc.

#### 4.6 Other activities

All other activities and measures aimed at the protection and remediation of soil, groundwater and surface water. These include administration, management, training, information and education activities specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

### 5 Noise and vibration abatement (excluding workplace protection)

*Noise and vibration abatement* refers to measures and activities aimed at the control, reduction and abatement of industrial and transport noise and vibration. Activities for the abatement of neighbourhood noise (soundproofing of dancing halls, etc.) as well as activities for the abatement of noise in places frequented by the public (swimming pools, etc.), in schools, etc., are included. *Excluded* is the abatement of noise and vibration for purposes of protection at the workplace.

#### 5.1 Preventive in-process modifications at the source

Activities and measures aimed at the reduction of noise and vibration from industrial equipment, vehicle motors, aircraft and ships engines, exhaust systems and brakes, or noise level due to tyre/road or wheel/rail surface contact. Includes the adaptation of equipment, vehicles (buses, trucks, or train and power units in the case of rail transport, aircraft and ships) in order to make them less noisy: soundproofing of hoods, brakes, exhaust systems, etc.

Includes also plant modifications, specially conceived foundations to absorb vibrations, extra cost for regrouping of buildings and/or of facilities in the interest of noise abatement, special facilities in building construction or reconstruction, equipment and machines conceived or constructed for low noise or vibrations, low noise level flares and burners, etc.

Other preventive activities consist of noise abatement through the modification of surfaces. As noise emissions from motors, engines, exhaust systems and brakes are lowered, those from other sources become more important and, in particular, noise that originates from the contact between tyres and road surfaces. Activities consist of replacing concrete with silent asphalt, multilayered surfaces, etc.

##### 5.1.1 Road and rail traffic

##### 5.1.2 Air traffic

##### 5.1.3 Industrial and other noise

#### 5.2 Construction of anti noise/vibration facilities

Activities and measures aimed at the installation and management of anti-noise facilities.

These may be screens, embankments or hedges. They may consist of covering sections of urban motorways or railroads. As concerns industrial and vicinity noise, they also consist of add-on facilities, covering and soundproofing of machines and piping, fuel regulation systems and sound absorption, noise screens, barriers, soundproofing of buildings, noise-protective windows, etc., in order to limit noise perception.

##### 5.2.1 Road and rail traffic

##### 5.2.2 Air traffic

##### 5.2.3 Industrial and other noise

#### 5.3 Measurement, control, laboratories and the like

Activities and measures aimed at controlling the level of noise and vibration: installation and operation of stationary measurement and monitoring sites or mobile equipment in urban areas, observation networks, etc.

#### 5.4 Other activities

All other activities and measures aimed at noise and vibration abatement, including administration, management, training, information and education activities specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other classes. This also includes, when separable, traffic management with noise abatement aspects (for example, lowering of speed limits, improvement of traffic flows), introduction of time and geographical restrictions for noisy vehicles, traffic detours at a distance from residential areas, creation of pedestrian areas, creation of constructionfree buffer zones, restructuring of modal split (improvement of public transportation, use of bicycles). This covers a potentially large set of administrative measures which raise serious identification problems given their incorporation in integrated programmes of traffic control and urban planning and the difficulty of separating that part of measures and expenditure that, in these programmes, concern noise and vibration abatement from expenditure related to air pollution control, improvement of the living environment or traffic security.

In addition to regulation, other measures may consist of: financial incentives for the production and use of low-noise vehicles, labelling or information programmes for consumers so as to encourage the use of low-noise vehicles and the adoption of quiet driving behaviour.

#### 6 Protection of biodiversity and landscapes

*Protection of biodiversity and landscape* refers to measures and activities aimed at the protection and rehabilitation of fauna and flora species, ecosystems and habitats as well as the protection and rehabilitation of natural and semi-natural landscapes. Separating “biodiversity” from “landscape” protection may not always be practical. For example, maintaining or establishing certain landscape types, biotopes and ecozones and related issues (hedgerows, lines of trees to re-establish “natural corridors”) have a clear link to biodiversity preservation.

*Excluded* is the protection and rehabilitation of historic monuments or predominantly built-up landscapes and the control of weed for agricultural purposes, as well as the protection of forests against forests fire when this responds predominantly to economic concerns. The establishment and maintenance of green spaces along roads and recreational structures (e.g., separating golf courses and other sports facilities) are also excluded.

Actions and expenditure related to urban parks and gardens would not normally be included but may in some cases be related to biodiversity: in such cases, the activities and expenditure should be included.

##### 6.1 Protection and rehabilitation of species and habitats

Activities and measures aimed at the conservation, reintroduction or recovery of fauna and flora species, as well as the restoring, rehabilitation and reshaping of damaged habitats for the purpose of strengthening their natural functions. Includes conserving the genetic heritage, recolonizing destroyed ecosystems, placing bans on exploitation, trade, etc., of specific animal and plant species, for protection purposes. Also includes censuses, inventories, databases, creation of gene reserves or banks, improvement of linear infrastructures (e.g., underground passages or bridges for animals at highways or railways), feeding of the young, and management of special natural reserves (botany conservation areas, etc.).

Activities may also include the control of fauna and flora in order to maintain natural balances, including reintroduction of predator species and control of exotic fauna and flora that pose a threat to native fauna, flora and habitats.

Main activities are the management and development of protected areas, whatever the denomination they receive, i.e., areas protected from any economic exploitation or in which the latter is subject to restrictive regulations whose explicit goal is the conservation and protection of habitats. Also included are activities for the restoration of water bodies as aquatic habitats: artificial oxygenation and lime-neutralization actions. When they have a clear protection of biodiversity purpose, measures and activities related to urban parks and gardens are to be included. Purchase of land for protection of species and habitats purposes is included.

#### 6.2 Protection of natural and semi-natural landscapes

Activities and measures aimed at the protection of natural and semi-natural landscapes so as to maintain and increase their aesthetic value and their role in biodiversity preservation.

Included is the preservation of legally protected natural objects, expenditures incurred for the rehabilitation of abandoned mining and quarrying sites, renaturalization of river banks, burying of electric lines, maintenance of landscapes that are the result of traditional agricultural practices threatened by prevailing economic conditions, etc. For biodiversity and landscape protection related to agriculture, the identification of specific State aid programmes to farmers may be the only data source available. Protection of forests against forest fires for the purpose of landscape protection is included.

Excluded are measures taken to protect historic monuments, measures to increase aesthetic values for economic purposes (e.g., relandscaping to increase the value of real estate), as well as protection of predominantly built-up landscapes.

#### 6.3 Measurement, control, laboratories and the like

Measurement, monitoring, analysis activities that are not classified under the preceding items. In principle, inventories of fauna and flora are not covered, since they are classified under protection of species.

#### 6.4 Other activities

All other activities and measures aimed at the protection of biodiversity and landscape.

These include administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same domain and similar activities related to other classes.

### 7 Protection against radiation (excluding external safety)

*Protection against radiation* refers to activities and measures aimed at the reduction or elimination of the negative consequences of radiation emitted from any source. Included is the handling, transportation and treatment of high-level radioactive waste, i.e., waste that, because of its high radionuclide content, requires shielding during normal handling and transportation.

*Excluded* are activities and measures related to the prevention of technological hazards (e.g., external safety of nuclear power plants), as well as protection measures taken at workplaces. Also excluded are activities related to collection and treatment of low-level radioactive waste (see CEPA 3).

#### *Definition of radioactive waste*

Any material that contains or is contaminated with radionuclides at concentrations or radioactivity levels greater than the “exempt quantities” established by the competent authorities, and for which no use is foreseen. Radioactive wastes are produced at nuclear power plants and at associated

nuclear fuel cycle facilities as well as through other uses of radioactive material, for example, the use of radionuclides in hospitals and research establishments.

Other important wastes are those from mining and milling of uranium and from the reprocessing of spent fuel.

#### 7.1 Protection of ambient media

Protection of ambient media groups together activities and measures undertaken in order to protect ambient media from radiation. It may consist of protecting measures such as screening, creation of buffer zones, etc.

#### 7.2 Transport and treatment of high-level radioactive waste

Any process designed for the transport, conditioning, containment or underground disposal of high-level radioactive waste.

*Collection and transport of high-level radioactive waste* consists of the collection of high-level radioactive waste, generally by specialized firms, and their transport to the place of treatment, conditioning storage and disposal.

*Conditioning of high-level radioactive waste* consists of activities that transform high-level radioactive waste into a proper and fit condition for transport and/or storage and/or disposal. Conditioning may occur as part of ISIC/NACE 23 (processing of nuclear fuels) activities.<sup>53</sup>

*Containment of high-level radioactive waste* designates the retention of radioactive waste in such a way as to ensure that it is effectively prevented from dispersing into the environment, or is released only at an acceptable level. Containment may occur in specially built containment spaces.

*Underground disposal of high-level radioactive waste* is the temporary storage or final disposal of high-level radioactive waste in underground sites that meet specific geologic and technical criteria.

#### 7.3 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring ambient radioactivity and radioactivity due to high-level radioactive waste by means of specific equipment, instruments and installations.

#### 7.4 Other activities

All other activities and measures aimed at the protection of ambient media against radiation and transport and treatment of high-level radioactive waste. These include administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same class and similar activities related to other environmental protection classes.

### 8 Research and development for environmental protection

*Research and development (R&D)* comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge and the use of this knowledge to devise new applications (see the Frascati Manual (OECD, 2002) in the field of environmental protection. The class regroups all R&D activities and expenditure oriented towards environmental protection: identification and analysis of sources of pollution and mechanisms of dispersion of pollutants in the environment, as well as their effects on human beings, the species and the biosphere. This heading covers R&D for the prevention and elimination of all forms of pollution, as well as R&D oriented towards equipment and instruments of pollution measurement and analysis. When

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<sup>53</sup> Ibid.

separable, all R&D activities, even when referring to a specific class, have to be classified under this position.

Environmental R&D is further classified in accordance with the 1993 Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (NABS) (Eurostat, 1994).

*Excluded* are R&D activities related to the management of natural resources.

## 8.1 Protection of ambient air and climate

### 8.1.1 Protection of ambient air

### 8.1.2 Protection of atmosphere and climate

## 8.2 Protection of water

## 8.3 Waste

## 8.4 Protection of soil and groundwater

## 8.5 Abatement of noise and vibration

## 8.6 Protection of species and habitats

## 8.7 Protection against radiation

## 8.8 Other research on the environment

## 9 Other environmental protection activities

*Other environmental protection activities* refers to all environmental protection activities that take the form of general environmental administration and management activities or training or teaching activities specifically oriented towards environmental protection that encompass public information, when they are not classified elsewhere in CEPA. It also includes activities leading to indivisible expenditure, as well as activities not elsewhere classified.

### 9.1 General environmental administration and management

General administration of the environment designates any identifiable activity that is directed towards the general support of decisions taken in the context of environmental protection activities, whether by governmental or by non-governmental units.

#### *General administration of the environment, regulation and the like*

Any identifiable activity within general government and NPISH units that is directed towards the regulation, administration of the environment and the support of decisions taken in the context of environmental protection activities. When possible, such activities should be allocated to other classes. If this is impossible, they should be included under this position of the classification.

#### *Environmental management*

Any identifiable activities of corporations that are directed towards the general support of decisions taken in the context of environmental protection activities. These include the preparation of

declarations or requests for permission, internal environmental management, and environmental certification processes (ISO 14000; and Eco-Management and Audit Scheme (EMAS) (European Union (EU))), as well as the recourse to environmental consultancy services. Activities of units specialized in environmental consultancy, supervision and analysis are included. When possible, such activities should be allocated to other CEPA classes.

#### 9.1.1 General administration, regulation and the like

#### 9.1.2 Environmental management

#### 9.2 Education, training and information

Activities that aim at providing general environmental education or training and disseminating environmental information. Included are high school programmes, university degree programmes or special courses specifically aimed at training for environmental protection. Activities such as the production of environmental reports and environmental communication are also included.

#### 9.3 Activities leading to indivisible expenditure

Environmental protection activities that lead to indivisible expenditure, i.e., that cannot be allocated to any other CEPA class. International financial aid may be a case in point, as it may be difficult for the donor countries to allocate international aid to individual classes.

If international aid is important in volume and/or of specific political interest, a separate twodigit heading under CEPA 9 could be adequate for national purposes.

#### 9.4 Activities not elsewhere classified

This position groups together all these environmental protection activities that cannot be classified under other positions of the classification.

### II. Resource management (RM) (interim)

Resource management includes all actions and activities that are aimed at preserving and maintaining the stock of natural resources and hence safeguarding against depletion.

This includes actions and activities aimed at reducing the withdrawals of natural resources (recovery, reuse, recycling, substitution of natural resources) as well as restoring natural resource stocks (increases/recharges of natural resource stocks).

To be included under resource management, actions and activities or parts thereof must satisfy the primary-purpose criterion, i.e., that resource management is their primary objective. Those activities whose primary purpose is environmental protection are therefore excluded.

#### 10 Management of mineral and energy resources

Includes the activities and actions aiming at minimizing the intake of mineral and energy resources through in-process modifications, the recovery, reuse, recycling, savings and use of substitute mineral resources, the production of energy from renewable sources and any other kind of measure. Activities and actions concerning measurement, control, laboratories and the like are also included, as well as education, training and information and administration and regulation activities.

##### 10.1 Reduction of the intake of mineral and energy resources

Reduction of the intake through in-process modifications related to the reduction of the input of non-renewable energy sources for the production process. This includes all the kinds of

replacement or adjustment of production processes whose aim is to reduce the input of energy resources needed for producing a certain output.

This category includes the production of energy from renewable sources when it has the primary purpose of reducing the exploitation of non-renewable energy sources (the production of energy from renewable sources mainly aimed at reducing air pollution is excluded → CEA 1.1). All kinds of renewables are included according to the International Energy Agency definition of renewables, i.e., hydropower, solar, wind, tidal, biogas, geothermal and biomass sources. The production of energy from the combustion of any kind of waste is included, except where the incineration of waste is carried out for the main purpose of waste treatment and disposal → CEA 3.3 or 3.4.

Reduction of the intake through in-process modifications related to the reduction of the raw material input for the production process or the consumption or use of resource efficient products.

10.2 Reduction of mineral use through the reduction of scraps and the production and consumption of recycled materials and products and reduction of heat and energy losses and energy savings

Reduction of the use of non-renewable energy sources through the minimization of heat and energy losses and through energy savings (energy savings mainly aimed at reducing air pollution is excluded → CEA 1.1).

Production and use of secondary raw materials or final products obtained from recovered and recycled materials and waste. This includes, for example: processing of waste and scrap into a form that is readily transformed into new raw materials, production of recycled goods (recycling activities insofar as they constitute waste collection, transport, treatment or disposal activities are excluded → CEA 3.2, 3.3 and 3.4).

10.3 Measurement, control, laboratories and the like related to mineral and energy resources

Activities aimed at measuring, controlling and monitoring the use and the consistency of fossil energy stocks as well as the production of energy from renewable sources. These include, for example: assessment and reassessment of existing reserves; and assessment of the importance of the production of energy from renewable sources for total energy production.

Activities aimed at measuring, controlling and monitoring the use and the consistency of mineral stocks. These include, for example: inventories and assessment of mineral stocks.

10.4 Other activities for the management of mineral and energy resources

All other activities and measures aimed at the management of mineral and energy resources. These include regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related to other classes of the RM group, including, for example: release of licences for mining and quarrying activities; activities of general government units or part thereof that administer and regulate the exploitation of mineral resources or are responsible for material savings and recycling policies. Excluded are public or private bodies that manage, exploit and explore mineral resources.

11 Management of timber resources

Includes the activities and actions aiming at minimizing the intake of natural timber resources through in-process modifications as well as recovery, reuse, recycling, savings and the use of substitutes of forest products. Replenishment activities like reforestation and afforestation are included when they concern natural forests. Activities and actions concerning measurement, control, laboratories and the like are also included, as well as education, training and information

and administration and regulation activities. Exploitation and exploration activities of natural timber resources are excluded.

#### 11.1 Reduction of the intake of timber resources

Reduction of the intake through in-process modifications related to the reduction of the input of timber resources for the production process. This includes all the kinds of replacement or adjustment of production processes aimed at reducing the input of forest-related products (wood and non-wood) needed for producing a certain output. The substitution of forest products with other material and substances is included.

#### 11.2 Reduction of the consumption of forest (wood and non wood)-related products

Recycling, reuse or savings of forest products and by-products (wood, paper, etc.).

#### 11.3 Reforestation and afforestation

Replenishment of existing natural forest areas or development of new forest areas.

Excluded are activities aimed at restoring or rehabilitating damaged habitats or ecosystems (→ CEA 6.1)

#### 11.4 Forest fires

Prevention and control of natural forest fires (concerning forest areas relevant mainly as economic resource and not as habitats → CEA 6.2). This includes, for example: development of fireballs, and mobilization of firefighting means or measures aimed at the prevention of fires in forest areas.

#### 11.5 Measurement, control, laboratories and the like related to natural timber resources

Activities aimed at measuring, controlling and monitoring the use and consistency of timber resource stocks. They include, for example, inventories and assessments of timber resources. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded, like, e.g., inventories of flora and fauna species living in natural forest areas → CEA 6.1 and census of natural forest protected areas → CEA 6.2.

#### 11.6 Other activities for the management of timber resources

All other activities and measures aimed at the management of natural timber resources, including regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related to other classes of the RM group. This includes, for example: the release of logging licences; and activities of general government units or part thereof that administer and regulate the use of natural forest resources or are responsible for forest management policies.

### 12 Management of aquatic resources

Includes the activities and actions aiming at minimizing the intake of wild fish and other aquatic resources through in-process modifications as well as the use of alternative resources and any other kind of measure. Replenishment activities like repopulation of wild fish stocks are included when they aim at maintaining/increasing the consistency of stocks (not their biodiversity → CEA 6). Activities and actions concerning measurement, control, laboratories and the like are also included, as well as education, training and information and administration and regulation activities.

The class includes all the activities and actions having the purpose of managing, maintaining and increasing the stock of aquatic resources. The protection of biodiversity of aquatic resources is excluded (→ CEA 6).

#### 12.1 Reduction of the intake of aquatic resources

Reduction of the intake through in-process modifications. This includes all the kinds of replacement or adjustment of production processes aimed at reducing the input of wild fish resources needed for producing a certain output. It includes, for example, vessel buy-back programmes for the introduction of more efficient fishing fleets and equipments.

The use of alternative resources is included, i.e., the use of renewable resources or the substitution of natural inputs with alternative inputs.

#### 12.2 Replenishment of aquatic resources stocks

Increase of the number of individuals of aquatic resources stocks. This includes, for example, breeding for the replenishment of stocks for fishing (for restocking purposes and not for protection of biodiversity → CEA 6.1).

#### 12.3 Measurement, control, laboratories and the like related to aquatic resources

Activities aimed at measuring, controlling and monitoring the use and the consistency of aquatic resources, including, for example: inventories and assessment of aquatic resource stocks; control on the observance of licences, quotas, and temporary or permanent fishing bans. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded, like, e.g., inventories of threatened species → CEA 6.1.

#### 12.4 Other activities for the management of aquatic resources

All other activities and measures aimed at the management of aquatic resources. This includes regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related to other classes of the RM group. Included, for example, are: release of fishing licences, enforcement and administration of quotas, enforcement and regulation of temporary or permanent fishing bans; and general government units or part thereof that administer and regulate the exploitation of wild fish resources or are responsible for wild fish management policies.

### 13 Management of other biological resources (excluding timber and aquatic resources)

Includes the activities and actions aiming at minimizing the intake of biological resources other than timber and aquatic resources through in-process modifications as well as the use of alternative resources and any other kind of measure. Replenishment activities like repopulation of wild flora and fauna stocks are included when aimed at maintaining/ increasing the consistency of stocks (not the biodiversity → CEA 6). Activities and actions concerning measurement, control, laboratories and the like are also included, as well as education, training and information and administration and regulation activities.

Other biological resources are stocks and reserves of non-cultivated animals and plants (excluding timber and aquatic resources). The class includes all the activities and actions with the purpose of managing, maintaining and increasing the stock of the resources. Activities aimed at the protection of biodiversity of wild flora and fauna are excluded (→ CEA 6).

#### 13.1 Reduction of the intake of biological resources (excluding timber and aquatic resources)

Reduction of the intake through in-process modifications. This includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of wild flora and fauna resources needed for producing a certain output.

The use of alternative resources is included, i.e., the substitution of natural inputs with alternative inputs.

#### 13.2 Replenishment of biological resources stocks (excluding timber and aquatic resources)

Increase of the number of individuals of other biological resources stocks. This includes, for example, breeding for the replenishment of stocks for hunting (for restocking purposes and not for protection of biodiversity → CEA 6.1).

#### 13.3 Measurement, control, laboratories and the like related to biological resources stocks (excluding timber and aquatic resources)

Activities aimed at measuring, controlling and monitoring the use and the consistency of wild flora and fauna stocks. These include, for example: inventories and assessment of wild fauna stocks; control on the observance of licences, quotas and temporary or permanent hunting bans. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded, like, e.g., inventories of threatened species → CEA 6.1.

#### 13.4 Other activities for the management of biological resources (excluding timber and aquatic resources)

All other activities and measures aimed at the management of other biological resources. These include regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related to other classes of the RM group. They include, for example: release of hunting licences, enforcement and administration of quotas, and enforcement and regulation of temporary or permanent fishing/hunting bans; and general government units or part thereof that administer and regulate the exploitation of wild flora and fauna resources or are responsible for wild flora and fauna management policies.

### 14 Management of water resources

Includes the activities and actions aimed at minimizing the intake of water resources through in-process modifications as well as reuse, recycling, savings and the use of substitutes of freshwater resources. Activities aiming at the replenishment of water stocks are included.

Activities and actions concerning measurement, control, laboratories and the like are also included, as well as education, training and information and administration and regulation activities. Exploitation, exploration and distribution activities are excluded.

#### 14.1 Reduction of the intake of water resources

Reduction of the intake through in-process modifications related to the reduction of the water input for the production process. This includes all the kinds of replacement or adjustment of production processes aiming at reducing the water input needed for producing a certain output. Desalinization of seawater is included.

#### 14.2 Reduction of water losses and leaks, water reuse and savings

Reduction of water use through the reduction of water losses and leaks, the installation of facilities for water reuse and savings, etc.

#### 14.3 Replenishment of water resources

Increase of water available in water stocks. The following activities are included: recharge of groundwater bodies to increase/restore water stocks (not to improve water quality or fight salinity → CEA 4.4); land improvement, development of vegetal cover in order to increase water infiltration and recharge phreatic water bodies (not for the protection of soil against erosion → CEA 4.3).

#### 14.4 Measurement, control, laboratories and the like related to water resources

Activities aimed at measuring, controlling and monitoring the use and the level of water stocks. The following activities are excluded: measurement, monitor and control of the concentration of pollutants in wastewater and the quality of the inland water and marine water at the place wastewater is discharged → CEA 2.5; measurement, monitor and control of the quality of surface water and groundwater → CEA 4.5.

#### 14.5 Other activities for the management of water resources

All other activities and measures aimed at the management of water resources. These include regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related to other classes of the RM group. They include, for example: information campaigns to encourage water savings; release of licences for water abstraction; and general government units or parts thereof that administer and regulate the use of water resources or are responsible for water saving policies.

#### 15 Research and development activities for resource management

Creative work undertaken on a systematic basis in order to increase the stock of knowledge and the use of this knowledge to devise new applications in the field of natural resource management and savings.

Excluded are R&D activities related to environmental protection → CEA 8.

##### 15.1 Mineral and energy resources

R&D activities exclusively related to energy sources (non-renewable and renewable) and minerals.

##### 15.2 Timber resources

R&D activities exclusively related to natural timber resources.

##### 15.3 Aquatic resources

R&D activities exclusively related to aquatic resources.

##### 15.4 Other biological resources

R&D activities exclusively related to other biological resources (excluding timber and aquatic resources).

### 15.5 Water resources

R&D activities exclusively related to water resources.

### 15.6 Other R&D activities for natural resource management

Other R&D activities concerning other natural resources (not specified).

## 16 Other resource management activities

### 16.1 General administration of natural resources

Any identifiable activity that is directed towards the general support of decisions taken in the context of natural resource management whether by governmental or by nongovernmental units.

#### 16.1.1 General administration, regulation and the like

Any identifiable activity within general government and NPISH units that is directed towards regulation, administration of the environment and the support of decisions taken in the context of natural resource management activities. When possible, such activities should be allocated to CEA classes 10-14 (within the “other activities for the management of” category).

If this is impossible, they should be included under this position of the classification.

If the general administration activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding CEA category of the EP group (→ CEA 9.1.1). If this is impossible, they should be classified in this position or, alternatively, in the one of the EP group according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.1.1)

#### 16.1.2 Environmental management

Any identifiable activity of corporations that is directed towards the general support of decisions taken in the context of natural resource management activities. This includes the preparation of declarations or requests for permission, internal environmental management, and environmental certification processes (ISO 14000; EMAS), as well as the recourse to environmental consultancy services. Activities of units specialized in environmental consultancy, supervision and analysis are included. When possible, such activities should be allocated to CEA classes 10-14 (within the “other activities for the management of” category). If this is impossible, they should be included under this position of the classification.

If the general administration activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding category of the EP group (→ CEA 9.1.2). If this is impossible, they should be classified in this position or, alternatively, in the one of the EP group according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.1.2).

### 16.2 Education, training and information

Activities that aim at providing general environmental education or training and disseminating information on natural resource management. Included are high school programmes, university degree programmes or special courses specifically aimed at training for natural resource management. Activities such as the production of environmental reports and environmental

communication are also included. When possible, such activities should be allocated to CEA classes 10-14 (within the “other activities for the management of” category).

If this is impossible, they should be included under this position of the classification.

If the general education, training and information activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding category of the EP group (→ CEA 9.2). If this is impossible, they should be classified in this position or, alternatively, in the one of the EP group according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.2).

### 16.3 Activities leading to indivisible expenditure

Natural resource management activities that lead to indivisible expenditure, i.e., that cannot be allocated to any other class of the RM group.

### 16.4 Activities not elsewhere classified

This class comprises all resource management activities that cannot be classified under other classes of the RM group.

## III. Natural Resource Use (RU)

Explanatory notes Code Description Explanatory notes/Examples<sup>54</sup>

### 17 Use of water resources

All the activities and actions aiming at the abstraction of water resources, including exploration and development of new reserves. Water supply and distribution is included. Activities and actions aimed at protecting water bodies against pollution are excluded and included in the EP group (→ CEA 2 and CEA 4). Activities and actions aiming at preserving the stocks of water resources against depletion phenomena are excluded and included in the RM group (→ CEA 10).

#### 17.1 Exploitation of water resources including water supply and distribution

Exploitation, management and maintenance of water resources. Distribution of water. It includes for example water abstraction, conduction and distribution (waterworks), including water use for irrigation; lakes and reservoirs regulation; etc. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of water stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 10.5.

#### 17.2 Exploration and development of water resources

Exploration for new stocks. Development of new stocks (e.g. creation of new reservoirs).

### 18 Use of natural forest resources

All the activities and actions aiming at the harvesting of natural forests, including exploration for the use of forest areas previously not exploitable. Activities and actions aimed at protecting forest landscape and biodiversity are excluded and included in EP group (→ CEA 6). Activities and

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<sup>54</sup> ESA/STAT/AC.234/29 16 May 2011 Classification of Environmental Activities (CEA) Information Paper, UNSD  
<http://unstats.un.org/unsd/class/intercop/expertgroup/2011/AC234-29.PDF>

actions aiming at preserving the stocks of natural forests against depletion phenomena are excluded and included in the RM group (→ CEA 11). Natural forests are virgin forests and, in general, non-cultivated forests. All the activities and actions related to cultivated forests are excluded.

#### 18.1 Exploitation of natural forest areas (as a resource and not as a habitat)

Exploitation, management and maintenance of natural forest areas. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of natural forest are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 11.6. Examples: management and maintenance of non-cultivated forest areas available for felling and logging activities (except for reforestation and afforestation activities → CEA 11.3); monitoring and control activities carried out by forest rangers on forest areas as economic resources (not to protect forest habitats or the biodiversity of flora and fauna species living in forest areas → CEA 6.1 or 6.2).

#### 18.2 Exploration of natural forest areas

Exploration for the use of forest areas previously not exploitable.

### 19 Use of wild flora and fauna

All the activities and actions with the purpose of using the stock of wild flora and fauna. The protection of biodiversity of wild flora and fauna is excluded (→ CEA 6) as well as the management of the stocks of wild flora and fauna (→ CEA 12). Wild flora and fauna are stocks and reserves of non-cultivated animals and plants.

#### 19.1 Exploitation of wild flora and fauna stocks

Exploitation, management and maintenance of wild flora and fauna stocks. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of wild flora and fauna stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 12.4. Examples: management of fish and game reserves.

#### 19.2 Exploration and research of new reserves

Exploration and research activities for identifying/localizing reserves of wild flora and fauna previously unknown or not exploitable/exploited.

### 20 Use of fossil energy

All activities and actions aiming at the management and exploitation of fossil energy stocks as well as exploration and discovery of new reserves. Distribution of electricity is excluded. Activities and actions aiming at preserving the stocks of fossil energy against depletion phenomena are excluded and included in the RM group (→ CEA 13).

#### 20.1 Exploitation of the stocks of non-renewable energy sources

Exploitation, management and maintenance of the stocks of non-renewable energy sources. The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of energy reserves are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 13.4.

## 20.2 Exploration and discovery of new fossil energy reserves

Exploration and discovery of new reserves.

### 21 Use of minerals

All activities and actions aiming at the management and exploitation of mineral resources as well as exploration and discovery of new reserves. Activities and actions aiming at preserving the stocks of mineral against depletion phenomena are excluded and included in the RM group (→ CEA 14).

#### 21.1 Exploitation of mineral stocks

Exploitation, management and maintenance of the stocks of mineral resources; management of quarrying sites (activities for the rehabilitation of abandoned mining and quarrying sites are excluded → CEA 6.2). The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of mineral stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 14.4.

#### 21.2 Exploration and discovery of new mineral reserves

Exploration and discovery of new reserves.

### IV. Minimization of Natural Hazards

Activities associated with the minimization of the impact of natural hazards on the economy and society.<sup>55</sup>

Research, observation and measurement networks, surveillance and administration of hazard warning systems, provisions for fighting the effects natural hazards and for the evacuation of the population, the building of structures to prevent hazards. In some cases the primary purpose of these activities may be environmental protection and they should be recorded as part of environmental protection activities.

## The Classification of Resource Use and Management Activities and expenditure – CReMA

Note significant overlap and different numbering system

### 10 Use and management of water resources

All the activities and actions aiming at minimising the intake of water resources through in-process modifications as well as reuse, recycling, savings and the use of substitutes of fresh water resources.

Restoration activities aiming at the replenishment of water stocks are included as well exploitation, exploration and distribution activities. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities.

10.1 Reduction of the intake Reduction of the intake through in-process modifications related to the reduction of the water input for the production process. It includes all the kinds of replacement

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<sup>55</sup> Statistics Finland [http://unstats.un.org/unsd/envaccounting/londongroup/meeting19/LG19\\_18\\_4.pdf](http://unstats.un.org/unsd/envaccounting/londongroup/meeting19/LG19_18_4.pdf)

or adjustment of production processes aiming at reducing the water input needed for producing a certain output. Desalinisation of sea water is included.

#### 10.2 Reduction of water losses and leaks, water reuse and savings

Reduction of water use through the reduction of water losses and leaks, the installation of facilities for water reuse and savings, etc.

#### 10.3 Replenishment of water stocks

Increase of water available in water stocks. The following activities are included: recharge of groundwater bodies to increase/restore water stocks (not to improve water quality or fight salinity ® CEPA 4.4); land improvement, development of vegetal cover in order to increase water infiltration and recharge phreatic water bodies (not for the protection of soil against erosion ® CEPA 4.3)

#### 10.4 Direct management of water stocks

Exploitation, management and maintenance of water resources and exploration for new stocks. Distribution of water. It includes for example water abstraction, conduction and distribution (waterworks), including water use for irrigation; lakes and reservoirs regulation; etc.

The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of water stocks are included, while the administration and regulation activities carried out by the General Government are excluded ® CREMA 10.6

#### 10.5 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring the use and the level of water stocks. The following activities are excluded: measurement, monitor and control of the concentration of pollutants in wastewater and the quality of the inland water and marine water at the place wastewater is discharged ® CEPA 2.5; measurement, monitor and control of the quality of surface and ground water ® CEPA 4.5

#### 10.6 Other activities

All other activities and measures aimed at the use and management of water resources. It includes regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related other classes. It includes for example: information campaigns to encourage water savings; release of licences for water abstraction; General Government units or part thereof which administrate and regulate the use of water resources or are responsible for water saving policies. It excludes public or private bodies which carry out e.g. water abstraction, conduction and distribution activities ® CREMA 10.4

### 11 Use and management of natural forest resources

All the activities and actions aiming at minimising the intake of natural forest resources through in-process modifications as well as recovery, reuse, recycling, savings and the use of substitutes of forest products. Restoration activities like reforestation and afforestation are included when concern natural forest as well as the management and exploitation activities of natural forest areas. All the activities and actions concerning measurement, control, laboratories and the like are also

included as well as education, training and information and administration and regulation activities.

Natural forests are virgin forests and, in general, non-cultivated forests.

All the activities and actions related to cultivated forests are excluded.

11.1 Reduction of the intake Reduction of the intake through in-process modifications related to the reduction of the input of forest resources for the production process. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of forest (wood and non wood)- related products needed for producing a certain output. The substitution of forest products with other material and substances is included.

11.2 Reduction of the consumption of forest (wood and non wood)-related products  
Recycling, reuse or savings of forest products and by-products (wood, paper, etc.).

11.3 Reforestation and afforestation  
Replenishment of existing natural wooded areas or development of new wooded areas.

11.4 Forest fires Prevention and control of natural forest fires (concerning forest areas relevant mainly as economic resource and not as habitats ® CEPA 6.2). It includes for example: development of fireballs, mobilisation of fire fighting means or measures aimed at the prevention of fires in forest areas.

11.5 Direct management of forest areas (as a resource and not as a habitat)  
Exploitation, management and maintenance of natural forest areas and exploration for the use of forest areas previously not exploitable.  
The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of natural forest are included, while the administration and regulation activities carried out by the General Government are excluded ® CREMA 11.7.  
Examples: management and maintenance of non-cultivated forest areas available for felling and logging activities (except for reforestation and afforestation activities ® CREMA 11.3); monitoring and control activities carried out by forest rangers on forest areas as economic resources (not to protect forest habitats or the biodiversity of flora and fauna species living in forest areas ® CEPA 6.1 or 6.2)

11.6 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring the use and the consistency of forest resource stocks. It includes for example inventories and assessments of forest resources. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded like e.g. inventories of flora and fauna species living in natural forest areas ® CEPA 6.1 and census of natural forest protected areas ® CEPA 6.2.

11.7 Other activities

All other activities and measures aimed at the use and management of natural forest resources. It includes regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related other classes. It includes for example: the release of logging licences; General Government units or part thereof which administrate and regulate the use of natural forest resources or are responsible for forest management policies. It excludes public or private bodies which carry out the direct management of forest areas ® CREMA 11.5.

## 12 Use and management of wild flora and fauna

All the activities and actions aiming at minimising the intake of wild flora and fauna resources through in-process modifications as well as the use of alternative resources and any other kind of measure.

Restoration activities like repopulation of wild flora and fauna stocks are included when aiming at maintaining/increasing the consistency of stocks (not the biodiversity ® CEPA 6). Management and exploitation activities are also included. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities.

Wild flora and fauna are stocks and reserves of non-cultivated animals and plants. The class includes all the activities and actions with the purpose of managing, maintaining and increasing the stock of wild flora and fauna. The protection of biodiversity of wild flora and fauna is excluded (® CEPA 6).

12.1 Reduction of the intake Reduction of the intake through in-process modifications. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of wild flora and fauna resources needed for producing a certain output. It includes for example vessel buy-back

programmes for the introduction of more efficient fishing fleets and equipments.

The use of alternative resources is included.

## 12.2 Replenishment of wild flora and fauna stocks

Increase of the number of individuals of wild flora and fauna stocks. It includes for example breeding for the replenishment of stocks for fishing or hunting (for restocking purposes and not for protection of biodiversity ® CEPA 6.1)

## 12.3 Direct management of wild flora and fauna stocks

Exploitation, management and maintenance of wild flora and fauna stocks. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of wild flora and fauna stocks are included, while the administration and regulation activities carried out by the General Government are excluded ® CREMA 12.5.

Examples: management of fish and game reserves.

## 12.4 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring the use and the consistency of wild flora and fauna stocks. It includes for example: inventories and assessment of wild fauna stocks; control on the observance of licences, quotas, temporary or permanent fishing/hunting bans. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded like e.g. inventories of flora and fauna threatened species ® CEPA 6.1

### 12.5 Other activities

All other activities and measures aimed at the use and management of wild flora and fauna resources. It includes regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related other classes. It includes for example: release of fishing and hunting licences, enforcement and administration of quotas, enforcement and regulation of temporary or permanent fishing/hunting bans; General Government units or part thereof which administrate and regulate the exploitation of wild flora and fauna resources or are responsible for wild flora and fauna management policies. It excludes public or private bodies which carry out the direct management of wild flora and fauna reserves ® CREMA

## 13 Use and management of fossil energy

All the activities and actions aiming at minimising the intake of fossil energy resources through in-process modifications as well as savings, the production of energy from renewable sources and any other kind of measure. Management and exploitation of fossil energy stocks as well as exploration and discovery of new reserves are included. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities.

**13.1 Reduction of the intake** Reduction of the intake through in-process modifications related to the reduction of the input of non-renewable energy sources for the production process. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of energy resources needed for producing a certain output.

This category includes all the activities and actions aiming at the reduction of non-renewable energy sources exploitation through the production of energy from renewable sources (which is then excluded from CEPA 1), including, according to the International Energy Agency definition of renewables, hydropower, solar, wind, tidal, biogas, geothermal or biomass sources as well as the production of energy from the combustion of any kind of waste (the incineration of waste carried out for the main purpose of waste treatment and disposal is excluded ® CEPA 3.3 or 3.4)

### 13.2 Reduction of heat and energy losses, and energy savings

Reduction of the use of non-renewable energy sources through the minimisation of heat and energy losses and through energy savings (energy savings is then excluded from CEPA 1)

### 13.3 Direct management of the stocks of nonrenewable energy sources

Exploitation, management and maintenance of the stocks of nonrenewable energy sources including exploration and discovery of new reserves. The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of energy reserves are included, while the administration and regulation activities carried out by the General Government are excluded ® CREMA 13.5.

Distribution of electricity is excluded.

### 13.4 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring the use and the consistency of fossil energy stocks as well as the production of energy from renewable sources. It includes for example:

assessment and reassessment of existing reserves; assessment of the importance of the production of energy from renewable sources on total energy production.

#### 13.5 Other activities

All other activities and measures aimed at the use and management of energy resources. It includes regulation, administration, education, training and information activities specific to the class when they can be separated from other activities related to the same class and from similar activities related other classes. It includes for example: release of licences for energy sources abstraction; General Government units or part thereof which administrate and regulate the exploitation of energy resources or are responsible for energy savings policies. It excludes public or private bodies which manage, exploit and explore energy reserves ® CREMA 13.3.

#### 14 Use and management of minerals

All the activities and actions aiming at minimising the intake of mineral resources through in-process modifications as well as recovery, reuse, recycling, savings and the use of substitutes mineral resources.

Management and exploitation of mineral resources as well as exploration and discovery of new reserves are included. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities.

##### 14.1 Reduction of the intake

Reduction of the intake through in-process modifications related to the reduction of the raw material input for the production process or the consumption or use of resource-efficient products.

14.2 Reduction of minerals use through the reduction of scraps and the production and consumption of recycled materials and products Production and use of secondary raw materials or final products obtained from recovered and recycled materials and waste. It includes for example: processing of waste and scrap into a form which is readily transformed into new raw materials, production of recycled goods (recycling activities insofar as they constitute waste collection, transport, treatment or disposal activities are excluded ® CEPA 3.2, 3.3 and 3.4)

##### 14.3 Direct management of mineral stocks

Exploitation, management and maintenance of the stocks of mineral resources including research and exploration activities; management of quarrying sites (activities for the rehabilitation of abandoned mining and quarrying sites are excluded ® CEPA 6.2). The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of mineral stocks are included, while the administration and regulation activities carried out by the General Government are excluded ®CREMA 14.5.

##### 14.4 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring the use and the consistency of mineral stocks. It includes for example: inventories and assessment of mineral stocks.

##### 14.5 Other activities

All other activities and measures aimed at the use and management of mineral resources. It includes regulation, administration, education, training and information activities specific to the

class when they can be separated from other activities related to the same class and from similar activities related other classes. It includes for example: release of licences for mining and quarrying activities; General Government units or part thereof which administrate and regulate the exploitation of mineral resources or are responsible for material savings and recycling policies. It excludes public or private bodies which manage, exploit and explore mineral reserves ® CREMA 14.3.

#### 15 Research and development activities for natural resource use and management

Creative work undertaken on a systematic basis in order to increase the stock of knowledge and the use of this knowledge to devise new applications in the field of natural resource management and savings.

Excluded are R&D activities related to environmental protection ® CEPA 8

##### 15.1 Water resources R&D activities exclusively related to water resources

##### 15.2 Natural forest resources R&D activities exclusively related to natural forest resources

##### 15.3 Wild flora and fauna R&D activities exclusively related to wild flora and fauna resources

##### 15.4 Fossil energy R&D activities exclusively related to energy sources (non-renewable and renewable)

##### 15.5 Minerals R&D activities exclusively related to minerals

##### 15.6 Other R&D activities for natural resource use and management

Other R&D activities concerning other natural resources (not specified)

#### 16. Other natural resource use and management activities

##### 16.1 General administration of natural resources

Any identifiable activity that is directed at the general support of decisions taken in the context of natural resource use and management whether by governmental or by non-governmental units.

###### 16.1.1 General administration, regulation and the like

Any identifiable activity within general government and NPISH units that is directed towards the regulation, administration of the environment and the support of decisions taken in the context of natural resource use and management activities. When possible such activities should be allocated to other CREMA classes (within the “other activities” category). If this is impossible, they should be included under this position of the classification.

If the general administration activities concern both environmental protection and use and management of natural resources, they should be broken down between this position and the corresponding CEPA category (® CEPA 9.1.1). If this is impossible, they should be classified in this position or alternatively in the CEPA one according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding CEPA category (® CEPA 9.1.1)

###### 16.1.2 Environmental management

Any identifiable activity of corporations that is directed at the general support of decisions taken in the context of natural resource use and management activities. It includes the preparation of declarations or requests for permission, internal environmental management, environmental certification processes (ISO 14000, EMAS), as well as the recourse to environmental consultancy services. Activities of units

specialised in environmental consultancy, supervision and analysis are included. When possible such activities should be allocated to other CREMA classes (within the “other activities” category). If this is impossible, they should be included under this position of the classification.

If the general administration activities concern both environmental protection and use and management of natural resources, they should be broken down between this position and the corresponding CEPA category (® CEPA 9.1.2). If this is impossible, they should be classified in this position or alternatively in the CEPA one according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding CEPA category (® CEPA 9.1.2)

#### 16.2 Education, training and information

Activities that aim at providing general environmental education or training and disseminating information on natural resource use and management. Included are high school programs, university degrees or special courses specifically aimed at training for natural resource use and management. Activities such as the production of environmental reports, environmental communication, etc. are also included. When possible such activities should be allocated to other CREMA classes (within the “other activities” category). If this is impossible, they should be included under this position of the classification.

If the general education, training and information activities concern both environmental protection and use and management of natural resources, they should be broken down between this position and the corresponding CEPA category (® CEPA 9.2). If this is impossible, they should be classified in this position or alternatively in the CEPA one according to the “main purpose” criterion; if this is impossible as well, they should be classified within the corresponding CEPA category (® CEPA 9.2)

#### 16.3 Activities leading to indivisible expenditure

Natural resource use and management activities that lead to indivisible expenditure, i.e. which cannot be allocated to any other CREMA class

#### 16.4 Activities not elsewhere classified

This position groups together all the natural resource use and management activities that cannot be classified under other positions of the classification